NOTES

- Staff from WestEd's Health and Human
 Development Program (HHDP) originally
 developed the resilience and youth development module between 1998 and 2000. Within
 WestEd, HHDP is a distinct program from
 REL West. The authors of this report were not
 involved in the development of the module.
- 2. The secondary school module was originally designed to measure 11 environmental and 6 internal resilience assets. REL West's analyses suggested that some of the environmental asset measures could be combined to make more general measures, reducing the measures assessed from 11 to 8. In addition, two of the original six measures of internal resilience assets were dropped because of inadequate psychometric properties.
- 3. In 2001 a school connectedness scale, derived from the National Adolescent Health Survey, was added to the module because it was found to be predictive of low risk behavior and positive educational outcomes. The administration of the part of the instrument that includes this measure has been required since 2003. This measure was not included in the analysis, however, because it was not part of the original RYDM framework.
- See http://www.wested.org/chks/pdf/rydm_ aggregate.pdf for a sample RYDM state-level report (accessed September 19, 2007).
- 5. Analyses of the secondary school environmental asset items revealed that the instrument measures 8 of the 11 assets that the instrument was originally designed to measure. Within the school, community, and home domains, the items designed to measure adult high expectations messages and caring relationships with adults actually measure a single dimension—supportive relationships. Combining the high expectations and caring relationships items reduces the number of constructs assessed from 11 to 8. Moreover, of the six internal asset constructs that the

- module was designed to measure, only four could be measured validly.
- These numerical discrepancies came about because the school and community asset sections of the RYDM are required, while the other sections of the RYDM are not.
- Muthén's WLSMV estimator was used to obtain model estimates. This estimator uses the diagonal of the weight matrix to obtain parameter estimates and the full weight matrix to obtain standard errors and measures of model fit (Muthén, duToit, & Spisic, 1997).
- 8. The model assumes invariant-factor loadings, measurement intercepts, and residual variances/covariance.
- 9. Please see appendix C for more details on the EFA model selection process.
- 10. See tables E14, E20, E26, E32, E38, E44, E50, E56, and E62 in appendix E.
- 11. See appendix C for a description of the CFA model selection process.
- 12. The factor loadings and factor correlations estimated from the main and validation samples were nearly identical.
- 13. EFA goodness-of-fit information for analyses of demographic subgroups is presented in appendix tables E1–E3.
- 14. See tables E14, E20, E26, E32, E38, E44, E50, E56, and E62 in appendix E.
- 15. The fit indices for models 3a and 3b differ because the latter model includes covariates for student grade, gender, and race/ethnicity.
- The elementary survey does not include questions about student race/ethnicity, nor is it administered to students in more than one grade.
- 17. These 40 assets are assessed from 92 of the questions on the inventory.
- 18. The breadth of domain coverage of the RYDM in combination with its brevity is its weakness. With few items per scale, reliability may be compromised.

REFERENCES

- Akey, T. (2006). School content, student attitudes and behavior, and academic achievement: An exploratory analysis. New York: Manpower Demonstration Research Corporation.
- Arthur, M. W., Hawkins, J. D., Pollard, J. A., Catalano, R. F., & Baglioni, A. J. (2002). Measuring risk and protective factors for substance use, delinquency, and other adolescent problem behaviors. *Evaluation Review*, 26(6), 575–601.
- Battistich, V. (2003). Effects of a school-based program to enhance prosocial development on children's peer relations and social adjustment. *Journal of Research in Character Education*, 1(1), 1–17.
- Battistich, V., Schaps, E., & Wilson, N. (2004). Effects of an elementary school intervention on students' "connectedness" to school and social adjustment during middle school. *Journal of Primary Prevention*, 24(3), 243–261.
- Battistich, V., Schaps, E., Watson, M., Solomon, D., & Lewis, C. (2000). Effects of the child development project on students' drug use and other problem behaviors. *Journal of Primary Prevention*, *21*(1), 75–99.
- Bedrisk, E. J., & Breslin, F. C. (1996). Estimating the polyserial correlation coefficient. *Psychometrika*, *61*(3), 427–443.
- Benard, B. (1991). *Protective factors in the family, school, and community.* Portland, OR: Western Center for Drug-Free Schools and Communities.
- Benard, B. (1995). *Fostering resilience in children* (Report No. EDO-PS-95-9). Champaign, IL: ERIC Clearinghouse on Elementary and Childhood Education.
- Benard, B. (2004). *Resiliency: What have we learned?* San Francisco: WestEd.
- Bensen, P. L. (1990). *The troubled journey: A portrait of 6th–12th grade youth.* Minneapolis, MN: Search Institute.

