



# Thriving in adversity: Do brief milieu interventions work for young adults in the developing world? A pragmatic randomized controlled trial

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Adolescence may be a window of opportunity to attenuate the effects of early social adversity, which impedes cognitive, emotional, and social development, and increases risk of psychopathology into adulthood. We ran a pragmatic randomized controlled trial to assess the impact of a brief intervention designed to facilitate life skills for psychosocial competence. Socially disadvantaged young people living in South India who had experienced early adversity ( $N = 645$ ; age range = 17–22 years) participated in the intervention or were assigned to a wait-list control group. The intervention led to large differences in life skills between the two groups. This brief, scalable intervention can be made available to address the impact of early social adversity on young people's development.

## Keywords

social adversity; low socioeconomic communities; nongovernmental organizations; scalable psychosocial intervention; life skills; psychosocial competence; adolescence

## Literature Review

### Developmental and Psychopathological Impact of Early Adversity

*Social adversity* describes exposure to hardship because of social circumstances such as poverty, discrimination, maltreatment, and violence (Gartland et al., 2019). Extreme poverty, a common measure of social adversity, affects one in four children globally, and one in five children in South Asia (World Bank, 2018). India is home to 30% of all children living in extreme poverty, which amounts to over 115 million children (United Nations Children's Emergency Fund [UNICEF] & World Bank Group, 2016).

The consequences of growing up in these adverse conditions include stunted growth, social exclusion, psychopathology into adulthood, and the transmission of poverty to the next generation (Grantham-McGregor et al., 2007; Hughes et al., 2017; Kessler et al., 2010; World Bank, 2018). This intergenerational cycle of adversity also results in significant economic costs: "The consequences of inadequate nutrition, deficient early stimulation and learning, and exposure to stress and shame last a lifetime...Beyond this sad and avoidable impact on human life and potential, neglecting children fails to build the human capital the world needs for sustained economic prosperity" (World Bank, 2018, p. 141). Severe social adversity impedes the development of cognitive, emotional, and social skills in children and young people (Fry et al., 2017; Hanson et al., 2015; Kim & Cicchetti, 2010; Young & Widom, 2014), and increases the risk of psychopathology in a dose–response relationship (Edwards et al., 2003; Green et al., 2010).

The proportion of children at risk of not attaining their developmental potential because of extreme poverty is estimated at 43% in low- and middle-income countries globally (Black et al., 2017). In a systematic review of the cognitive functioning of socially disadvantaged young people (target age range: 15–24 years), compared with nondisadvantaged peers or published norms, growing up in poverty was consistently associated with impairment in general cognitive functioning, working memory, attention, and executive functioning (Fry et al., 2017). The impact on socioemotional development is less well-documented, although there is evidence that early adversity leads to deficits in emotional processing and associated brain structures (Hanson et al., 2015; Young & Widom, 2014), and delays in prosocial behavior (Kim & Cicchetti, 2010). Studies of children who have been brought up by adoptive parents show that prolonged social deprivation (> 6 months during infancy) of the child typically results in long-term deleterious effects on attentional skills, emotional well-being, and interpersonal behavior into young adulthood, despite the child being adopted into a well-resourced and supportive home (Sonuga-Barke et al., 2017).

In addition to the impact on young people's developmental trajectories, early adversity has been found to be associated with psychopathology across disorders, life stages, and countries, accounting for 29.8% of common mental health disorders worldwide (Kessler et al., 2010). Although the weight of evidence clearly indicates that early adversity constitutes a general risk factor for psychopathology, it is not known how to mitigate this risk. To understand human psychopathology and adaptation (Cicchetti & Aber, 1998), the impact of childhood adversity during sensitive periods needs to be investigated. Studies in which the acquisition of developmental competencies is examined are likely to be the most informative (McLaughlin, 2016).

### **Adolescence as a Window of Opportunity**

*Adolescence*, which is recognized as a sensitive developmental period during which significant changes occur in brain structure and function (Blakemore, 2012), may be a window of opportunity to reverse or attenuate the effects of early social adversity. In a longitudinal study of children who had been institutionalized during infancy, Gunnar and colleagues (2019) examined hypothalamic–pituitary–adrenocortical (HPA) activity, which calibrates to the harshness of the social environment and affects threat system responses. They found that adopted children brought up in well-resourced and supportive homes showed improved cortisol reactivity over the pubertal period, compared with matched nonadopted controls. Importantly, these changes were not seen over earlier stages of development, postinfancy. The authors concluded that an adolescent window of neuroplasticity allowed the HPA system to recalibrate in an improved social environment, and that interventions aimed at improving outcomes for those who have experienced early adversity should be focused on the peripubertal period.

### **Life Skills for Psychosocial Competence**

The World Health Organization (WHO, 1997) defines *life skills* as those abilities that are required to achieve *psychosocial competence* (i.e., the ability to manage the demands and challenges of everyday life). The focus in interventions designed to facilitate psychosocial competence is on the development of cognitive, emotional, and social skills in cultural context. These include a core set of interrelated competencies that are relevant cross-culturally: decision making and problem solving, creative and critical thinking, effective communication and interpersonal skills, self-awareness and empathy, and the ability to cope with emotions and stressors. Together, these life skills provide the basis for adaptive and effective responses to the situations that arise in daily life.

