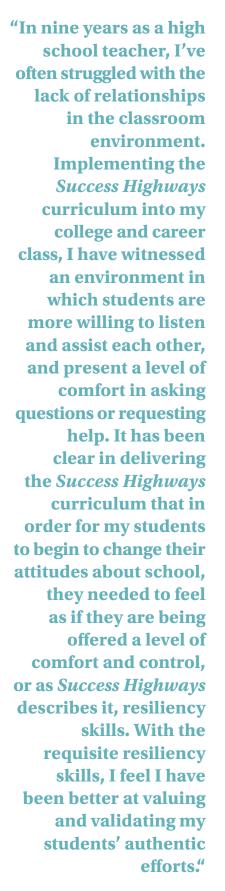
Empirical Research Supporting Success Highways® Resiliency Assessments and Curriculum





Confident · Engaged · Successful



Eric Boyer, Teacher, Bremerton High School, Bremerton, WA



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About Success Highways

Based on 20 years of research in the areas of adolescent development and learning led by Dr. V. Scott Solberg, the *Success Highways* intervention has positively impacted the academic outcomes of middle and high school students across the country by assessing and teaching six critical resiliency skills:

- Valuing education
- Academic confidence
- Connectedness
- Stress management
- Health and well-being
- Intrinsic motivation

What Is Resiliency?

Resiliency refers to the range of skills and cognitive templates that students must possess to perform well academically (Masten 2001; Masten, Best, & Garmezy 1990). The six resiliency skills incorporated into *Success Highways* were identified because studies have found them to be interrelated (Solberg 2001) and actionable (Bernard 2001). The focus on middle to high school was chosen because feelings of disengagement start in middle school (Janosz, Archambault, Morizot, & Pagani 2008) and escalate through the transition to high school (Eccles et al. 1993).

Based on studies of both academically unsuccessful and successful students (Solberg, Carlstom, & Kowalchuk 2001), it has been determined that disengaged students are likely to struggle with a range of interrelated social-emotional issues. Often, they do not believe education is important; they can lack academic confidence and intrinsic motivation to succeed in school; they probably cannot manage academic or personal stress and frequently struggle to maintain well-being; and they are often without positive relational supports (Solberg, Carlstom, & Kowalchuk 2001). Successful students also struggle with some of these issues but they either struggle less acutely or they have developed strategies that help them prevent these issues from affecting their academic performance.

Success Highways was developed to increase and sustain all students' resiliency despite the challenges of adolescence or academic ability. *Success Highways* consists of three core components: resiliency skills assessments, resiliency professional development, and resiliency curriculum.

Success Highways was derived from empirical and theoretical research regarding human development and change and based on more than eight years of pedagogical piloting in urban high schools serving predominantly lower-income youth (70 percent of the students met federal guidelines for free and reduced-price lunch). The pilot curriculum documented improved retention rates, grades, and credits earned by students in historically low-performing schools. For multiple evaluation documents about *Success Highways* pilot programs, please visit www.scholarcentric.com.

"Success Highways provided an opportunity for our teachers to connect with students on a different level and it has translated into our students excelling because they made that connection on our campus."

Monica Cortez, Principal, K.O. Knudson Middle School, Las Vegas, NV

Success Highways Resiliency Skills Assessments

The *Success Highways* assessments (grades 6-10), delivered online or in print, each consist of 108 questions that have been validated for use with culturally and economically diverse pre-college populations (Close 2000; Sedivy & Gillis 2008). The formative assessment instrument pinpoints the social-emotional strengths and weaknesses of each student. With this data, educators can identify at-risk students and more effectively align resources and appropriate interventions.

Individualized results of the formative assessment are provided to students for use with the *Success Highways* curriculum. The summative assessment is used to post-test resiliency skills and to track students' progress following implementation of *Success Highways*. The research used the middle and high school version of the *Success Highways* assessment, and the assessment is now also available for elementary students.

Success Highways Resiliency Curriculum

The *Success Highways* curriculum provides a framework for educators to help students build their resiliency skills. Through a combination of teacher-led discussions, interactive small group experiences, self-reflection, and the development of personal action plans, students gain confidence and develop the resiliency skills that are prerequisites for academic success.

Success Highways includes 15, multi-disciplinary, standards-aligned lessons that build skills in the six critical areas of resiliency. Students receive an individualized bar graph that compares their formative assessment results to those of successful students. Students use these results to pinpoint the resiliency skills they need to strengthen most in order to be successful.

