DATA PAPER

Emerging Adulthood Measured at Multiple Institutions 2: The Data

Jon E. Grahe¹, Holly M. Chalk², Leslie D. Cramblet Alvarez³, Caitlin S. Faas⁴, Anthony D. Hermann⁵ and Joseph P. McFall⁶
¹ Pacific Lutheran University, US
² McDaniel College, US
³ Adams State University, US
⁴ Mount St. Mary’s University, US
⁵ Bradley University, US
⁶ State University of New York, Fredonia, US
Corresponding author: Jon E. Grahe (graheje@plu.edu)

Collaborators from 32 academic institutions primarily in the United States collected data from emerging adults ($N_{raw} = 4220$, $N_{processed} = 3134$). Participants completed self-report measures assessing markers of adulthood, IDEA inventory of dimensions of emerging adulthood, subjective well-being, mindfulness, belonging, self-efficacy, disability identity, somatic health, perceived stress, perceived social support, social media use, political affiliation, beliefs about the American dream, interpersonal transgressions, narcissism, interpersonal exploitativeness, beliefs about marriage, and demographics. The data are available at (https://osf.io/qtqpb/) with details about the study and contributors at our main EAMMi2 page (https://osf.io/te54b/). These data may be used to examine new research questions, provide authentic research experiences for students, and provide demonstrations for research and statistics courses.

Keywords: Emerging Adulthood; Transitions; Crowdsourcing; Psychological Measures; Undergraduate research; Teaching of Psychology

(1) Overview

Collection Date(s)
2016–2017

Background
The Emerging Adulthood Measured at Multiple Institutions 2: The Next Generation project (EAMMi2; [1]) replicated and extended the original EAMMi project [2]. The project sought to generate a rich data set for use in answering many psychological questions addressing Emerging Adulthood. Emerging Adulthood [3], [4], is a term associated with the period between ages 18 and 29 when individuals in more economically developed societies are transitioning from adolescence to adulthood. Details about the various measures can be learned at our EAMMi2 project page [1].

(2) Methods

Project organizers recruited contributors through social media (Facebook & Twitter) and listserv invitations (Society of Personality and Social Psychology, Society of Teaching Psychology). Recruitment was open, but all collaborators were from English speaking institutions. They followed protocols to demonstrate Institutional Review Board approval following the original approval of Primary Investigator from Pacific Lutheran University – IRB# HPRB SP16-13. These approvals were publicly recorded here [5], then contributors received a link to the Qualtrics survey shown here as a .pdf – [6] with a site specific identifier. Contributors then collected data locally following their own procedures. These various procedures are reported on the EAMMi2 Development and Recruitment Plan document on the Samples and Procedures Component [7]. These procedures included sending email invitations to friends, emailing students in certain classes or the department, or by completing the survey in a research laboratory. We also completed an open-ended preregistration of the project with our recruitment strategies and survey before the data collection phase began [8].

Sample
Collaborators from 32 institutions recruited 4,220 respondents who started the survey. Following preregistered data cleaning criteria, EAMMi2 data team removed
respondents who: (a) completed the survey in less than 10 minutes ($n_{under10} = 610$), (b) failed the attention check ($n_{attention} = 195$), (c) completed less than 80% of the survey ($n_{under80} = 258$), or (d) demonstrated response bias by having identical answers on at least 8 survey pages ($n_{responseBias} = 4$). Though not in pre registered screening procedures, 19 respondents were identified as submitting double entries and the 2nd entry for each was removed from the final data set. This yielded a combined data set for all project contributors to access ($N = 3,134$). Also due to a programming error, age data were not initially collected resulting in a large group of respondents missing this information ($N_{agemissing} = 1047$).

Among this sample ($N = 3,134$), 72.8% of respondents were women ($N_{women} = 2280; N_{men} = 771$), with an age range between 18 and 61 ($M_{age} = 21.10, SD = 4.83$), though 96% were 29 or younger. The sample was relatively diverse in racial and ethnic identities, including White/European American respondents (63.5%), Black/African-American (7.6%), Hispanic/Latino/Latina (8.7%), Asian/Pacific Islander (6.5%), Native American (0.4%), “Other” Race (2.2%), and many participants who indicated more than one racial category (two categories: 8.6%; three or more: 1.4%) with a small portion not responding (1.0%).