Early and persistent social adversity results in poor psychosocial competence for many young people in low socioeconomic communities. As well as the acquisition of literacy, numeracy, and vocational skills, and participation in programs designed to effect social and environmental change, the WHO promotes the acquisition of life skills through educational programs to attenuate these effects (WHO, 1997) and

emphasizes the need to teach these skills in a supportive learning environment, drawing on the principles of behavioral reinforcement and social learning theory (Bandura, 1977).

Consistent with the WHO recommendations, many nongovernmental organizations (NGOs) run life skills programs, often on a low budget, and rely on local volunteers as facilitators. Implementation issues are common and there is little evidence of systematic monitoring and assessment of skill acquisition (UNICEF, 2012). The results from well-conducted studies of psychosocial interventions targeting mental health in humanitarian contexts show clear promise (e.g., Tol et al., 2020). Programs aimed at improving life skills in young people in low socioeconomic communities are typically assumed to be effective on the basis of narrative accounts rather than formal evaluation, and so it remains unclear whether these programs are beneficial, and, if so, how this manifests (cf. Pearson et al., 2021). Studies are needed to assess life skills programs for young people, in which reliable outcome measures have been used.

We conducted a pragmatic controlled trial in socially disadvantaged communities in Bengaluru, South India, to determine if participation in a brief life skills program would facilitate the psychosocial competence of young people. We predicted that participants in the intervention (vs. control) group would show greater improvement in life skills.

## Method

### Ethical Approval

In line with local community decision-making procedures, ethical approval was given by the host NGO, a local community board, and NGO leaders to evaluate their 'Career Connect' program, which is open to young people aged between 17 and 22 years. Controlled allocation to groups was agreed on the basis that more people applied for the program than could be offered places immediately. The program and the use of the Life Skills Assessment Scale (LSAS; Kennedy et al., 2014; Pearson et al., 2020) had already been established at the facility.

### Design

We adopted a pragmatic randomized controlled design. The independent variable was group (intervention or wait-list control). The dependent variable was observer-rated life skills, which we assessed using the LSAS (Pearson et al., 2020), as the only validated measure available for this population. On arrival, participants were allocated to one of the groups.

### Participants

We recruited 645 young people of Indian ethnicity. There were no exclusion criteria. The mean age of participants was 18.77 years ( $SD = 1.67$ , range = 17–22) and there were more women ( $n = 401$ ; 62.20%) than men ( $n = 244$ ; 37.80%).

### Observers/Raters

All 11 observers/raters (six women and five men) worked for the local NGO. Some had come from disadvantaged backgrounds themselves and some had attended enrichment programs as children. The observers/raters did not participate in the programs being assessed and were blind to group assignment. All observers/raters attended a brief orientation session regarding the purpose and administration of the LSAS as part of their role with the NGO, but were unaware of the details of the study.

### Procedure

Young people at the NGO facility attended an initial preprogram session, where they were assessed with the



LSAS and allocated to either the intervention or wait-list control group. Local facilitators trained in the use of the LSAS observed participants to assess their preintervention life skills. Those allocated to the intervention group were invited to take part in the program immediately, and reassessed on days 24 and 25. Those allocated to the control group were invited to take part after 25 days, and reassessed on days 1 and 2 of their program. All ratings were completed by assessors blind to group assignment and were recorded on tablets.

## Measure

The LSAS (Pearson et al., 2020) is a 5-item observer-rated measure of life skills, designed to be used with children, adolescents, and young people in low socioeconomic communities. Items are rated on a 5-point Likert scale (1 = *does not yet do*, 2 = *does with lots of help*, 3 = *does with some help*, 4 = *does with a little help*, 5 = *does independently*), and are summed to give a total score. The LSAS has good interrater reliability ( $r = .76$ ,  $p < .001$ ), excellent internal consistency ( $\alpha = .92$ ), and excellent test–retest reliability ( $r = .95$ ) for the target age group (Pearson et al., 2020).

## Intervention Program

The 25-day Career Connect program is a psychosocial intervention, the aim of which is to promote cognitive, emotional, and social life skills. (The training manual and curriculum for the Career Connect program are freely available on request from the authors.) The program is delivered for 2 hours each day in Bengaluru, at two walk-in facilities accessed by low socioeconomic status families, including many living in slums. Following word-of-mouth recommendations, young people with little formal education access the facility to prepare for work opportunities. There are no formal referrals and the program is explicitly socially inclusive: there is no separation by gender, religion, or socioeconomic group.

The sessions are structured around discussion (e.g., the impact of past experiences, goals for the future), creative (e.g., portraiture), social (e.g., listening and communicating), emotional (e.g., managing strong feelings), and practical tasks (e.g., spoken English, computer skills). The facilitators seek to model and establish safe, reliable, and bounded relationships with the young people, drawing on the principles of positive reinforcement (e.g., skillful use of validation) and social learning theory (Bandura, 1977) to facilitate age-appropriate cognitive, emotional, and social life skills. Local facilitators are selected and trained through a standardized training manual, and shadowing, and then complete corunning sessions with senior facilitators for between 1 and 3 months.

