

# ASK YOUR BIG BROTHERS AND SISTERS!



West-Brabant

## MULTIDISCIPLINARY RESEARCH INTO A PREVENTIVE NEIGHBOURHOOD PROGRAM FOR YOUNG PEOPLE WHO FIND IT DIFFICULT TO CONNECT WITH SOCIETY

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#### BACKGROUND

## Early Life Stress (ELS)

Children and young people growing up in vulnerable neighbourhoods often experience setbacks and chronic stress, referred to in the scientific literature as Early Life Stress (Pijpers et al., 2019). During the extra sensitive developmental period of adolescence, chronic stress can have major psychological and physical consequences (Dolinoy et al., 2007; Soleimanpour et al., 2017; Pijpers et al., 2019), but damage can also be prevented or converted into a more favourable development (Soleimanpour et al., 2017).

## **METHODS**

This exploratory quantitative study has an observational design with three measuring moments. Around 50 young people aged 14 to 27 will participate in this study. Data collection runs until March 2024. Different instruments are used to assess outcomes (Table 1).

(self-reported) questionnaires	Measuring instruments	At influx T0	6 months af- ter influx T1	
	Registration of general back- ground characteristics	x		

#### Hair cortisol (-cortisone) and stress

Measurements of cortisol in human hair are increasingly used as a biomarker to gain insight into the degree of stress (De Kruijff et al., 2020). Reference values for hair cortisol in children (0-18 years) have recently been mapped (De Kruijff et al., 2020). Hair cortisol is associated with adult mental health; for example, changes have been found in cortisol levels in chronic stress and anxiety disorders (Stalder et al., 2017; Staufenbiel et al., 2013). However, this research is still in its infancy for adolescents and children.

Hair sample (cortisol and co

Effective elements of preventive programs with a cross-domain approach

- There are indications that preventive programs with a cross-domain approach can contribute to reducing chronic stress and increasing well-being. The following active elements emerge in the literature (Pijpers et al., 2019) and are part of Big Brother Big Sister program (BBBS):
- 1. Removing harmful stressors; 2. Increasing skills and competences, which increases personal resilience and improves future prospects; 3. Offering a social environment with positive social contacts and connections with the living environment. In a safe pedagogical climate, young people can practice with challenges and build confidence in themselves and others.

#### Youth Empowerment Programs (YEP)

BBBS, can be scientifically positioned under Youth Empowerment Programs (Morton & Montgomery, 2013). Characteristic of these programs is that young people in disadvantaged positions develop skills and competences through active (social) participation in the development and implementation of programs. As a result, young people experience control and positive connections with their environment.

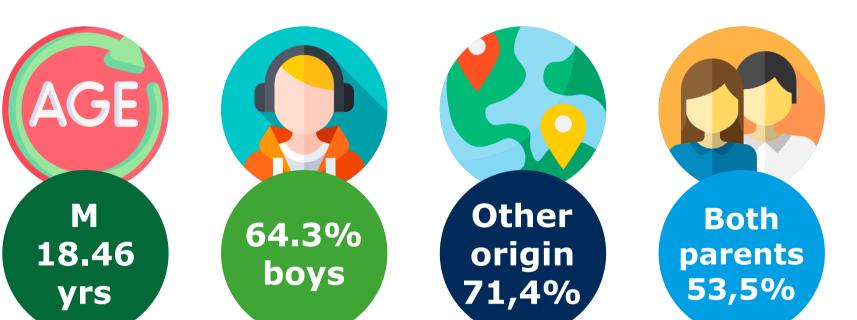


	Registration of background hair characteristics, including regis- tration of life events (<3 months ago)	X	X	X
ortisone)	Social participation	x	X	X
	Perceived Stress Scale (PSS – adolescent)	x	X	X
	Basic Psychological Need Satis- faction and Frustration Scale (BPNSFS - child)	Х	Х	X
	Stressful Life Events Scale (SLES)	x		
	Hair sample (cortisol and cortisone)	Х	X	X
	Measuring and weighing (inquiry)	x	x	x

Table 1. Measuring instruments per measuring moment

#### In Table 2, sample characteristics of the 28 youth who participated so far in T0 have been described.

	Age	M = 18.46 (SD = 3.12), range 14-27
	Gender	Boy 64,3% (n = 18) Girl 36,4% (n = 10)
Origin		Dutch 28,6% (n = 8) Other 71,4% (n = 20)
	Living situation	With both parents $53,5\%$ (n = 15) Other 46,5% (n = 13)