Twelve additional lessons, available separately, incorporate interactive and kinesthetic activities to engage students and help them develop a deeper understanding of the six key resiliency skills.

Research Outcomes

ScholarCentric is invested in continuing to test the efficacy of *Success Highways*. Research partners include Johns Hopkins University as part of its Talent Development Model; Mathematica as part of an AT&T Foundation Dropout Initiative; the University of Colorado, Denver; and the University of Wyoming. In addition, research initiatives include Dr. Solberg's previous research at the University of Wisconsin (Milwaukee and Madison campuses) and now at Boston University. Following are details about a number of studies that have been conducted on the *Success Highways* curriculum and assessments.

In sum, these studies clearly demonstrate that students who are exposed to *Success Highways* achieve higher academic success, including:

- Better attendance
- Higher grades
- More credits earned
- · Higher levels of resiliency

"I have realized that I can accomplish anything with the right people supporting me."

Eighth Grade Student, Arthur Ashe Middle School, Broward County, FL Deci and Ryan (1987), in their work on self-determination theory, have shown that students who have intrinsic motivation have better academic outcomes than students who lack this construct. Social-cognitive theory posits that in order to attain intrinsic motivation and academic success, students must have self-efficacy (Bandura 1997).

Research demonstrates that once students understand the relevance education has on their future goals, they can begin to build a success identity. Success identities consist of strong self-efficacy expectations, effective stress and time management skills, strong connections with teachers, family, and peers, and a positive sense of well-being. This, in turn, leads to intrinsic motivation and academic success (Solberg, Gusavac, Hamann, Felch, et al. 1998). The *Success Highways* curriculum is designed to help students build these constructs.

"As a teacher I was amazed to see the barriers breakdown in my toughest students as they one by one began to open up about their personal issues. Success Highways has given the classrooms back to our students. allowing them the opportunity to take control of their journey. They are learning strategies and tools to maintain control and stay on the right path as they come to realize that the journey of life and learning is truly a road of twists and turns. But one that can lead to SUCCESS!!!!"

> **Stacy Brannon,** Special Education Teacher, K.O. Knudson Middle School, Las Vegas, NV

Milwaukee Public Schools, Wisconsin: Study 1

Participants:	661 tenth, eleventh, and twelfth grade students
Time period:	1998, 1999, and 2000 fall semesters
Objective:	Use a quasi-experimental design to determine if the level of exposure to <i>Success Highways</i> contributed to academic improvement one and two years following the initial intervention.
Methodology	: This longitudinal research used repeated measures analysis of variance to evaluate whether students exposed to different levels of curriculum demonstrated improved grades one and two years following exposure.

Results

Exposure to *Success Highways* during a student's transition into high school was found to have a significant and meaningful effect on academic performance even two years after exposure. Students who were exposed to three or more units of the curriculum averaged a 2.5 GPA compared to students with no exposure to *Success Highways* who averaged a 1.59 GPA.



"Success Highways helped me realize that I can do more with my life than I thought I could."

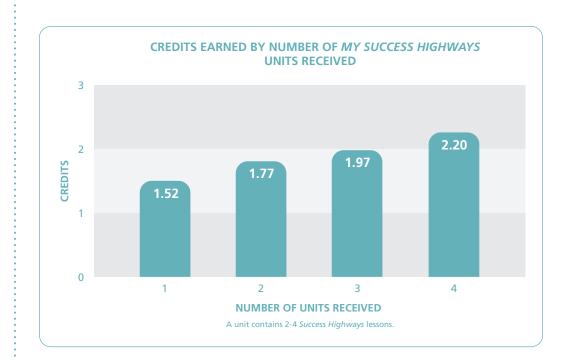
Ninth Grade Student, Genesis High School, Milwaukee Public Schools, WI

Milwaukee Public Schools, Wisconsin: Study 2

Participants:	131 ninth grade students
Time period:	2000 fall semester
Objective:	Use a quasi-experimental design to determine if exposure to <i>Success Highways</i> improves academic performance and attendance.
Methodology	Students received various degrees of exposure to <i>Success Highways</i> , and a one-way multivariate analysis of co-variance was performed using the levels of possible curriculum exposure as the independent variable. The dependent measures included end-of-semester grades, credits earned, and attendance. The covariates included first mark period grades and attendance.

