

# Cambridge Elements

Elements in Research Methods for Developmental Science

edited by  
Brett Laursen  
*Florida Atlantic University*

## MEASUREMENT BURST DESIGNS TO IMPROVE PRECISION IN PEER RESEARCH

Ryan J. Persram  
*McGill University*

Bianca Panarello  
*Concordia University*

Melisa Castellanos  
*Concordia University*

Lisa Astrologo  
*Concordia University*

William M. Bukowski  
*Concordia University*



CAMBRIDGE  
UNIVERSITY PRESS

Cambridge University Press  
978-1-108-98652-6 — Measurement Burst Designs to Improve Precision in Peer Research  
Ryan J. Persram , Bianca Panarello , Melisa Castellanos , Lisa Astrologo , William M. Bukowski  
Frontmatter  
[More Information](#)

**CAMBRIDGE**  
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom  
One Liberty Plaza, 20th Floor, New York, NY 10006, USA  
477 Williamstown Road, Port Melbourne, VIC 3207, Australia  
314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre,  
New Delhi – 110025, India  
103 Penang Road, #05–06/07, Visioncrest Commercial, Singapore 238467

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning, and research at the highest international levels of excellence.

[www.cambridge.org](http://www.cambridge.org)  
Information on this title: [www.cambridge.org/9781108986526](http://www.cambridge.org/9781108986526)  
DOI: 10.1017/9781108986038

© Ryan J. Persram, Bianca Panarello, Melisa Castellanos, Lisa Astrologo,  
and William M. Bukowski 2021

This publication is in copyright. Subject to statutory exception  
and to the provisions of relevant collective licensing agreements,  
no reproduction of any part may take place without the written  
permission of Cambridge University Press.

First published 2021

*A catalogue record for this publication is available from the British Library.*

ISBN 978-1-108-98652-6 Paperback  
ISSN 2632-9964 (online)  
ISSN 2632-9956 (print)

Cambridge University Press has no responsibility for the persistence or accuracy of  
URLs for external or third-party internet websites referred to in this publication  
and does not guarantee that any content on such websites is, or will remain,  
accurate or appropriate.

# Measurement Burst Designs to Improve Precision in Peer Research

Elements in Research Methods for Developmental Science

DOI: 10.1017/9781108986038  
First published online: September 2021

Ryan J. Persram  
*McGill University*

Bianca Panarello  
*Concordia University*

Melisa Castellanos  
*Concordia University*

Lisa Astrologo  
*Concordia University*

William M. Bukowski  
*Concordia University*

**Author for correspondence:** Ryan J. Persram, [ryan.persram@mail.mcgill.ca](mailto:ryan.persram@mail.mcgill.ca)

**Abstract:** Measurement burst designs, in which assessments of a set of constructs are made at two or more times in quick succession (e.g., within days), can be used as a novel method to improve the stability of basic measures typically used in longitudinal peer research. In this Element, we hypothesized that the stabilities for adolescent-reported peer acceptance, anxiety, and self-concept would be stronger when using the measurement burst approach versus the single-time observation. Participants included youth between ten and thirteen years old who completed (a) sociometric assessments of acceptance, and measures of (b) social and test anxiety, and (c) self-concept across three times with two assessments made at each burst. Findings broadly showed that the stabilities were significantly stronger with the measurement burst when compared to the single-time assessment, supporting our main hypothesis. We discuss the utility of the measurement burst in a broader context and considerations for researchers.

**Keywords:** measurement burst, peer research, acceptance, anxiety, self-concept

© Ryan J. Persram, Bianca Panarello, Melisa Castellanos, Lisa Astrologo, and William M. Bukowski 2021

ISBNs: 9781108986526 (PB), 9781108986038 (OC)  
ISSNs: 2632-9964 (online), 2632-9956 (print)

## Contents

1 Measurement Burst Designs and Peer Relations	1
2 Sociometric Assessments of Peer Acceptance	16
3 Experiences with Social and Test Anxiety	29
4 Assessing Domain-Specific Features of the Self-Concept	43
5 Discussion and Concluding Thoughts	55
Appendix: Summary of Scales and Items	63
References	67