#### OBJECTIVE

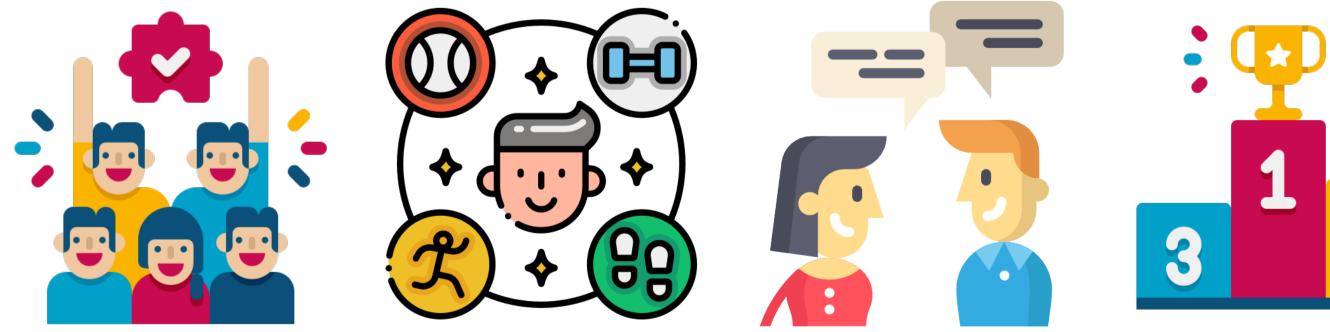
This study aims to investigate changes that occur in young people during participation in the BBBS program in terms of (early life) stress, subjective psychological well-being and social participation.

#### **BIG BROTHER BIG SISTER (BBBS) PROGRAM**

BBBS is a preventive neighbourhood youth empowerment program (YEP) carried out in neighbourhoods with a low socioeconomic status, developed for and by young people who find little connection with school, work or home.

#### The program has four main characteristics:

- 1. it is peer developed
- 2. it has low threshold access
- 3. it has professional facilitated peer groups
- 4. and it is embedded in local networks (e.g. school and work internships)



one-one-

conversations

conversations

experienced

pedagogical

development;

psychological

self-reflection,

learning goals

well-being,

employee

• guided in

personal

with

#### Table 2. Sample characteristics T0 (n=28)



In Table 3, stressful life events of the 28 youth who participated so far in T0 have been described.

Stressful life event	% (n)
Death of one of the parents	7.1 (2)
Divorce of parents	32.1 (9)
Experienced illness or accident	42.9 (12)
Death of a sibling	10.7 (3)
Has ever been a victim of violence	33.3 (9)
Death of a close friend	21.4 (6)
Has been adopted	10.7 (3)
Increasing parental conflict	25.0 (7)
Arrest of one of the parents	10.7 (3)
Sibling has serious problems	28.6 (6)

#### **REFERENCES**

- Dolinoy, D.C., Das, R., Weidman, J.R., & Jirtle, R.L. (2007). Metastable Epialleles, Imprinting, and the fetal Origins of Adult Diseases. Paediatric Research, 61, 30-37.

- Kruijff de, I., Noppe, G., Kieviet, N., Choenni, V., Lambregtse-van den Berg, M.P., Begijn, D.G.A., Tromp, E., Dorst, K., van Rossum, E.F.C., De Rijke, Y.B., & Van den Akker, E.L.T. (2020). LC-MS/MS-based reference intervals for hair cortisol in healthy children. Psychoneuroendocrinology, 112:104539. Morton, M.H., & Montgomery, P. (2013). Youth Empowerment Programs for Improving Adolescents' Self-Efficacy and Self-Esteem: A Systematic Review. Research on Social Work Practice, 23(1), 22-33. - Pijpers, F., Vanneste, Y., & Feron, F. (2019). Stress bij kinderen: hoe houden we het gezond? Stress bezien vanuit de Jeugdgezondheidszorg. Stichting Nederlands Centrum Jeugdgezondheid (NCJ), Utrecht. - Soleimanpour, S., Geierstanger, S., & Brindis, C.D. (2017). Adverse Childhood Experiences and Resilience: Addressing the Unique Needs of Adolescents. Academic pediatrics, 17, 108–114. - Stalder, T., Steudteschmiedgen, S., Alexander, N., Klucken, T., Vater, A., Wichmann, S., Kirschbaum, & C., Miller, R. (2017). Stress-related and basic determinants of hair cortisol in humans: a meta-analysis. Psychoneuroendocrinology, 77, 261-274. - Staufenbiel, S.M., Penninx, B.W.J.H., Spijker, A.T.,

streetwork • daily active in neighbourhood • contact with

• visiting hangouts and nuisance areas

residents

• inventory points of attention and opportunities

activities • organizing daily activities for children, young people and the elderly sport, creativity,

music studio, workshops, trips, parties, coaching

competency levels • stimulation of personal development, tasks and responsibilities • coaching others, a seat at the municipal network table, support the pedagogical staff • small money

allowance

Worsening financial position of pa-37.0 (10) rents

One of the parents goes to therapy 21.4 (6)

Table 3. Stressful life events T0 (n=28)

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Elzinga, B.M., & van Rossum, E.F.C. (2013). Hair cortisol, stress exposure, and mental health in humans: a systemic review. Psychoneuroendocrinology, 38, 1220-1235.