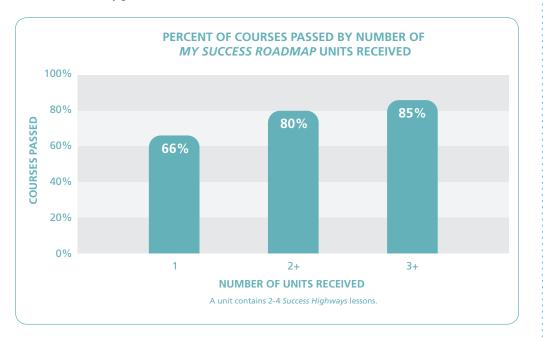
Results

Exposure to *Success Highways* contributed to improvement in all of the end-of-semester indicators measured. Of particular note is the degree of improvement regarding credits earned. Because credit completion in the first two years of high school is strongly linked with attaining a high school diploma, the improvements made after students participated in *Success Highways* demonstrate that it has a strong positive impact on graduation rates.

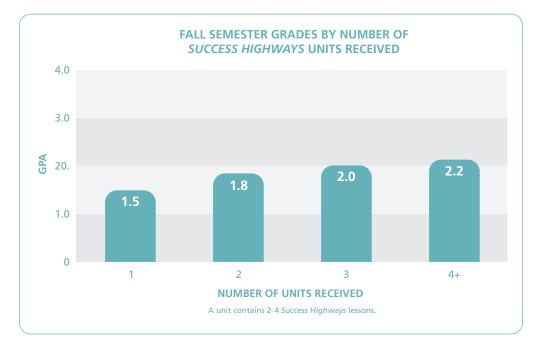


"Success Highways gave me another way to talk to my students and to get to know them and have them be comfortable with me."

Teacher, Milwaukee Public Schools, WI Additionally, the more students were exposed to *Success Highways* during this study, the more courses they passed.



The more students were exposed to *Success Highways*, the higher their grade point averages were. Students who were exposed to four or more units achieved, on average, a 2.2 GPA as compared with the school average of 1.6 — this represents a 50 percent improvement in GPA.



"I always knew the concepts that Success Highways teaches were extremely important, but I wasn't sure how to implement the concepts in my classroom. Success Highways gave me an outline to follow so I can easily incorporate the concepts into my classroom."

Teacher, Saint Paul Public Schools, MN

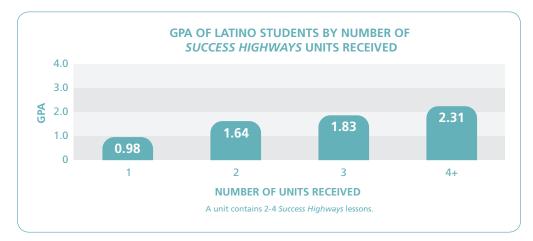
Milwaukee Public Schools, Wisconsin: Study 3

Participants:	861 ninth grade students
Time Period:	2004 fall semester
Objective:	Use a quasi-experimental design to replicate Study 1 using new and unduplicated participants and break out data separately for different racial and ethnic cohorts.
Methodology	Students received various degrees of exposure to <i>Success Highways</i> curriculum, and a one-way analysis of variance was performed using the levels of possible curriculum exposure as the independent variable. The dependent measure was end-of-semester grades.

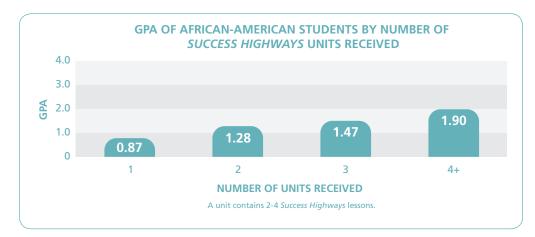
Results

The positive results from Study 1 on *Success Highways's* impact on academic performance were replicated and reinforced in Study 3. End-of-semester grades increased significantly as a function of exposure to *Success Highways* for both Latino and African-American students. This increase in GPA for this demographic group represents a 40 percent improvement rate for students receiving more than four units and an 11 percent improvement rate for students receiving three units.

221 Latino students were exposed to *Success Highways* in the fall of 2005. Compared to the school's average GPA of 1.59, the increase in GPA represents a 45 percent improvement rate for students in this demographic group receiving four or more *Success Highways* units and a 15 percent improvement rate for students receiving three units.



