

## Abstract

Though adolescent girls in developing countries are highly at-risk for poor psychological adjustment, there is a dearth of evidence on risk and protective factors for mental health problems in such populations. This study addresses the relationship between peer-related risk/protective factors (peer problems and prosocial behaviors), thinking styles (pessimism and optimism), and emotional and behavioral difficulties among a high-poverty sample of adolescent girls in India. Participants were 879 girls (ages 10-19) in urban slums of Surat, India.

**Findings suggest that, among girls in high-poverty, developing country settings, peer difficulties and pessimism correlate with and predict greater adjustment difficulties.**

**Interventions that target these risk factors may be beneficial for this population.**

## Introduction

**Why study peer relationships and pessimism among high-poverty adolescents in developing countries?**

- Preventing poor adjustment among adolescent girls in developing countries is a critical and urgent problem (e.g., Lund et al., 2011; Patel, Flisher, Hetrick, & McGorry, 2007).
- Risk factors such as poor peer relationships and pessimism represent potentially impactful targets for intervention (e.g., Brendgen, Lamarche, Wanner, & Vitaro, 2010; Carbonell et al., 2002; and Woodward & Fergusson, 1999).

This study provides some of the first evidence on the prevalence and influence of peer interactions and thinking styles that may affect psychological adjustment in a particularly high-poverty, marginalized sample: adolescent girls living in slums in the city of Surat, India.



**Figure 1.** Participants giggle outside their school in Surat, India. Participants attended four high schools that drew from 20+ slum areas.

## Methods

**Participants:** 879 high-poverty girls (ages 10-19) in urban slums of Surat, India. Participants were involved in a controlled trial of a resilience-building intervention conducted by CorStone. Baseline analyses included data from all participants while longitudinal analyses included data from the control group (n = 452) in order to examine the effects of risk factors independent from the intervention.

**Measures:** Peer problems, prosocial behavior, pessimism, optimism, emotional difficulties, and conduct problems were measured at two time points (3 months apart) using Hindi translations of the Youth Life Orientation Test (YLOT; Ey et al., 2005) and the Strengths and Difficulties Questionnaire (SDQ; Goodman, Meltzer & Bailey, 1998).

**Analysis:** We examined correlations between variables at T1. Then, we conducted regression analyses to examine whether peer risk factors and thinking styles at T1 predicted emotional and behavioral difficulties at T2. First, we conducted separate regression analyses to examine whether each risk/protective factor predicted emotional or behavioral difficulties. Second, we conducted one regression analysis predicting emotional difficulties and one regression analysis predicting behavioral difficulties including all of the significant risk/protective factors as predictors. This second set of analyses allowed us to identify the strongest predictors of adjustment.

### Hypotheses:

- Peer problems would predict higher levels of emotional and behavioral difficulties while prosocial behavior would predict lower levels of these difficulties.
- Pessimism would predict higher levels of emotional and behavioral difficulties while optimism would predict lower levels of these difficulties.

**Table 1.** Correlations between measures at T1 (ns range from 725-879).

	1.	2.	3.	4.	5.
<b>1. YLOT Optimism</b>					
<b>2. YLOT Pessimism</b>	-.09**				
<b>3. SDQ peer problems</b>	-.14***	.21***			
<b>4. SDQ prosocial behavior</b>	.17***	-.14***	-.30***		
<b>5. SDQ emotional difficulties</b>	-.10**	.26***	.38***	-.12**	
<b>6. SDQ conduct problems</b>	-.11**	.24***	.34***	-.24***	.43***

Note: \* = p < .05, \*\* = p < .01, \*\*\* = p < .001

## Results

### Correlational Analysis

Table 1 presents correlations between measures at T1.

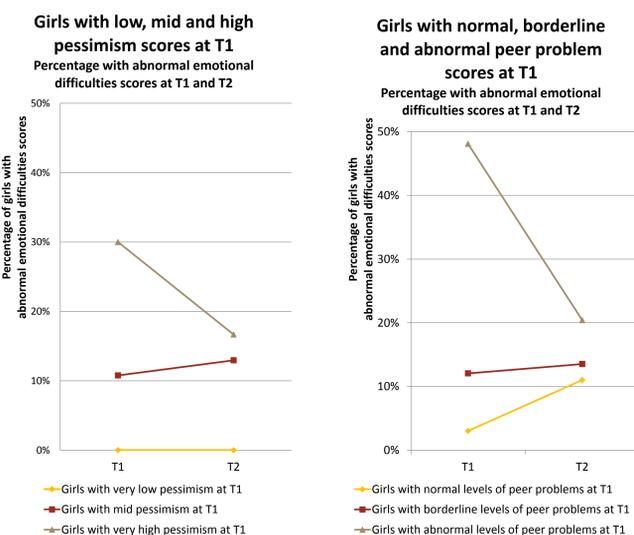
**Correlations were in the directions expected.** Peer problems were associated with higher – and prosocial behaviors with lower – levels of emotional and behavioral problems. Pessimism was associated with higher – and optimism with lower – levels of emotional and behavioral problems.