Recruitment procedures varied between institutions and are detailed on the EAMMi2 Development and Recruitment Plan document on the Samples and Procedures Component [5]. Contributors recruited either through the local institutional participant pool, through email invitations to social network contacts, or posting links to the survey on their social media pages directly. The survey could still be accessed and was used by some contributors after the initial data collection stop date. Data after December 12th, 2016 are from late respondents and have not been examined by any authors to date.

### Materials

Study Materials are documented on our EAMMi2 Materials Component which includes the survey [9] as well as a list of all the various scales employed and their intended scoring procedures. We also recorded the process for data cleaning and scale construction on our data component [10] so readers can review exact scoring for all scales and variables. Here we provide scale names and minimal information because there are documents on the public data component relating the variable names, labels, descriptions and scoring keys. Scales included on this survey were: Markers of Adulthood (MOA; items derived from [11], [12]; importance, 20 items; achieve, 20 items; adulthood, 1 item), IDEA-8 [13] (8 items), Political Affiliation (party identification, 1 item; political ideology, 1 item; Presidential Preference, 1 item), Subjective Well-Being [14] (6 items), Mindfulness [15] (15 items), Need to Belong [16] (10 items), Efficacy [17] (8 items), Perceived Social Support [18] (12 items), Social Media Use Scale (adapted from [19], [20], maintaining existing connections, 5 items; making new connections, 4 items; information, 2 items), American Dream (importance of achieving, 1 item; ability to achieve; 1 item), Interpersonal Transgressions (exploratory items adapted from [21], 12 items), Narcissistic Personality Inventory-13 (NPI-13; [22], 13 items), Interpersonal Exploitativeness Scale [23], (3 items), Disability Identity (one dichotomous item assessing participants’ self-perception as “disabled” and six dichotomous items assessing the presence or absence of a disability in a variety of areas; including physical, sensory, learning, psychiatric, chronic health, and other; Personal Opinions Questionnaire, POQ; [24], 15 items), Patient Health Questionnaire [25], (13 items), Perceived Stress Questionnaire [26], (10 items), Marriage Opinions (Central identity, Marital Salience, Marital Timing, Marital Permanence, adapted from [27], [28] (5 items), then demographics (school attended, sex, age, education, sibling, race, armed services (2 items), income, and Residency (3 items).

### Procedures

Respondents received a link to the EAMMi2 survey either via email invitation or through campus specific recruiting procedures (such as SONA systems). When they completed the EAMMi2 survey online, they were instructed to do so in private and received informed consent and debriefing via the survey itself. When completed in a laboratory, they were provided privacy and could receive further debriefing from the researcher. Local data collection procedures are reported on the EAMMi2 Development and Recruitment Plan document on the Samples and Procedures Component [7].

### Quality Control

As demonstrated in our methods above there was little effort to control test taking conditions. However, we did complete a series of exclusion criteria to reduce error in the data set. These included four preregistered criteria (less than 10 minutes to complete survey, less than 80% of survey completed, failed attention check, demonstrated response bias on 8 or more survey pages) and the subsequent removal of 19 responses resulting from double entries.

### Ethical issues

The project organizer obtained approval from his Institutional Review board [6; see HPRB SP16-13 Exempt Grahe], then provided that approval publicly for other contributors to use for their own applications. Contributors did not receive a link to the survey for data collection until they provided evidence of approval to proceed at their own institution. These files were uploaded to our IRB Applications and Approval Component [5]. Participants indicated their informed consent on the first page of the survey and could stop the anonymous survey at any time without risk or penalty.

To further anonymize the data, we deleted the variables that collected the respondents’ IP address, Longitude, and Latitude.

