

What is Precarious Employment? - A systematic review of definitions from quantitative and qualitative studies

Version 1.1

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INTRODUCTION

Rationale

Since the 1970s, a number of trends such as technological change, increased international mobility of workers and capital, have drastically transformed employment conditions around the world, leading to a growth in perceived job insecurity. [1, 2]

Alongside with the 2008-2010 global economic crisis and political and labour market changes, a discussion about the vulnerability and precariousness in employment has emerged with high intensity than before. The increasing concern is partially explained by a rapid growth of new forms of employment, which deviate from the so-called 'standard employment relationship', which is generally associated with full-time, long-term and socially secure jobs with benefits. [3, 4]

The rise of precarious forms of work has come with growing recognition of their negative consequence for the health and well-being of workers and their families. [5] Although recent research has been able to link various dimensions of precarious employment to health outcomes, several challenges remain. Even though the term 'precarious employment' (PE) is increasingly prominent, there is still an inconsistency in definitions and constructs.

Research in this area has largely focused on individual dimensions of Precarity, such as employment insecurity or temporary employment and their relationship to various health outcomes. Other researchers have developed multidimensional models and constructs of precarious employment and examined the pathways and mechanism between these multidimensional constructs and health [5]. Having a variety of multidimensional constructs in order to describe this phenomenon, places difficulties in effectively comparing studies and it is often complex to fully understand how and which measurements are used to describe Precarious Employment.

Understanding how precarious employment is conceptualized and operationalized in research opens for deeper understanding of this phenomenon and its causal complexities.

Objectives

The primary aim of this systematic review is to investigate how precarious employment has been conceptualized and operationalized in research. The objectives of this project are:

1. To review the literature for multi-dimensional definitions of precarious employment and identify its main components.
2. Suggest ways to operationalize precarious employment in register studies and surveys.

METHODS

Eligibility criteria

Studies will be selected according to the following criteria:

Study design

Original studies of any type (observational, intervention, methodology, theory) will be included in the systematic review. Systematic reviews or discussion papers will be excluded.

Setting

No restriction by type of setting will be used.

Time frame

No Time frame restriction of the selected studies will be set.

Population

No restriction by population will be applied.

Exposures, Comparators and Outcomes

Not relevant for the aim of this systematic review, being the objective to identify how PE has been conceptualized in the literature.

Language

Only articles written in English will be included in this systematic review.

Publication status

Only articles published in peer-reviewed journals will be included. Ahead-of-print electronically published articles will be accepted.

Year of publication

No restriction on the year of publication will be applied.

Information sources

Two multidisciplinary electronic bibliographic databases will be included as sources of literature: Web of Science (all databases including the Core Collection and MEDLINE) and Scopus.

Search strategy

The search strategy will be constructed using words derived from 'precarious employment'. We will further restrict the search only to articles that have investigated a multidimensional definition of PE. This will help making suggestions for a useful unique definition.

Search strategies is developed using key words related to "precarious employment" as shown in the model below:

Precari*	AND	Employ* Work* Job*	OR	Precariat Precarity
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The search strings for both databases is the following:

WEB of Science

TI=(precar* AND (employ* OR job* OR work*)) OR TI=(precariat OR precarity)

Scopus

TITLE(Precari* AND (Employ* OR Work* OR Job*)) OR TITLE(Precariat OR Precarity)

Data management

Search results will be downloaded to EndNote reference manager software. The software will be used to remove duplicates. Full-texts will be retrieved through the online library resources. For those studies that are unavailable though the library we will contact authors and/or publishers and ask for copies.

The search results will then be uploaded to Covidence systematic review software, which will double check the presence of duplicates and will be used as screening and assessment tool for the titles, abstracts and full text of the articles. Data extraction will be done using an online form developed by the authors.

Selection process:

A reviewer will first screen the search results by title and abstract. The references will be marked as relevant, not relevant, maybe. References marked as relevant or maybe will be screened in full text by a reviewer screening studies against the exclusion criteria. All studies which cannot be excluded for certain will be passed on to dual reviewer assessment and data extraction. Any conflicts in assessment and data extraction between reviewers will be solved through discussion until consensus is reached.

The titles of the excluded articles, the reason for exclusion and the completed evaluation forms will be available online.

When the systematic search strategy is executed, a final search for undetected potentially relevant articles will be performed by manually screening the references of review articles of interest.

Data items and data extraction

All data items described under *eligibility criteria* will be extracted according to description. A google form has been developed by the authors and the reviewers. Further strategies and schemes for data extraction will be thoroughly explained in the review article.

Risk of bias in individual studies

Risk of bias will not be assessed in this study.

Data synthesis

Quantitative and qualitative data synthesis will be performed in order to better approach the complex multidimensional nature of PE. A systematic synthesis will be written using text, tables and figures to explain the characteristics and findings of the studies. A descriptive table of study characteristics will synthesize the final articles included in the systematic review. A final table will present the data extraction and operationalization results. A figure will finally be developed on the operationalization of PE.

