How peers get under the skin of adolescents.

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Ethical review	Approved WMO
Status	Recruiting
Health condition type	Other condition
Study type	Observational invasive

Summary

ID

NL-OMON49855

Source
ToetsingOnline

Brief title
Peer Power Up!

Condition

- Other condition

Synonym
N/A

Health condition

normal pro-inflammatory cytokine responses, ECG-responses, and skin conductance-responses to social events

Research involving
Human

Sponsors and support

Primary sponsor: Universiteit van Tilburg
Source(s) of monetary or material Support: NWO

Intervention

Keyword: adolescence, inflammation, Peer relationships, psychophiology

Outcome measures

Primary outcome

The main study parameters are acute inflammatory responses to the standardized social stressor, including pro-inflammatory cytokines interleukin-8 (IL-18), interleukin-6 (IL-6), interleukin-10 (IL-10), and tumor necrosis factor-* (TNF-*). The cytokines will be assessed using dried blood spots. Moreover, socio-emotional functioning will be assessed with self-report questionnaires (e.g., depressive symptoms, anxiety, and social withdrawal).

Secondary outcome

Furthermore, we examine autonomic nervous system responses (galvanic skin conductance and ECG responses) and emotional responses to the standardized social stressor as additional outcomes.

Study description

Background summary

Adolescence is a highly sensitive period for social development. Although parents remain an important source for social support and guidance, in adolescence, individuals increasingly spend time with their peers and become increasingly sensitive to peer influences. Accordingly, positive peer experiences (e.g., friendships) have been shown to contribute to prosperous development, whereas, negative peer experiences (e.g., peer victimization or rejection) have deleterious long-lasting effects on mental as well as physical

health. These long-lasting effects are striking; yet, the underlying mechanisms that may explain how peers get *under the skin* are still poorly understood. One hypothesis that has been put forward is that exposure to (repeated) negative peer experiences may sensitize the immune system to more strongly respond to future social stressors (Giletta et al., 2018; Slavich & Irwin, 2014). In other words, adolescents who are rejected and victimized by their peers may show enhanced inflammatory reactivity to subsequent social stressors (i.e., neuroinflammatory sensitization hypothesis), which, in turn, may confer heightened risk for systemic inflammation and subsequent inflammation-related health problems. The primary goal of this project is to directly test this hypothesis.

Study objective

The current study has three main objectives:
- To examine whether past peer experiences at the group (e.g., peer victimization) and dyadic level (e.g., friendship) influence acute pro-inflammatory reactivity to a standardized social stressor in adolescents (ages 14-15 years)
- To examine whether the effects of peer experiences are moderated by individual differences in personality traits (e.g., rejection sensitivity)
- To examine whether stressor-induced inflammatory responses are associated with socio-emotional functioning at follow-up, approximately six months later.

There is also a secondary objective, that is
- To examine autonomic nervous system responses (galvanic skin conductance and electrocardiography [ECG]) and emotional responses to the standardized social stressor as additional outcomes

Study design

Laboratory assessment with repeated measures to examine physiological and emotional responses to a standardized social stressor.

Intervention

N/A

Study burden and risks

There are minimal burden and risks associated with participation, and there is no risk for any serious event. Participants will be tested in a quiet designated room of their school.

At baseline, participants will be exposed to a well-validated laboratory-based social stressor (a modified version of the Trier Social Stress Test (TSST),

which has been previously used among children and adolescents (e.g., Yim, Quas, Cahill, & Hayakawa, 2010). The TSST is mildly stressful, but no more stressful than other (social) experiences individuals experience in daily life.

We are especially interested in how cytokine regulation (as a measure of acute inflammation of the immune system) changes in response to the acute social stressor. To assess changes in inflammation, we will use dried blood spots, which is a commonly used and reliable method for assessing inflammation in youth (McDade, 2014). A trained experimenter will collect two to five drops of blood (approximately 50 µL per drop) via finger pricks twice (one for a baseline assessment before the TSST and one approximately 50 minutes after the TSST). This procedure entails minimal risk for adolescents, as it is minimally invasive, and is commonly used in practice with newborns. Participants may experience mild pain in the finger.

Furthermore, we want to assess autonomic nervous system responses during the social stress test. To do so, galvanic skin conductance response will be measures (equipement from Movisens [edaMove] and biosemi) and an ECG will be made (biosemi). These are non-invasive methods to assess physiological responses, and are expected to constitute minimal risk and discomfort.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adolescents (12-15 years)
Adolescents (16-17 years)

Inclusion criteria

Adolescents enrolled in the third year of high school

Exclusion criteria

There are no exclusion criteria for participation, but participants with autoimmune diseases and/or a hyperactive thyroid will be excluded from the analyses.

Study design

Design

Study type: Observational invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Other

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	18-03-2019
Enrollment:	89
Type:	Actual

Ethics review

Approved WMO

Date:	13-11-2018
Application type:	First submission
Review commission:	METC Brabant (Tilburg)
Approved WMO Date:	18-03-2020
Application type:	Amendment
Review commission:	METC Brabant (Tilburg)
Approved WMO Date:	25-03-2020
Application type:	Amendment
Review commission:	METC Brabant (Tilburg)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL67306.028.18