In the fall of 2005, 82 African-American students were exposed to *Success Highways*. Compared to the school's average GPA of 1.59, students in this demographic group receiving four or more units achieved a 19 percent improvement rate in their GPAs.



"I learned that I need to be confident. Because of Success Highways, I'm open with most everybody, and I think that school is extremely important."

> **Tenth Grade Student,** Advance Path Academy, CA

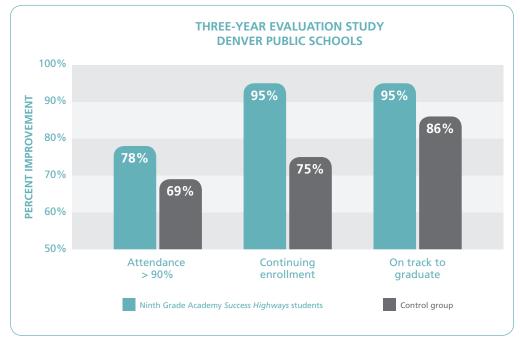
Denver Public Schools, Colorado

Denver Public Schools (DPS) has included *Success Highways* as a main component of its summer bridge program, Ninth Grade Academy, since Summer 2007. To date, approximately 7,500 students have participated in the full program in 16 schools, and another 128,000 students have taken the *Success Highways* Resiliency Instrument alone.

Participants:	DPS collected academic data on four cohorts of participants of Ninth Grade Academy (2007–2010) as well as matched a comparison group of students who were of similar academic proficiency, grade level, gender, race/ethnicity, and free and reduced lunch status.
Time Period:	2007, 2008, 2009, 2010
Objective:	Use a quasi-experimental design to determine the efficacy of Ninth Grade Academy participation on future academic performance.
Methodology	: DPS conducted a longitudinal study examining student performance data compared to a matched control group of students who did not participate in the Ninth Grade Academy.

Results

Students who participated in Ninth Grade Academy and *Success Highways* were significantly more likely to remain enrolled in school and on-track to graduate with each subsequent year of their high school careers. Additionally, these students had higher overall grade point averages and were more likely to pass all courses, hold higher attendance records, and have lower tardy rates. Furthermore, the Ninth Grade Academy students were less likely to be suspended or expelled.



Success Highways is a key component of the Ninth Grade Academy.

"I saw students come to understand how meaningful and important the next four years are for the next step to be possible in their lives."

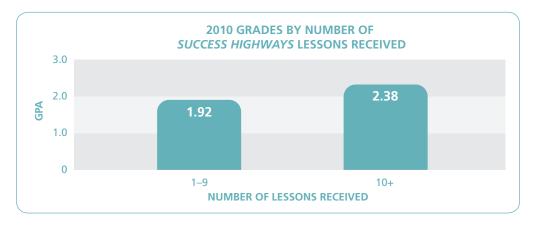
> **Teacher,** Denver Public Schools, CO

Broward County Schools, Florida

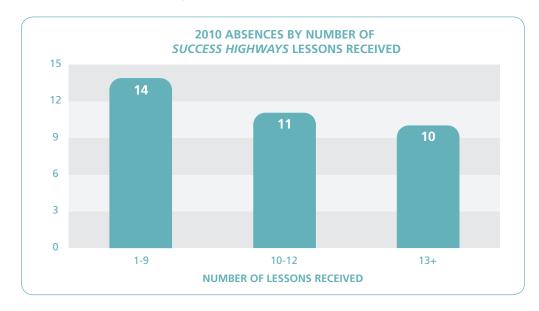
Participants:	493 eighth grade students
Time Period:	2008 and 2009
Objective:	Use a quasi-experimental design to determine if the level of exposure to <i>Success Highways</i> curriculum contributed to academic improvement in subsequent years after the intervention.
Methodology:	Students received various degrees of exposure to <i>Success Highways</i> during their eighth grade school year. Researchers tested for efficacy by conducting a multivariate analysis of covariance with 2010 GPA and 2010 days absent serving as the dependent variables, the three levels of <i>Success Highways</i> lesson exposure (1 to 9 lessons, 10 to 12 lessons, and 13 to 15 lessons) serving as the independent measure, and the level of change reported for the six resiliency skills serving as covariates.

Results

Students who received 10 or more of *Success Highways* lessons in middle school in 2008 or 2009 received better grades in high school in 2010.