Implications of the findings for further research will be discussed.

References

1. Benach, J., et al., *What should we know about precarious employment and health in 2025? framing the agenda for the next decade of research*. International Journal of Epidemiology, 2016. **45**(1): p. 232-238.
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Data Extraction Form Systematic Review

What is Precarious Employment? - A systematic review of definitions from quantitative and qualitative studies

*Required

1. Reviewer

Mark only one oval.

- Kreshpaj
- Bodin
- Orellana
- Johansson
- Hemmingsson
- Wegman
- Davis
- Burström
- Kjellberg
- Jonnson

2. Paper *

Author and Year

Mark only one oval.

- Antonucci 2018
- Armano 2017
- Artus 2013
- Axelsson 2015
- Baey 2018
- Ballafkih 2017
- Beer 2016
- Berntsen 2015
- Black 2012
- Bohle 2004 working hours
- Bohle 2016 work life conflict
- Bonneuil 2017
- Bosmans 2016
- Bozzon 2017
- Branch 2017
- Bujold 2008
- Burchielli 2014
- Burrows 2013
- Butler 2018
- Cam 2018
- Canada 2018
- Canivet 2016
- Carreri 2015
- Celik 2016
- Chan 2015
- Choi 2018
- Ciairano 2010
- Clarke 2007
- Coelho 2009
- Corbetta 2013
- Costa 2018
- Courtois 2015
- Cranford 2003
- Cunningham 2016 austerity policies
- Cunningham 2017 non profit
- Daly 2016
- D'Amours 2009
- David 2011
- Debono 2017
- Dileep 2014

- Edralin 2014
- Ek 2014
- Fanelli 2017
- Farr 2015
- Girauda 2016
- Gollmitzer 2014
- Guest 2006
- Gurova 2018
- Hakansson 2015
- Hampton 2018
- Han 2017
- Hannif 2005
- Hardgrove 2015
- Hira Friesen 2017 labour market and immigrant employment
- Hira Friesen 2018 immigrants and PE
- Hopefgartner 2018
- Hrzejak 2018
- Hurtado 2018
- Inoue 2012
- Jaehrling 2018
- Jang 2015
- Johnson 2015
- Jokela 2017
- Julia 2017
- Julian 2018
- Kachi 2014
- Keuskamp 2013
- Kim 2008 propensity score matching
- Kim 2008 gender and PE
- Kim 2015
- Kim 2016
- Kim 2018 elderly
- Kim 2018 women
- Krestos 2016
- Kroon 2014
- Lewchuck 2008
- Lewchuck 2009
- Livanos 2017
- Louie 2006
- McDowell 2009
- Mcnamara 2011
- Miguel Carmo 2014

- Milner 2018
- Min 2015
- Min 2016
- Modena 2012
- Moore 2018
- Morris 2017
- Moscone 2016
- Ni Leime 2018
- Nielsen 2017
- Nielsen 2018
- Oke 2016
- Olsthoorn 2014
- Preece 2018
- Premji 2018
- Premji 2017
- Prosser 2016
- Queiroz 2018
- Raymo 2011
- Robert 2017
- Rotenberg 2009
- Scott Marshall 2011
- Seifert 2007
- Sheen 2017
- Shuey 2013
- Sun 2017
- Swider 2015
- Vives 2010
- Vives 2013
- Vives 2017
- Vono de Vilhena 2016
- Wall 2015

3. Presence of an explicit definition of PE used by the authors

Mark only one oval.

- Yes
- No

4. Reason forexclusion

Mark only one oval.

- No
- Not Original study (Review, book review, discussion, etc.) *Skip to question 55.*
- Language *Skip to question 55.*
- Other: _____ *Skip to question 55.*

Precarious Employment Definition

5. Definition of Precarious Employment used by the authors

Copy-paste (e.g. methods section) if explicitly expressed in the text

6. Type of definition used is _____

Mark only one oval.

- Theory based
- Ad Hoc (data-driven, by convenience or limited by available data)
- Theory based + Ad hoc
- Other: _____

7. Does the used definition include several dimensions?

Mark only one oval.

- Yes
- No
- Other: _____

8. Definition of PE used based on existing definition

Mark only one oval.

- Yes
- No
- Partially based on existing definitions
- Other: _____

9. If Yes - copy-paste reference to original source here:

10. Additional comments with regards to the definition of PE

Study Characteristics

11. Country of the Study

12. Research Dicipline

Choose maximum 3

Tick all that apply.

- INDUSTRIAL RELATIONS LABOR
- PUBLIC, ENVIRONMENTAL OR OCCUPATIONAL HEALTH
- ECONOMICS
- LAW
- SOCIOLOGY
- MANAGEMENT
- MIGRATION/ETHNIC STUDIES
- HISTORY
- DEMOGRAPHY
- I DON'T KNOW
- Other: _____

13. Aim of the Study

Copy paste

14. Study Design

Mark only one oval.