### (3) Dataset description

We provide both the raw data (EAMMi2-CombinedRawData-1.0.xlsx) and cleaned data. (EAMMi2-cleandata.sav, N = 3134) is the SPSS data file described in this paper and includes all variables and scales including recoded variables and some coding of open ended questions. (EAMMi2-Data-1.2.xlsx, N = 3182) is Excel data file that includes participants that completed the survey.
after initial data collection ended and all planned exclusion criteria are applied, but no scales are scored or computed. We also provide EAMMi2-Data1.2Codebook with all question prompts and responses.

**Object name**
EAMMi2-CleanData.sav – from Original data collection period, scales computed.
EAMMi2-CombinedRawData-1.0.xlsx – combined raw data including responses after original ended.
EAMMi2-Data-1.2-Codebook.xlsx – codebook for the cleaned data, with not scales created.
EAMMi2-Data-1.2.xlsx – combined raw data cleaned with exclusion criteria, but no scales created.

**Data type**
Raw and Processed data with details regarding the processing reported in detail (https://osf.io/qtqpb/).

**Format names and versions**
SPSS, version 24
Microsoft Excel 2010

**Data Collectors**
Each location included a primary contact who oversaw data collection. Because instructors might have used this as a class exercise, it is possible that there are student data collectors or assistants that are not recorded in this project.

Leslie Cramblet Alvarez  Adams State University
Eleni Vousoura  American College of Greece
Scott Hall  Ball State University
Anthony Hermann  Bradley University
Danielle Richards  College of Southern Nevada
Susanne Biehle  DeFauw University
Matthew Schmolesky  Georgia Gwinnett College
Christopher Barlett  Gettysburg College
Kathryn Westcott  Juniata College
Holly M. Chalk  McDaniel College
Tanya Sharon  Mercer University
William Chopik  Michigan State University
Hayley M Skulborstad  Mount Ida College
Caitlin Faas  Mount St. Mary’s University
Laura Adams  Norco College
Elizabeth List  Northwest Nazarene University
Vicki DiLillo  Ohio Wesleyan University
Amy Brunell  OSU Mansfield
Jon Grahe  Pacific Lutheran University
Julie Lazzara  Paradise Valley Community College
Kateryna Sylaska  Reed College
Marc Wolpoff  Riverside City College
Dana C. Leighton  Southern Arkansas University
Robert Hauhart  St Martin’s University
Barbara Landon  St. George’s University
Joseph McFall  State University of New York at Fredonia
Elizabeth Shobe  Stockton University
Andrew Kemp  Swansea University
Debbie Harris-O’Brien  Trinity College

Chia-chen Yang  University of Memphis
Jerika Norona  University of Tennessee
Erik Noftle  Willamette University

**Language**
English

**License**
CC0 1.0 Universal

**Embargo**
The data were under embargo from 1/9/2017 until 1/9/2018. This enabled any data collectors to preregister and test hypotheses on the combined data set before public access.

**Repository location**
DOI with registered page – DOI 10.17605/OSF.IO/X7MP2
Grahe, J. E., Chalk, H. M., Cramblet Alvarez, L. D., Faas, C., Hermann, A., McFall, J. P., & Molyneux, K. (2018, January 10). EAMMi2 Public Data. Retrieved from: https://osf.io/x7mp2/.

**Publication date**
January 9, 2018

(4) Reuse potential
There are currently 10 manuscripts planned from the subset of the data collected before December 12th, 2016, which we are tracking on our Manuscripts and Presentations component (https://osf.io/3kch4/). However, with 19 different psychological measures and a series of demographic measures, there are many unanswered research questions that could be explored with these data.

Some other uses of these data include testing effects that were previously demonstrated on more homogenous or limited data samples. Additionally, this dataset is particularly appropriate for teaching and conducting research with students who may not have time to collect data and conduct meaningful analysis within one academic term. Undergraduate students who are also emerging adults are often interested in the questions asked in EAMMi2 and this data gives them the opportunity to explore data beyond their one institution. These data could also be used in teaching research methods or statistics courses to provide realistic demonstrations of analyses. In addition to offering opportunities to create aggregate scores and explore missing data patterns, there are so many variables in the data set that each student can analyze unique variables. The EAMMi2 project has developed some teaching exercises (https://osf.io/627qk/) and invites others to help further expand those resources.

