Examining the longitudinal associations between negative peer experiences on adolescent inflammation

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

Summary

ID

NL-OMON46973

Source
ToetsingOnline

Brief title
Peer experiences and adolescent inflammation

Condition

- Other condition
- Age related factors

Synonym
Not applicable

Health condition

Heightened inflammation

Research involving
Human

Sponsors and support

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

Intervention

Keyword: Adolescence, Inflammation, Peer relations

Outcome measures

Primary outcome

High sensitivity C-reactive protein (hsCRP), an index of systemic inflammation, will be assessed at each wave of data collection using dried blood spots. The main study parameter is changes in hsCRP over time as a function of exposure to negative peer experiences (e.g., peer victimization, peer rejection) across adolescents with different levels of interpersonal sensitivity.

Secondary outcome

This project also offers the opportunity to address a number of relevant secondary objectives, concerning a) the link between inflammation and depression, b) developmental transactional effects across peer adversity, inflammation and internalizing symptoms and c) the relationship between self-conscious emotion and inflammation. Therefore, this study will include internalizing symptoms (i.e., depressive symptoms, anxiety, loneliness), self-conscious emotion and emotion regulation as secondary parameters.

Study description

Background summary

Most people can recall at least one episode from their youth in which they felt

like they did not belong to their peers. For humans, as well as many other mammalian species, the adolescent period is characterized by a unique sensitivity and orientation toward peers, and episodes of peer exclusion and rejection can *stick in our minds*. For some youth, these experiences are so stressful that they pose deleterious long-lasting consequences for physical and mental health. How is this possible? Can negative peer experiences change the way our body functions, at the molecular level? Although psychoneuroimmunology research suggests that social stressors might get biologically embedded by altering immune functioning, in developmental psychology surprisingly little attention has been devoted to the links between negative peer experiences and inflammation * the primary response of the immune system.

Study objective

The main objective of this study is twofold:
1) To investigate the additive and interactive effects between negative peer experiences at the group level (i.e., peer victimization, peer rejection) and at the dyadic level (e.g., friendship) on adolescent systemic inflammation.
2) To examine whether negative peer experiences more strongly predict elevated inflammation among interpersonally sensitive adolescents, who are cognitively disposed to enhanced perception of social threat.

The secondary objectives of the study are:
1) To investigate the longitudinal associations between inflammation and depressive symptoms.
2) To investigate the possible transactional effects between peer adversity, inflammation and internalizing symptoms.
3) To examine the relationship between self-conscious emotions, in particular shame, and inflammation.

Study design

Multi-wave longitudinal design, with 4 assessments occurring every six months, beginning in the fall of the first year of high school.

Study burden and risks

The extent of burden and risks associated with participation in the proposed study are minimal. At each of the 4 assessment waves, participants will complete three main tasks in a designated classroom of their school. Overall, the data collection will last approximately 60 minutes. First, participants will complete a peer nomination procedure, a methodology widely used in developmental psychology research to assess youth social relations (e.g., friendships, victimization). Second, they will fill in a series of standard and age-appropriate self-reported measures, to assess constructs such as emotions, internalizing symptoms and interpersonal sensitivity. Third, a trained research

assistant will collect 2 to 5 drops of blood (approximately 50 µl per drop) via finger prick, a procedure regarded as minimally invasive by medical practitioners and scientist. Blood collection via finger prick is a commonly used practice with newborns; as such, this procedure entails even fewer risks among adolescents. The main advantage of dried blood spots, as collected via finger prick, is that they provide an appropriate and minimally invasive procedure to reliably assess inflammation in youth (McDade, 2014). Indeed prior work has shown correlations higher than .95 between hsCRP assessed via venipuncture * the gold standard procedure * and via dried blood spots (McDade, 2014).
Notably, adolescence is a particularly sensitive developmental period, in which the increase in social stressors (e.g., peer adversity) and the heightened sensitivity and reactivity to these stressors, make some youth at high risk for elevated inflammation, already so early in life. Thus, examining the course of inflammation in adolescence is of primary importance to gain knowledge about early-life risk factors and eventually to inform intervention and prevention programs aimed at buffering the long-term effects of heightened inflammation (e.g., heightened risk of heart diseases). As such, the benefits of understanding these processes in adolescence largely outweigh the minimal risks associated with this study procedures.

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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 first year of high school.

Exclusion criteria

Autoimmune diseases and/or hyperactive thyroid

Study design

Design

Study type: Observational invasive

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

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	28-11-2016
Enrollment:	250
Type:	Actual

Ethics review

Approved WMO

Date:	30-06-2016
Application type:	First submission

Review commission:	METC Brabant (Tilburg)
Not approved Date:	09-11-2016
Application type:	Amendment
Review commission:	METC Brabant (Tilburg)
Approved WMO Date:	20-12-2016
Application type:	Amendment
Review commission:	METC Brabant (Tilburg)
Approved WMO Date:	04-09-2018
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	NL56418.028.16