### Prospective Analysis of Emotional Difficulties

- Peer problems predicted higher levels of emotional difficulties,  $t(426) = 3.52, p < .001$ , while prosocial behavior did not predict emotional difficulties,  $t(426) = 0.70, p = .482$ .
- Pessimism predicted higher levels of emotional difficulties,  $t(426) = 2.72, p = .007$ , and optimism predicted lower levels,  $t(425) = -2.39, p = .017$ .
- When all significant predictors were included in the same model, only pessimism and peer problems predicted higher levels of emotional difficulties,  $t(425) = 1.98, p = .048$  and  $t(425) = 2.83, p = .005$ , respectively.

### Prospective Analysis of Conduct Problems

When examined singly, optimism, pessimism, peer problems and prosocial behavior did not significantly predict conduct problems,  $t(424) = -1.60, p = .110$ ;  $t(425) = 0.86, p = .391$ ;  $t(425) = 0.28, p = .781$  and  $t(425) = 0.99, p = .323$  respectively. As none of the predictors were significant, we did not examine multiple predictors together.



**Figure 2.** Pessimism and peer problems predict emotional difficulties over time.

Note: Normal/Borderline/Abnormal peer problems follow UK norms (Meltzer, Gatward, Goodman & Ford, 2000). Very low/high pessimism is defined as +/- 2 standard deviations from the mean.

## Discussion

- Risk/protective factors generally functioned as expected for emotional adjustment problems in this high-poverty youth population in India.

Peer problems and optimism/pessimism correlated with and predicted emotional adjustment problems in this highly disadvantaged adolescent girl population in the expected directions. This finding is critical, particularly as researchers have questioned whether western definitions of risk/protective factors are useful in non-western settings (e.g., Lightsey Jr. & Christopher, 1997). Our findings suggest that peer related risk factors and thinking styles are highly relevant to emotional well-being among high-poverty, marginalized young people in developing countries.

- Additional research is necessary concerning behavior problems in this and similar populations.

Peer risk factors and thinking styles did not predict changes in behavior problems over time, pointing to the need for further research. This finding may be due to the traditionally-subservient role of women in high-poverty India, which may push girls towards internalizing rather than externalizing their problems. Thus, the prevalence and predictive value of conduct problems in this and similar populations deserves further study.

## Conclusions and Implications

**Interventions that reduce pessimism and peer problems have potential to reduce the burden of mental ill-health among young women internationally.**

- This study has important implications for the development of effective interventions to reduce the burden of poor emotional adjustment in this and similar populations.
- In particular, as peer-related difficulties and optimism/pessimism consistently emerged as significant correlates and predictors of poor emotional adjustment, interventions to improve peer relationships and decrease pessimism could be impactful. Such interventions could include social-emotional learning and/or peer support programs.
- Curricula could potentially target peer relationships through peer support groups and skill-building in social skills, conflict resolution and assertive communication. Pessimism could be targeted through skill-building in questioning pessimistic thinking, and goal-setting and planning.

CorStone has developed a resilience intervention that builds peer support and optimism, to be implemented among 3,600 high-poverty adolescent girls in India starting July 2013. For more information, please contact Kate Sachs, [kates@corstone.org](mailto:kates@corstone.org) or visit CorStone on the web at [www.corstone.org](http://www.corstone.org).

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## References

- Brendgen, M., Lamarche, V., Wanner, B., & Vitaro, F. (2010). Links between friendship relations and early adolescents' trajectories of depressed mood. *Developmental Psychology, 46*(2), 491–501.
- Carbonell, D. M., Reinherz, H. Z., Giaconia, R. M., Stashwick, C. K., Paradis, A. D., & Beardslee, W. R. (2002). Adolescent Protective Factors Promoting Resilience in Young Adults at Risk for Depression. *Child and Adolescent Social Work Journal, 19*(5), 393–412.
- Ey, S., Hadley, W., Allen, D. N., Palmer, S., Klosky, J., Deptula, D., ... Cohen, R. (2005). A new measure of children's optimism and pessimism: the youth life orientation test. *Journal of Child Psychology & Psychiatry, 46*(5), 548–558.
- Goodman, R., Meltzer, H., & Bailey, V. (1998). The Strengths and Difficulties Questionnaire: A pilot study on the validity of the self-report version. *European Child and Adolescent Psychiatry, 7*, 125–130.
- Guzman, M. R. T. de, Brown, J., Carlo, G., & Knight, G. P. (2012). What Does it Mean to be Prosocial? A Cross-Ethnic Study of Parental Beliefs. *Psychology & Developing Societies, 24*(2), 239–268.
- Lightsey Jr., O. R., & Christopher, J. C. (1997). Stress Buffers and Dysphoria in a Non-Western Population. *Journal of Counseling & Development, 75*(6), 451–459.
- Lund, C., De Silva, M., Plagerson, S., Cooper, S., Chisholm, D., Das, J., ... Patel, V. (2011). Poverty and mental disorders: breaking the cycle in low-income and middle-income countries. *The Lancet, 378*(9801), 1502–1514.
- Meltzer, H., Gatward, R., Goodman, R., & Ford, F. (2000). *Mental health of children and adolescents in Great Britain*. London: The Stationery Office.
- Patel, V., Flisher, A. J., Hetrick, S., & McGorry, P. (2007). Mental health of young people: a global public-health challenge. *The Lancet, 369*(9569), 1302–1313.