- Beyers, J. M., Toumbourou, J. W., Catalano, R. F., Arthur, M. W., & Hawkins, J. D. (2004). A cross-national comparison of risk and protective factors for adolescent substance use: The United States and Australia. *Journal of Adolescent Health*, 35, 3–16.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Colarossi, L., & Eccles, J. S. (2000). A prospective study of adolescents' peer support: Gender differences and the influence on parental relationships. *Journal of Youth and Adolescence*, 29, 661–678.
- Constantine, N., Benard, B., & Diaz, M. (1999, June). *Measuring protective factors and resilience traits in youth:*The healthy kids resilience assessment. Paper presented at the Seventh Annual Meeting of the Society for Prevention Research, New Orleans, LA.
- Covell, K., MacIntrye, P., & Wall, J. (1999). Implications of social supports for adolescents' education and career aspirations. *Canadian Journal of Behavioural Science*, 31(2), 63–72.
- Crosnoe, R., Johnson, M. K., & Elder, G. H. (2004). Intergenerational bonding in school: The behavior and contextual correlates of student-teacher relationships. *Sociology of Education*, *77*, 60–81.
- Eisenberg, N., & Lennon, R. (1983). Sex differences in empathy and related capacities. *Psychological Bulletin*, *94*, 100–131.
- Frey, C. U., & Röthlisberger, C. (1996). Social support in healthy adolescents. *Journal of Youth and Adolescence*, 25, 17–31.
- Gresham, F. M., & Elliott, S. N. (1990). *Social Skills Rating System (SSRS)*. Bloomington, MN: Pearson Assessments.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescent and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin* 112(1), 64–105.

- Hjemda, O., Friborg, O., Stiles, T. C., Martinussen, M., & Rosenvinge, J. H. (2006). A new scale for adolescent resilience: Grasping the central protective resources behind healthy development. *Measurement and Evaluation in Counseling and Development*, 39, 84–96.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55.
- Klein, J. D., Sabaratnam, P., Auerbach, M. M., Smith, S. M., Kodjo, C., Lewis, C., Ryan, S., & Dandino, C. (2006). Development and factor structure of a brief instrument to assess the impact of community programs on positive youth development: The Rochester evaluation of asset development for youth (READY) tool. *Journal of Adolescent Health*, 39, 252–260.
- Little, R. J., & Rubin, D. B. (2002). *Statistical analysis with missing data* (2nd ed.). New York: John Wiley & Sons.
- Long, S. (1983). Covariance structure models: An introduction to LISREL. Newbury Park: Sage.
- MacCallum, R. C. (1995). Model specification: Procedures, strategies and related issues. In R. H. Hoyle (Ed.), *Structural equation modeling: Concepts, issues, and applications* (pp. 16–36). Thousand Oaks, CA: Sage.
- Masten, A. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, *56*, 227–238.
- Masten, A., & Coatsworth, D. (1998). The development of competence in favorable and unfavorable environments: Lessons from research on successful children. *American Psychologist*, *53*, 205–220.
- Muthén, B. O. (1984). A general structural equation model with dichotomous, ordered, categorical, and continuous latent variable indicators. *Psychometrica*, 49, 115–132.
- Muthén, B. O. (1987). *Liscomp: An analysis of linear structural relations using a comprehensive measurement model.* Mooresville, IN: Scientific Software.

- Muthén, B. O., du Toit, S. H. C., & Spisic, D. (1997).

 Robust inference using weighted least squares and quadratic estimating equations in latent variable modeling with categorical and continuous outcomes.

 Unpublished manuscript, University of California, Los Angeles.
- Muthén, L. K., & Muthén, B. O. (2006). *Mplus user's guide: Fourth edition*. Los Angeles: Muthén & Muthén.
- Nunnally, J. C. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Oman, R. F., Vesely, S. K., McLeroy, K. R., Harris-Wyatt, V., Aspy, C. B., Rodin, S., & Marshall, L. (2002). Reliability and validity of the Youth Asset Survey (YAS). *Journal of Adolescent Health*, *31*, 247–55.
- Price, J. H., Dake, J. A., & Kucharewski, R. (2002). Assessing assets in racially diverse, inner-city youths: Psychometric properties of the Search Institute asset questionnaire. *Family and Community Health*, 25, 1–9.
- Resnick, M., Bearman, P., Blum, R., Bauman, K., Harris, K., Jones, J., Tabor, J., Beuring, T., Sieving, R., Shew, M., Ireland, M., Bearinger, L., & Udry, J. (1997).

 Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health.

 Journal of the American Medical Association, 278, 823–832.
- Rutter, M. (1987). Psychosocial resilience and protective mechanisms. *American Journal of Orthopsychiatry*, *57*, 316–331.
- Satorra, A. (2000). Scaled and adjusted restricted tests in multi-sample analysis of moment structures. In R. D. H. Heijmans, D. S. G. Pollock, & A. Satorra (Eds.), *Innovations in multivariate statistical analysis. A Festschrift for Heinz Neudecker* (pp. 233–247). London: Kluwer Academic Publishers.
- Satorra, A., & Bentler, P. M. (1999). A scaled difference chi-square test statistics for moment structure analysis (Technical report). Los Angeles: University of California, Los Angeles.

- Springer, J. F., & Philips, J. L. (1995). *Individual protective factors index: A measure of adolescent resiliency.* Folsom, CA: EMT Associates.
- Wagnild, G. M., & Young, H. M. (1993). Development and psychometric evaluation of the Resilience Scale. *Journal of Nursing Measurement*, *1*, 165–178.
- Werner, E., & Smith, R. (1982). Vulnerable but invincible: A longitudinal study of resilient children and youth. New York: McGraw Hill.
- Werner, E., & Smith, R. (1992). *Overcoming the odds: High-risk children from birth to adulthood*. New York:
 Cornell University Press.
- WestEd. (2002). Resilience and youth development module: Aggregated California data—fall 1999 to spring 2002. Los Alamitos, CA: Author.
- Yu, C. Y., & Muthén, B. O. (2001). Evaluation of model fit indices for latent variable models with categorical and continuous outcomes (Technical report). Los Angeles: University of California, Los Angeles, Graduate School of Education and Information Studies.