**Acknowledgements**
The authors would like to thank the many dozens of contributors who helped generate the survey and collect these data. Additionally, DeVer Dudley and Kathryn Molyneaux worked as research assistants for the first author at the project level and were very helpful keeping track of the collaborators and their work.
**Funding Information**
Association for Psychological Sciences Teaching Fund
Grant Awarded to Jon Grahe (no number)
Pacific Lutheran University Regency Award to Jon Grahe
(no number)

**Competing Interests**
The authors have no competing interests to declare.

**Author Contribution**
In addition to collecting data, each served on an analytic advisory team during the project and helped edit this manuscript.

**References**
1. Grahe, J E, Faas, C, Chalk, H M, Skulborstad, H M, Barlett, C, Peer, J W, Reifman, A, et al. 2017 December 19. Emerging Adulthood Measured at Multiple Institutions 2: The Next Generation (EAMMi2). DOI: http://doi.org/10.17665/OSF.IO/TE54B
2. Reifman, A and Grahe, J E 2016 Introduction to the special issue of emerging adulthood. *Emerging Adulthood*, 4(3): 135–141. DOI: https://doi.org/10.1177/2167696815588022
3. Arnett, J J 2000 Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5): 469–480. DOI: https://doi.org/10.1037/0003-066X.55.5.469
4. Côté, J E 2014 The dangerous myth of emerging adulthood: An evidence-based critique of a flawed developmental theory. *Applied Developmental Science*, 18: 177–188. DOI: https://doi.org/10.1080/10886961.2014.954451
5. Grahe, J E, Adams, L, Barlett, C, Biehle, S, Brunell, A, Chalk, H M, Yang, C, et al. 2018 January 4. IRB Application and Approval. Retrieved from: osf.io/teb9n.
6. Grahe, J E, Biehle, S, Brunell, A, Barlett, C, Chalk, H M, Cramblet Alvarez, L D, Yang, C, et al. 2018 January 9. Survey_survey_withCodes. Retrieved from: osf.io/t3w2p.
7. Grahe, J E, Faas, C, Sharon, T, Chalk, H M, Skulborstad, H M, Barlett, C, Oleson, K, et al. 2017 January 9. Samples and Procedure. Retrieved from: osf.io/5pdyw.
8. Grahe, J E, Faas, C, Chalk, H M, Skulborstad, H M, Barlett, C, Peer, J W, Richards, D, et al. 2016 March 21. Emerging Adulthood Measured at Multiple Institutions 2: The next generation (EAMMi2). Retrieved from: osf.io/12ek4.
9. Grahe, J E, Biehle, S, Brunell, A, Barlett, C, Chalk, H M, Cramblet Alvarez, L D, Yang, C, et al. 2018 January 9. Materials. Retrieved from: osf.io/zuv2c.
10. Grahe, J E, Hermann, A, Ph.D, Chalk, H M, Leighton, D C, Corker, K S, Faas, C, Schmoleysky, M, et al. 2017 May 15. Project Data. Retrieved from: osf.io/8u4y4d.
11. Arnett, J J 1997 Young people’s conceptions of the transition to adulthood. *Youth and Society*, 29: 3–23. DOI:https://doi.org/10.1177/0044118X97029001001
12. Arnett, J J 2001 Conceptions of the transition to adulthood: Perspectives from adolescence through midlife. *Journal of Adult Development*, 8: 133–143. DOI: https://doi.org/10.1023/A:1026450103225
13. Baggio, S, Iglesias, K, Studer, J and Gmel, G 2014 An 8-item short form of the Inventory of Dimensions of Emerging Adulthood (IDEA) among young Swiss men. *Evaluation & the Health Professions*, 38(2): 246–254. DOI: https://doi.org/10.1177/0163278714540681
14. Diener, E 2000 Subjective well-being: The science of happiness and a proposal for a national index. *American Psychologist*, 55(1): 34–43. DOI: https://doi.org/10.1037/0003-066X.55.1.34
