**Thriving in adversity: Do brief milieu interventions work for developing world young adults? *A pragmatic RCT***

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***A pragmatic RCT***

**Abstract**

Early social adversity impedes cognitive, emotional and social development in young people from low socio-economic communities, and increases risk of psychopathology into adulthood. Adolescence may present a window of opportunity to attenuate these effects. A pragmatic controlled trial was run to assess the impact of a brief intervention designed to facilitate life skills for psychosocial competence, following early adversity. Socially disadvantaged young people (N=645; 17-22 years) living in South India were recruited to the intervention or wait list control. The intervention led to large differences in life skills (assessed blind). This brief, scalable intervention has large effects and can be made available to address the impact of early social adversity on young people’s development.

**Keywords:** Early adversity; low socioeconomic status; NGO programmes; psychosocial intervention; life skills; psychosocial competence; scalable

**Introduction**

***Early social adversity***

Social adversity describes exposure to hardship due to 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, amounting to over 115 million children across the sub-continent (UNICEF, 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). The inter-generational cycle of adversity results in significant economic as well as human 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, p141).

***The developmental and psychopathological impact of early adversity***

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 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 due to extreme poverty is estimated at 43% in low and middle-income countries globally (Black, et al., 2017). In a systematic review of cognitive functioning in socially disadvantaged young people (target age range: 15-24 years), poverty was consistently associated with impairments in general cognitive functioning, working memory, attention and executive functioning, compared with non-disadvantaged peers or published norms (Fry et al., 2017). The impact on social-emotional development is less well documented, though there is evidence that early adversity leads to deficits in emotion processing and associated brain structures (Hanson, et al., 2015; Young & Widom, 2014), and delays in pro-social behaviours (Kim & Cicchetti, 2010). Importantly, adoption studies have shown that prolonged social deprivation (>6 months during infancy) typically results in long-term deleterious effects on attentional skills, emotional wellbeing and interpersonal behaviour into young adulthood, despite adoption into well-resourced and supportive homes (Sonuga-Barke, et al., 2017).

In addition to the impact on young people’s developmental trajectories, early adversity is associated with psychopathology across disorders, life stages, and countries, accounting for 29.8% of common mental health disorders worldwide (Kessler, et al., 2010). While the weight of evidence clearly indicates that early adversity constitutes a general risk factor for psychopathology, we do not yet know how to mitigate this risk. In order to understand human psychopathology and adaptation (Cicchetti & Aber, 1998), we need to investigate the impact of childhood adversity during ‘sensitive periods;’ studies examining the acquisition of developmental competencies are likely to be most informative (McLaughlin, 2016).

***Adolescence as a window of opportunity***

Adolescence is recognised as a sensitive period for development, in which significant changes occur in brain structure and function (Blakemore, 2012). This period may present a window of opportunity to reverse or attenuate the effects of early social adversity.

In a longitudinal study of children institutionalised during infancy, Gunner and colleagues examined hypothalamic-pituitary-adrenocortical (HPA) activity, which calibrates to the harshness of the social environment, and affects threat system responses (Gunner, et al., 2019). Children adopted into well-resourced and supportive homes showed improved cortisol reactivity over the pubertal period, compared with matched non-adopted controls. Importantly, these changes are not seen over earlier stages of development, post-infancy. The authors conclude that an adolescent window of neuroplasticity allows the HPA system to recalibrate in the context of an improved social environment, and that interventions aimed at improving outcomes for those who have experienced early adversity should focus on the peripubertal period (Gunner, et al., 2019).

***Life skills for psychosocial competence***

The World Health Organisation (WHO; Birrell, et al., 1997) defines ‘life skills’ as those required to achieve psychosocial competence – the ability to manage the demands and challenges of everyday life. Interventions designed to facilitate psychosocial competence focus on the development of cognitive, emotional and social skills in cultural context. These include a core set of inter-related 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 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 from low socio-economic communities. The WHO promotes the acquisition of life skills through educational programmes to attenuate these effects (alongside literacy, numeracy and vocational skills, and programmes designed to effect social and environmental change) (Birrell, et al., 1997). Importantly, the WHO also emphasises the need to teach these skills in a supportive learning environment, drawing on the principles of behavioural reinforcement and social learning theory (Bandura, 1977).