## Data Analysis

We used SPSS 24.0 to inspect the distribution of data and calculate descriptive statistics. A mixed-model analysis of variance (ANOVA) was used to assess the impact of the intervention, with time (preprogram vs. postprogram) as the within-subjects factor and group (intervention vs. control) as the between-subjects factor. Although the LSAS data were not normally distributed, as ANOVAs are sufficiently robust to accommodate some deviation from the norm, the original analysis plan was retained.

## Results

Descriptive statistics for the intervention and control groups are shown in Table 1.

Table 1. *Demographic and Descriptive Statistics*

|              | Gender |        | Age           | Life Skills Assessment Scale |                              |
|--------------|--------|--------|---------------|------------------------------|------------------------------|
|              | Male   | Female | <i>M (SD)</i> | Preprogram<br><i>M (SD)</i>  | Postprogram<br><i>M (SD)</i> |
| Intervention | 126    | 207    | 18.81 (1.67)  | 2.56 (0.48)                  | 3.50 (0.53)                  |
| Control      | 118    | 194    | 18.73 (1.67)  | 2.57 (0.57)                  | 2.30 (0.50)                  |
| Total        | 244    | 401    | 18.77 (1.67)  | 2.56 (0.53)                  | 2.92 (0.79)                  |

Note.  $N = 645$ .

We compared data for initial differences between the two groups using chi-square ( $\chi^2$ ) analysis for gender, and  $t$  tests for age and initial LSAS score. There were no differences in gender,  $\chi^2(14, 645) = 10.84, p = .70$ ; age,  $t(643) = 0.59, p = .56$ ; or initial LSAS score as assessed by the LSAS,  $t(643) = -0.33, p = .74$ .

The ANOVA results show that there was a main effect of group,  $F(1, 643) = 282.86, p < .001, \eta_p^2 = .31$ ; time,  $F(1, 643) = 255.73, p < .001, \eta_p^2 = .29$ ; and the group  $\times$  time interaction,  $F(1, 643) = 852.11, p < .001, \eta_p^2 = .57$ . Post hoc  $t$  test results show that the two groups did not differ preintervention,  $t(643) = -0.33, p = .74$ , but did differ postintervention,  $t(643) = 29.51, p < .001$ . Life skills increased considerably over time in the intervention group,  $t(332) = 28.98, p < .001$ , and decreased slightly in the control group,  $t(311) = -10.78, p < .001$ .

## Discussion

Early social adversity seriously impairs cognitive, emotional, and social development, compromises psychosocial competence, and increases risk of psychopathology (Edwards et al., 2003; Fry et al., 2017; Green et al., 2010; Hanson et al., 2015; Kim & Cicchetti, 2010; Young & Widom, 2014). We conducted a pragmatic randomized controlled trial of a scalable psychosocial intervention aimed at promoting life skills, which resulted in significant improvement for young people in South India. The effect size is notable given the brevity of the intervention. The results support our hypothesis, indicating that adolescence is a window of opportunity to attenuate the effects of severe social adversity (Blakemore, 2012; Gunnar et al., 2019).

The impact of the program supports the WHO's (1997) recommendation that life skills be taught to develop young people's capacity for adaptive and effective responses to daily situations. The design of the Career Connect program reflects the WHO's emphasis on these skills being taught in a supportive learning environment: facilitators use positive reinforcement contingencies (validation and encouragement to shape behavior) and explicitly communicate that mistakes are acceptable and often facilitate learning (Dormann & Frese, 1994; Gully et al., 2002). As our study design did not allow for assessment of the relative contributions of different aspects of the program (content and learning environment), these require further exploration.

Scalability of a program depends on whether delivery can be standardized while maintaining flexibility, an absence of reliance on extensive external facilitation, assurance of quality of provision, and assurance of breadth of scope (Hanlon & Jordans, 2020). The Career Connect life skills program follows a manual in which the principles and practice of skillful facilitation are described, and the curriculum is set out detailing the content of sessions. Both of these can be modified to allow for cultural and contextual adaptation, following guidelines for the adaptation of behavioral health programs (Barrera et al., 2013; Lau, 2006). Local facilitators, many of whom grew up in adverse conditions themselves, are trained in using the manual and curriculum, and also through shadowing and corunning sessions with senior facilitators, thus ensuring



sustainability at a modest cost. Quality of provision is assessed through the routine use of a standardized measure of life skills: the LSAS (Kennedy et al., 2014; Pearson et al., 2020). The focus on life skills ensures breadth of scope, as identified by the WHO (1997) as the means of achieving broad psychosocial competence. Further, the inclusion of all young people attending the facility, irrespective of gender, religion, and socioeconomic group, broadens the program's reach.

The findings are primarily limited by our use of alternate allocation to group, lack of follow-up data, and reliance on one outcome measure. The ethical decisions and study design were determined by the staff of the NGO running the program and the community leaders. A preregistered randomized trial, including follow-up data and exploration of the key components and mechanisms of change, is now warranted.

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