

# INPLASY PROTOCOL

To cite: Sun et al. A socio-ecological model of factors influencing physical activity in pregnant women: A systematic review. Inplasy protocol 2022110073. doi: 10.37766/inplasy2022.11.0073

Received: 15 November 2022

Published: 15 November 2022

**Corresponding author:**  
Junjiang Sun

sun.junjiang@awf.gda.pl

## Author Affiliations:

1 Department of Sport, Gdansk University of Physical Education and Sport, 80-336 Gdansk, Poland.

2 Higher vocational college, Yunnan College of Business Management, Kunming 650000.

**Support:** The NEPPE project.

**Review Stage at time of this submission:** Data analysis.

**Conflicts of interest:**  
None declared.

## A socio-ecological model of factors influencing physical activity in pregnant women: A systematic review

Sun, JJ<sup>1,2</sup>; Piernicka, M<sup>1</sup>; Worska, A<sup>1</sup>; Szumilewicz, A<sup>1</sup>.

**Review question / Objective:** The main aim of this review is to analyse the impact factors of material physical activity in an ecological model and to analyse differences in influencing factors between pregnant women's PA and moderate-to-vigorous intensity physical activity (MVPA), provide a reference for the research, intervention, and policy designation of maternal physical activity.

**Rationale:** In combination with McLeroy et al. (1988) behavior is viewed as being determined by the following: (1) Personal level: the internal factors of the individual characteristics, (sociodemographic and biological, behavior, psychological); (2) interpersonal level: interpersonal processes and primary groups-formal and informal social network and social support systems, (eg: family, public, etc.); (3) organization level: social institutions with organizational characteristics, such as health services, gyms and may also include influences from health care providers and Physical activity consultant, etc.; (4) community level: relationships among organizations, institutions, and informal networks within defined boundaries, (eg: appropriate facilities, living environment, etc.); and finally (5) public policy level: local, state, and national laws and policies.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 15 November 2022 and was last updated on 01 June 2023 (registration number INPLASY2022110073).

## INTRODUCTION

**Review question / Objective:** The main aim of this review is to analyse the impact factors of material physical activity in an

ecological model and to analyse differences in influencing factors between pregnant women's PA and moderate-to-vigorous intensity physical activity (MVPA), provide a reference for the research,

intervention, and policy designation of maternal physical activity.

**Rationale:** In combination with McLeroy et al. (1988) behavior is viewed as being determined by the following: (1) Personal level: the internal factors of the individual characteristics, (sociodemographic and biological, behavior, psychological); (2) interpersonal level: interpersonal processes and primary groups-formal and informal social network and social support systems, (eg: family, public, etc.); (3) organization level: social institutions with organizational characteristics, such as health services, gyms and may also include influences from health care providers and Physical activity consultant, etc.; (4) community level: relationships among organizations, institutions, and informal networks within defined boundaries, (eg: appropriate facilities, living environment, etc.); and finally (5) public policy level: local, state, and national laws and policies.

**Condition being studied:** physical activity in pregnant women; healthy pregnant women.

## METHODS

**Search strategy:** We searched the following bibliographic platforms and databases: PubMed, Scopus, and Web of Science, and also Academic Search Ultimate, Medline, and SPORTDiscus with Full Text via the EBSCO Searching platform. The time range was set to 2001-2022, using the terms (“physical activity” or “exercise” or “fitness” or “physical exercise” or “sport”) And (“correlates” or “determinants” or “mediators” or “associated factors” or “psychosocial” or “environment”) And (“pregnant women” or pregnancy).

**Participant or population:** Healthy pregnant women.

**Intervention:** Physical activity.

**Comparator:** None.

**Study designs to be included:** survey; qualitative, quantitative.

**Eligibility criteria:** Exclusion criteria: (1) the study population consisted of women with any disabilities or illnesses that could lower their ability in terms of bodily movement; (2) studies focused on nutritional interventions or healthy eating; (3) A survey of non-pregnant or parturient women; (4) studies which were only published as abstract, a comment, or review were excluded, due to a lack of data for extraction, but the reference lists were checked for relevant studies.

**Information sources:** PubMed, Scopus, and Web of Science, and also Academic Search Ultimate, Medline, and SPORTDiscus with Full Text via the EBSCO Searching platform.

**Main outcome(s):** Personal level: the internal factors of the individual characteristics, (sociodemographic and biological, behavior, psychological); (2) interpersonal level: family, public, etc.); (3) organization level: health services, gyms and may also include influences from health care providers and Physical activity consultant, etc.; (4) community level: relationships among organizations, institutions, and informal networks within defined boundaries, (eg: appropriate facilities, living environment, etc.); and finally (5) public policy level: local, state, and national laws and policies.

**Additional outcome(s):** None.

**Quality assessment / Risk of bias analysis:** In the present review, the quality appraisal was performed using the Mixed Methods Appraisal Tool (MMAT).

**Strategy of data synthesis:** The following data were extracted: author, date, the number of people surveyed, research type, collection method, country, and levels of SEM. To better analyze the difference between pregnant women's MVPA and MVPA, we labeled the articles

---

for pregnant women's MVPA. Based on the model established by McLeroy et al. (1988), PA behavior is determined or affected by the following five levels or groups of factors.

**Subgroup analysis:** None.

**Sensitivity analysis:** None.

**Language restriction:** English.

**Country(ies) involved:** China and Poland.

**Keywords:** physical activity; influencing factors; pregnant women; social ecological model.

**Dissemination plans:** None.

**Contributions of each author:**

**Author 1 - JUNJIANG SUN - Junjiang Sun** was the first author, contributing more than 50%. Conceptualization and design of the review—J.S.; data collection and analysis—J.S.; drafting, reviewing, and editing—J.S., supervision—J.S., All authors have read and agreed to the published version of the manuscript.

**Author 2 - Magdalena Piernicka - data collection and analysis, All authors have read and agreed to the published version of the manuscript.**

**Author 3 - Aneta Worska - data collection and analysis— All authors have read and agreed to the published version of the manuscript.**

**Author 4 - Anna Szumilewicz - This is the corresponding author, data collection and analysis—A.S., drafting, reviewing, and editing—A.S., supervision— A.S., All authors have read and agreed to the published version of the manuscript.**

**Email:** [anna.szumilewicz@awf.gda.pl](mailto:anna.szumilewicz@awf.gda.pl)