In line with WHO recommendations, many non-governmental organisations (NGOs) now run life skills programmes, often on low budgets and reliant on local volunteers. Implementation issues are common, and there is little evidence of systematic monitoring and assessment of skill acquisition (UNICEF, 2012). Well-conducted studies of psychosocial interventions targeting mental health in humanitarian contexts show clear promise (e.g. Tol, et al., 2020). Programmes aimed at improving life skills in young people from low socio-economic communities are typically assumed to be effective on the basis of narrative accounts rather than formal evaluation, and so it remains unclear whether and how such programmes are beneficial (cf. Pearson et al., 2021). The assessment of life skills programmes for young people, using reliable outcome measures, is a significant gap in the literature.

***Current study***

A pragmatic controlled trial was used to determine whether a brief life skills programme would facilitate psychosocial competence in young people from socially disadvantaged communities in Bengaluru, South India. It was predicted that participants in the intervention group would show greater improvements in life skills, compared with those in the control group.

**Materials and Methods**

Ethical approval was given by the host non-governmental organisation (NGO) to evaluate the ‘Career Connect’ programme running at their facility, and by a board of local community and NGO leaders, in line with community decision making procedures in the area. The Career Connect programme is open to young people aged 17-22 years to prepare for work opportunities, irrespective of gender, religion or socio-economic group. Controlled allocation to group was agreed on the basis that more people applied for the programme than could be offered places immediately. The programme and use of the Life Skills Assessment Scale (LSAS; Kennedy, et al., 2014; Pearson, et al., 2020) had already been established at the facility.

***Design***

The study adopted a pragmatic controlled design. The independent variable was group (intervention or wait list control). The dependent variable was observer-rated life skills, assessed using the LSAS (Pearson, et al., 2020) as the only validated measure available for this population. Participants were alternately allocated to group.

***Participants***

Young people aged 17-22 years were recruited to the study. All those attending the facility within this age range were eligible, and 645 young people participated. There were no exclusion criteria. All were of Indian ethnicity. The sample had a mean age of 18.77 years (*SD*=1.670) and included more females (*n*=401; 62.2%) than males (*n*=244; 37.8%).

***Observer/raters***

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

***Measure***

The *Life Skills Assessment Scale* (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 from low socio-economic communities. Items are rated on a 5-point 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), which are summed to give a total score. The LSAS has good interrater reliability (*r* = .76, *p* < 0.001). excellent internal consistency (*α* = 0.92) and excellent test-retest reliability (*r = 0*.95) for the target age group (Pearson, et al., 2020).

***Procedure***

Young people attending the NGO facility attended an initial pre-programme session, where they were assessed using the LSAS and alternately allocated to the intervention or wait list control. Local facilitators trained in use of the LSAS observed different participants to assess pre-intervention life skills. Those allocated to the intervention group were invited to take part in the programme 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 programme. All ratings were completed by assessors blind to group and recorded on tablets.

***Intervention programme[[1]](#footnote-2)***

The 25-day ‘Career Connect’ programme is a psychosocial intervention that aims to promote cognitive, emotional and social life skills. The programme is delivered for two hours each day from two walk-in facilities in areas of Bengaluru accessed by families of low socio-economic status, including many living in slums. Young people with little formal education access the facility, following word of mouth recommendations, to prepare for work opportunities. There are no formal referrals and the programme is explicitly socially inclusive – there is no separation by gender, religion or socio-economic group.

The sessions are structured around discussion (e.g. on 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 boundaried relationships with the young people, drawing on the principles of positive reinforcement (e.g. skilful 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 (1) a standardised training manual, and (2) shadowing and then co-running sessions with senior facilitators for one to three months.

***Data analysis***

We used SPSS version 24 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 one within participants factor (time – pre vs. post programme) and one between participants factor (group – intervention vs. control). While the LSAS data were not normally distributed, ANOVAs are sufficiently robust to accommodate some deviation from normality, and so the original analysis plan was retained.