Furthermore, students receiving 13 or more lessons in middle school in 2008 or 2009 were absent fewer days in high school in 2010.



"Success Highways has opened my eyes to the needs of the students. They need strategies for dealing with stress and for setting goals. Success Highways has really shown me that these needs are real, and that I can help."

> **Teacher,** Broward County Schools, FL

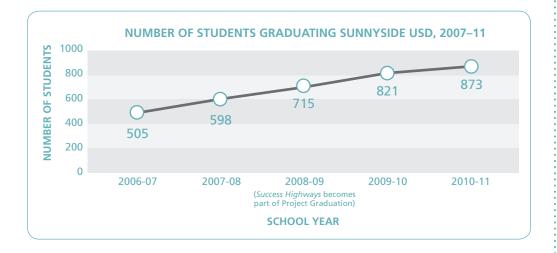
Sunnyside Unified School District (USD), Arizona

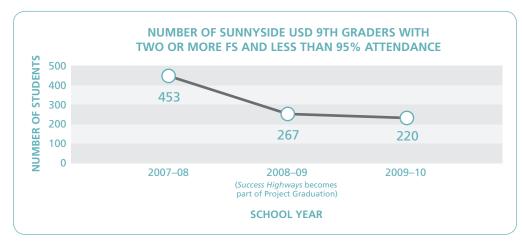
After *Success Highways* was added as a significant component of Sunnyside USD's Project Graduation program in 2008, the district saw a marked improvement in graduation rates and a decrease in academically at-risk students.

Participants:	370 ninth grade students at Sunnyside High School and 325 ninth grade students at Desert View High School
Time Period:	Phase I and II were implemented during the 2008-2009 school year
Objective:	Evaluate whether policy changes in the district-led campaign that included district-wide use of <i>Success Highways</i> was associated with improved graduation and promotion rates.
Methodology:	Hanover Research conducted an analysis of Sunnyside USD ninth graders to examine the impact <i>Success Highways</i> and Project Graduation had on students' GPAs, number of failed courses, attendance rates, and resiliency scores.

Results

Success Highways was integrated into Sunnyside USD's Project Graduation during the 2008–09 school year. The district saw immediate and significant improvements in student achievement. The number of students graduating from high school increased by 41.6 percent and the number of academically at-risk students fell by 51 percent.





"It helped students look deeper into their future and make changes."

Teacher, Sunnyside USD, AZ

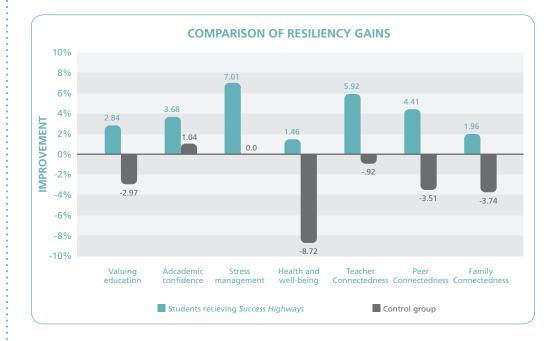
Johns Hopkins Talent Development

Johns Hopkins' Talent Development schools began including *Success Highways* in 2009 in two schools in Baltimore and Chicago and have since expanded to more than 40 of their schools nationally.

Participants:	115 students completed <i>Success Highways</i> and 60 students served as a control group.
Time Period:	2009–10 school year
Objective:	Use a quasi-experimental design to determine whether students reported higher resiliency levels after exposure to <i>Success Highways</i>
Methodology	: A nonrandomized pre-test/post-test design using a sample of students who received exposure to <i>Success Highways</i> compared with a sample of students who did not receive the curriculum. The researchers conducted a repeated measures analysis of variance with treatment vs. control group and time serving as an independent variable.

Results

Students exposed to *Success Highways* reported significant resiliency improvements in stress management, teacher connections, peer connections, and confidence. Considerable improvements were also made in importance of dducation, well-being, and family connections. Comparatively, the control group decreased or showed no improvements in resilience in all areas except confidence.



"Success Highways has been an innovative approach to mentoring and introducing life skills to our students."

> **Cynthia L Douglas,** Graduate Education, Fellow Community Leadership Center, Rutgers University, Camden Campus, NJ

Bibliography

Baltes, P. B. (1997). On the incomplete architecture of human ontogeny: Selection, optimization, and compensation as foundation of developmental theory. *American Psychologist*, *52*, 366–380.