- Quantitative Observational Study (cohort, cross-sectional, intervention etc)
- Qualitative study
- Mixed methods study
- Theoretical work (defining precarious employment etc)
- Historical study/Time series/etc
- Other: _____

15. Data source

Mark only one oval.

- Register data
- Survey data
- Qualitative interviews or focus groups
- Literature data
- Mixed data sources
- Other: _____

16. Analysis

Means of which results were derived, e.g. Cox proportional hazard model (quantitative), inductive content analysis (qualitative), etc.

17. Primary Outcome of the study

Copy paste if present in the text.

Data extraction and Operationalization

18. Number of distinguishable dimensions

Mark only one oval.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12

Dimension 1

19. Short title

(copy paste name of the dimension if present in the text)

20. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

21. Add another dimension?

Mark only one oval.

- Yes
- No *Stop filling out this form.*

Dimension 2

22. Short title

(copy paste name of the dimension if present in the text)

23. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

24. Add another dimension?

Mark only one oval.

- Yes
- No *Stop filling out this form.*

Dimension 3

25. Short title

(copy paste name of the dimension if present in the text)

26. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

27. Add another dimension?

Mark only one oval.

- Yes
- No *Stop filling out this form.*

Dimension 4

28. Short title

(copy paste name of the dimension if present in the text)

29. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

30. Add another dimension?

Mark only one oval.

Yes

No *Stop filling out this form.*

Dimension 5

31. Short title

(copy paste name of the dimension if present in the text)

32. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

33. Add another dimension?

Mark only one oval.

Yes

No *Stop filling out this form.*

Dimension 6

34. Short title

(copy paste name of the dimension if present in the text)

35. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

36. Add another dimension? _____

Mark only one oval.

- Yes
 No *Stop filling out this form.*

Dimension 7

37. Short title

(copy paste name of the dimension if present in the text)

38. Definition and/or Operationalization _____

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

39. Add another dimension? _____

Mark only one oval.

- Yes
 No *Stop filling out this form.*

Dimension 8

40. Short title

(copy paste name of the dimension if present in the text)

41. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

42. Add another dimension?

Mark only one oval.

- Yes
- No *Stop filling out this form.*

Dimension 9

43. Short title

(copy paste name of the dimension if present in the text)

44. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

45. Add another dimension?

Mark only one oval.

- Yes
- No *Stop filling out this form.*

Dimension 10

46. Short title

(copy paste name of the dimension if present in the text)

47. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

48. Add another dimension?

Mark only one oval.

Yes

No *Stop filling out this form.*

Dimension 11

49. Short title

(copy paste name of the dimension if present in the text)

50. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

51. Add another dimension?

Mark only one oval.

Yes

No *Stop filling out this form.*

Dimension 12

52. Short title

(copy paste name of the dimension if present in the text)

53. Definition and/or Operationalization

If possible, copy paste from the text. Include any operationalization, e.g. wage below 1000 USD/month or contract length <6months, or identified themes if qualitative studies.

54. Add another dimension?

Mark only one oval.

Yes

No *Stop filling out this form.*

This paper will be excluded

55. Do you think this paper would be valuable to refer to anyway in background or discussion?

Mark only one oval.

Yes

No

Maybe

56. Please copy-paste interesting quote or state reason for "yes" above

Supplementary Material C. Summary of the two excluded dimensions of Precarious Employment and the themes identified in this study

Dimension	Theme	Subtheme	Example of extracted data from original study for each dimension
Work Environment	Lack of work-time control [1-6]	Schedule Unpredictability	<ul style="list-style-type: none"> a. The negative effects of unpredictability of working hours were compounded by a lack of control over hours [1]. b. Greater uncertainty in the duration of employment, timetables and work schedule [3].
	High work demands [1, 4, 7-9]	Long working hours	<ul style="list-style-type: none"> a. Concerns about long working hours and their negative effects [1]. b. Intensive working hours (Working \geq48 hrs, and in free time) [4].
	Skill discretion [2, 4, 7, 9-13]	Being able to use and develop one's skills	<ul style="list-style-type: none"> a. No Participation in formal or non formal education during past year. More opportunities to update skills would contribute to person staying longer at work [9]. b. There is no work-related training [13].
	Physical work environment [6, 13]	Physical Work Environment	<ul style="list-style-type: none"> a. Working environment is dangerous and bad for health? Yes or No [13]. b. Risk of exposure to physical hazards in manual occupation [6].
Health and Social Consequences	Health and Safety [3, 4, 9, 14-17]	Health and safety Information	<ul style="list-style-type: none"> a. Not well informed on health and safety issues [4]. b. Better health and/or safety at workplace would contribute to person staying longer at work [9].
	Social Consequences [14-17]	Living Condition	<ul style="list-style-type: none"> a. Remote location, poor hygiene, no electric supply, no clean water, big family, low quantity food, poor housing, frequent illness, no education to children, isolated living, Indebtedness, low social engagement, less recreations, no transport facilities, stateless conditions [15]

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