15. Brown and Ryan 2003 The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84: 822–848.
16. Leary, M R, Kelly, K M, Cottrell, C A and Schreindorfer, L S 2013 Construct validity of the Need to Belong Scale: Mapping the nomological network. *Journal of Personality Assessment*, 95(6): 610–624. DOI: https://doi.org/10.1080/00223891.2013.819511
17. Schwarzer, R and Jerusalem, M 1995 Generalized Self-Efficacy Scale. In: Weinman, J, Wright, S and Johnston, M (eds.), *Measures in health psychology: A user’s portfolio*. Causal and control beliefs. Windsor, England: NFER-NELSON.
18. Zimet, G D, Dahlem, N W, Zimet, S G, and Farley, G K 1988 The multidimensional scale of perceived social support. *Journal of personality assessment*, 52(1): 30–41. DOI: https://doi.org/10.1207/s15327752jpa5201_2
19. Yang, C. and Brown, B B 2013 Motives for using Facebook, patterns of Facebook activities, and late adolescents’ social adjustment to college. *Journal of Youth and Adolescence*, 42: 403–416. DOI: https://doi.org/10.1007/s10964-012-9836-x
20. Yang, C. and Brown, B B 2015 Factors involved in associations between Facebook use and college adjustment: Social competence, perceived usefulness, and use patterns. *Computers in Human Behavior*, 46: 245–253. DOI: https://doi.org/10.1016/j.chb.2015.01.015
21. McCullough, M E, Emmons, R A, Kilpatrick, S D, and Mooney, C N 2003 Narcissists as “victims”: The role of narcissism in the perception of transgressions. *Personality and Social Psychology Bulletin*, 29(7): 885–893. DOI: https://doi.org/10.1177/0146167203029007007
22. Gentile, B, Miller, J D, Hoffman, B J, Reidy, D E, Zeichner, A and Campbell, W K 2013. A test of two brief measures of grandiose narcissism: The Narcissistic Personality Inventory–13 and the Narcissistic Personality Inventory–16. *Psychological Assessment*, 25(4): 1120–1136. DOI: https://doi.org/10.1037/a0033192
23. Brunell, A B, Davis, M S, Schley, D R, Eng, A L, van Dulmen, M H M, Wester, K L and Flannery, D J 2013 A new measure of interpersonal exploitativeness. *Frontiers in Psychology*, 4. DOI: https://doi.org/10.3389/fpsyg.2013.00299
24. **Bolton, B** and **Brookings, J** 1998 Development of a measure of intrapersonal empowerment. *Rehabilitation Psychology*, 43(2): 131–142. DOI: https://doi.org/10.1037/0090-5550.43.2.131

25. **Kroenke, K**, **Spitzer, R L**, **Williams, J B W** and **Lowe, B** 2010 The patient health questionnaire somatic, anxiety, and depressive symptoms scale: a systematic review. *General Hospital Psychiatry*, 32: 345–359. DOI: https://doi.org/10.1016/j.genhospsych.2010.03.006

26. **Cohen, S**, **Kamarck, T** and **Mermelstein, R** 1983 A global measure of perceived stress. *Journal of Health and Social Behavior*, 24: 385–396. DOI: https://doi.org/10.2307/2136404

27. **Willoughby, B J**, **Hall, S S** and **Goff, S** 2015 Marriage matters but how much? Marital centrality among young adults. *The Journal of Psychology*, 149: 796–817. DOI: https://doi.org/10.1080/00223980.2014.979128

28. **Hall, S S** and **Willoughby, B J** 2016 Relative work and family role centralities: Beliefs and behaviors related to the transition to adulthood. *Journal of Family and Economic Issues*, 37: 75–88. DOI: https://doi.org/10.1007/s10834-014-9436-x