Bandura A. (1997). Self-efficacy: The exercise of control. New York: W. H. Freeman.

- Benard, B. (2005). Breaking the barriers to achievement [Video]. Available from Association for Supervision and Curriculum Development (ASCD), ASCD Express, 1703 N. Beauregard St., Alexandria, VA 22311-1714.
- Casas, J. M., Furlong, M. J., Solberg, V. S. H., & Carranza, O. (1990). An examination of individual factors associated with academic success and failure among Mexican-American and Anglo students. In A. Barona & E. E. Garcia (Eds.), *Children at risk: Poverty, minority status and other issues in educational equity*. Washington, DC: National Association of School Psychologists.
- Cohen, S., & Wills, T. A. (1985). Social support and the buffering hypothesis. Psychological Bulletin, 98, 310–357.
- Cohen, S., Underwood, L. G., & Gottlieb, B. H. (2000). *Social support measurement and intervention: A guide for health and social scientists.* New York: Oxford University Press.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human development*. New York: Plenum.
- Evans, G. W. (2004). The environment of childhood poverty. *American Psychologist*, 59(2), 77–92.
- Freund, A. M., & Baltes, P. B. (1998). Selection, optimization, and compensation as strategies of life management: Correlations with subjective indicators of successful aging. *Psychology and Aging*, *13*, 531–543.
- Huitt, W. (2001). *Motivation to learn: An overview*. Retrieved April 11, 2006, from Valdosta State University, Valdosta, GA, Educational Psychology Web site: http://chiron.valdosta.edu/whuitt/col/motivation/motivate.html
- Hobfoll, S. E. (1998). *Stress, culture, and community, the psychology and philosophy of stress.* Dordrecht, the Netherlands: Kluwer Academic/Plenum Publishers.
- Howard, K. A., & Solberg, V. S. H. (2006). School counseling as a method for achieving social justice. *Professional School Counselor, 94,* 278–294.
- Lee, V., & Smith, J. (2001). *Restructuring high schools for equity and excellence*. New York: Teachers College Press.
- Lerner, R. M., Freund, A. M., & De Stefanis, I. (2001). Understanding developmental regulation in adolescence. The use of the Selection, Optimization and Compensation model. *Human Development*, 44, 29–50.
- Morrison, G. M., Walker, D., Wakefield, P., & Solberg, V. S. H. (1994). Teacher preferences for collaborative relationships. *Psychology in the Schools, 31,* 221–231.
- Masten, A. S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist, 56, 227–238.*

Bibliography

- Masten, A., Best, K. M., & Garmezy, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity. *Development and Psychopathology, 2,* 425–451.
- McEwen, B. S. (1998). Protective and damaging effects of stress mediators. *New England Journal of Medicine*, 322, 171–179.
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, *38*, 30–38.

Nota, L., Soresi, S., Solberg, V. S. H., Ferrari, L. (2005). Promoting vocational development: Methods of intervention and techniques used in the Italian context. *International Journal for Educational and Vocational Guidance*, *5*, 271–274.

Pajares, F. & Urdan, T. C. (2005). *Self-efficacy beliefs of adolescents*. Greenwich, CT: Information Age Publishing.

Resnick, M. D. (2000). Protective factors, resiliency and healthy youth development. *Adolescent Medicine*, *11*, 157–165.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*, 68–78.

Ryan, N. E., Solberg, V. S. H., & Brown, S. E. (1996). Family dysfunction, parental attachment, and career search self-efficacy among community college students. *Journal of Counseling Psychology*, *43*, 84–89.

Sarason, B. R., & Duck, S. (2000). *Personal relationships: Implications for clinical and community psychology*. New York: John Wiley & Sons, Ltd.

Solberg, V. S. H. (1998). Assessing career search self-efficacy: Construct evidence and developmental antecedents. *Journal of Career Assessment, 6,* 181–193.

Solberg, V. S. H. (2003). Exemplarian action research: Conducting vocational psychology in school settings/La ricerca azione: Fare psicologia dell'orientamento a scuola. *GIPO* — *Giornale Italiano di Psicologia Dell'Orientamento 5(1) (April)*, 14–25.

Solberg, V. S. H., & Villareal, P. (1997). Self-efficacy, stress, and social support as predictors of Hispanic college adjustment. *Hispanic Journal of Behavioral Sciences*, *19*, 182–201.