**Results**

Table 1 provides descriptive statistics for the intervention and control group.

**Table 1**

*Demographic and descriptive statistics*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Gender | | Age | LSAS | |
|  | Male | Female | Mean (*SD*) | Pre  Mean (*SD*) | Post  Mean (*SD*) |
| 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)* |

The data were compared for any initial differences between the two groups using chi-square analysis for gender and *t*-tests for age and initial LSAS score. There were no differences in gender (*X* 2(14, 645) = 10.84, *p* = 0.70, age (*t*(643) = 0.59, *p* = 0.56), or initial life skills as assessed by the LSAS (*t*(643) = -0.33, *p* = 0.74).

The ANOVA showed that there was a main effect of group, *F*(1, 643) = 282.86, *p* < 0.001, ηp2  = 0.31, time, *F*(1, 643) = 255.73, *p* < 0.001, ηp2 = 0.29, and group by time interaction, *F*(1, 643) = 852.11, *p* < 0.001, ηp2 = 0.57. Post-hoc *t*-tests showed that the two groups did not differ pre-intervention, *t*(643) = -0.33, *p* = 0.74, but did differ post-intervention, *t*(643) = 29.51, *p* < 0.001. Life skills increased considerably over time in the intervention group, *t*(332) = 28.98, *p* < 0.001, and decreased slightly in the control group, *t*(311) = -10.78, *p* < 0.001.

**Discussion**

***Overview of findings***

Early social adversity seriously impairs 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). A pragmatic controlled trial of a scalable psychosocial intervention aimed at promoting cognitive, emotional and social life skills, resulted in significant improvements for young people living in South India. The effect size is notable given the brevity of the intervention. The results also support the hypothesis that adolescence presents a window of opportunity to attenuate the effects of severe social adversity (Blakemore, 2012; Gunner, et al., 2019), and demonstrates this for a brief programme targeting cognitive, emotional and social life skills in young people.

The impact of the programme supports the WHO recommendation that life skills be taught through educational courses to develop young people’s capacity for adaptive and effective responses to the situations that arise in daily life (Birrell, et al., 1997). The programme reflects the WHO’s emphasis on teaching these skills in a supportive learning environment; facilitators use positive reinforcement contingencies (validation and encouragement to shape behaviours) and explicitly communicate that mistakes are acceptable and often facilitate learning (cf. Dormann & Frese, 1994; Gully, et al., 2002). The study design does not allow for assessment of the relative contributions of different aspects of the programme (content and learning environment), which requires further exploration.

Scalability of programmes depends on whether delivery can (a) be standardised while maintaining flexibility, (b) not rely on extensive external facilitation, (c) assure quality of provision, and (d) ensure breadth of scope (Hanlon & Jordans, 2020). This life skills programme follows a manual describing the principles and practice of skilful facilitation, and a curriculum detailing the content of sessions, both of which could be modified to allow for cultural and contextual adaptation, following guidelines for the adaptation of behavioural health programmes (cf. Barrera, et al., 2013; Lau, 2006). Local facilitators, many of whom grew up in adverse conditions themselves, are trained using the manual and curriculum, and through shadowing and co-running sessions with senior facilitators, ensuring sustainability at modest costs. Quality of provision is assessed through the routine use of a standardised 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 (Birrell, et al., 1997) as the means of achieving broad psychosocial competence, and the inclusion of all young people attending the facility, irrespective of gender, religion and socio-economic group, increases the programme’s reach.

***Limitations***

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 NGO running the programme and community leaders, in line with local community decision making. A pre-registered, randomised trial including follow-up data and exploration of the key components and mechanisms of change is now warranted.

***Conclusion and implications***

This study demonstrates the impact of a brief psychosocial intervention aimed at facilitating life skills in young people from low socio-economic communities in South India. The programme was designed for those in late adolescence, identified as a window of opportunity to attenuate the effects of adversity on cognitive, emotional and social outcomes. This brief scalable intervention has large effects and can be made available to young people, to address the impact of early social adversity on developmental trajectories.

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1. Training manual and curriculum freely available on request [↑](#footnote-ref-2)