Solberg, V. S. H., Close, W., & Metz, A. J. (2001). Promoting success pathways for middle and high school youth: Introducing the Adaptive Success Identity Plan for school counselors. In C. Juntenen & D. Atkinson (Eds.), *Counseling Strategies* (pp. 135–157). Thousand Oaks, CA: Sage.

Solberg, V. S. H., Good, G., & Nord, D. (1994). Career search efficacy: Ripe for intervention and applications. *Journal of Career Development*, *21*, 63–72.

Solberg, V. S. H., Good, G., Nord, D., Holm, C., Hohner, R., Zima, N., Heffernan, M., & Malen, A. (1994). Assessing career search expectations: Development and validation of the Career Search Efficacy Scale. *Journal of Career Assessment, 2*, 111–123.

Solberg, V. S. H., Valdez, J., & Villareal, P. (1994). Social support, stress, and Hispanic college adjustment. *Hispanic Journal of Behavioral Sciences*, *16*, 230–239.

Bibliography

- Solberg, V. S. H., Choi, K., Ritsma, S., & Jolly, A. (1994). Asian-American college students: It's time to reach out. *Journal of College Student Development*, *35*, 296–301.
- Solberg, V. S. H., Hale, B., Villareal, P., & Kavanagh, J. (1993). Validation of the College Stress Inventory for use with Hispanic populations: A confirmatory analytic approach. *Hispanic Journal of Behavioral Sciences*, *15*, 80–95.
- Solberg, V. S. H., Howard, K. A., Blustein, D. L., & Close, W. (2002). Career development in the schools: Connecting school-to-work-to-life. *Counseling Psychologist, 30*, 705–725.
- Solberg, V. S. H., Ritsma, S., Davis, B., & Jolly, A. (1994). Asian-American students experience of college and the likelihood of using university counseling centers: A replication and extension. *Journal of Counseling Psychology*, *41*, 275–279.
- Solberg, V. S. H., Good, G. E., Fischer, A. R., Brown, S. E., & Nord, D. (1995). Relative effects of career search self-efficacy and human agency upon career development. *Journal of Counseling Psychology*, *42*, 448–455.
- Solberg, V. S. H., O'Brien, K., Villareal, P., Kennel, R., & Davis, B. (1993). Self-efficacy and Hispanic college students: Validation of the College Self-Efficacy Inventory. *Hispanic Journal of Behavioral Sciences*, *15*, 80–95.
- Solberg, V. S. H., Gusavac, N., Hamann, T., Felch, J., Johnson, J., Lamborn, S., & Torres, J. (1998). The Adaptive Success Identity Plan (ASIP): A career intervention for college students. *Career Development Quarterly*, 47, 48–95.
- Torres, J. B., & Solberg, V. S. H. (2001). Role of self-efficacy, stress, social integration, and family support in Latino college student persistence and health. *Journal of Vocational Behavior*, 59, 53–63.
- Torres, J. B., Solberg, V. S. H., & Carlstrom, A. H. (2002). The myth of sameness among Latino men and their machismo. *American Journal of Orthopsychiatry*, *72*, 163–181.
- Vygotsky, L. S. (1978). *Mind and society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.



V. Scott Solberg, Ph.D. Success Highways Author and Chief Researcher

V. Scott Solberg, Ph.D., is currently the Associate Dean for Research at the School of Education, Boston University. He is an active member in the Society for Vocational Psychology, a Section in Division 17 (Society for Counseling Psychology) of the American Psychological Association. He is also a member of the International Association of Applied Psychology and International Association for Educational and Vocational Guidance. Dr. Solberg has served on the editorial boards of the *Journal of Counseling Psychology, Italian Journal of Vocational Psychology* (GIPO), *Hispanic Journal of Behavioral Sciences*, and *Journal of Career Assessment*.

In addition, Dr. Solberg is currently Chair of the American Psychological Association's Coalition for Psychology in Schools and Education. He has served in leadership roles with the Milwaukee Partnership Academy and the Milwaukee Public Schools Small Schools reform movement.

Dr. Solberg has published over 20 empirical and theoretical articles pertaining to youth development and academic success.

"I now know that I have a lot of potential and that if I set myself to do it I can go to college. Success Highways helped me push myself to try harder to succeed in the goals I set for myself."

> **Eighth Grade Student,** Arthur Ashe Middle School, Broward County, FL



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