

Useful tips from the 2019 CREATE Workshop “An introduction to systematic reviews and novel approaches to evidence synthesis”

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The 2019 EHPs Collaborative Research and Training in the EHPs (CREATE) Workshop, led by Drs. Jenny McSharry and Chris Noone, focused on a core subject for aspiring young

researchers: systematic reviews and meta-analytical procedures. Systematic reviews and meta-analyses are a means of statistically combining results of multiple empirical studies. There are a lot of different types of reviews (e.g., metaethnography, qualitative evidence synthesis, scoping reviews). Systematic reviews and meta-analyses are a staple, a “golden standard” in social science research. Not only are these types of studies a useful resource tool in understanding the current state of the field, but they often heighten researchers’ caliber and are cited more often than individual studies (Patsopoulos, Analatos, & Ioannidis, 2005). Moreover, these studies allow researchers, practitioners, and policy makers, to retrieve evidence-based conclusions from the available body of knowledge, which may inform healthcare practices. Many doctoral students may have to navigate the challenges and work demand associated with systematic reviews at some point in their academic career. An important consideration is the dedication required and setting realistic expectations: from start to finish a systematic review takes on average 67.3 weeks (Borah, Brown, Capers, & Kaiser, 2017).

Drs. McSharry and Noone, and the CREATE team provided an effective workshop that was both

interactive and informative. To start, the audience was asked about the level of confidence in systematic reviews. The most inexperienced attendees reported a higher level of confidence in this procedure compared to those who had conducted reviews prior. We began to learn that perhaps the “golden standard” has some flaws. Do not take systematic reviews at face-value. We must apply our critical skills and recognize common mistakes when conducting a systematic review; then, a major objective of the workshop was to outline strategic methods to reduce error and biases. Throughout the workshop, the facilitators provided key tips based on their personal woes and experiences conducting systematic reviews. At the same time, we were provided with evidence-based research on best practices, such as utilizing established guidelines (e.g., PRISMA, Cochrane). The facilitators were not partial to reviews on only quantitative studies; they also highlighted procedures for systematic reviews of qualitative studies. Some of the tips we learned included the following:

First, for beginners, it’s advisable to participate in a review as a coauthor first to gain familiarity with the steps of a systematic review. When leading a systematic review of quantitative studies, it is important to define a research question that is specific and identifies the population or problem, independent variable, comparative group, and outcome (PICO). By being more rigorous in our criteria, we ease the decision process of inclusion and exclusion. A helpful tip may be to strategically choose the journal you plan on submitting your systematic review and follow the journal’s

recommendations and formatting from the start.

Next, not all databases and search engines use the same dictionary. The workshop taught us about Medical Subject Heading (MeSH) terms and how to explode search strategies. Some researchers have predefined standard procedures for each database which account for the databases' specificities. We learned that although GoogleScholar may not be the most recommended for initial search strategies, it is a useful tool for forward-checking, that is, when researchers locate studies that are cited by a relevant study reference.

Third, as good practice we should list all reasons for exclusion of papers. In cases where information is not clear enough, we should contact the authors of the article asking for more information. We should make sure to document why a paper was or was not included in the review.

Another important tip was to set realistic workload goals. By breaking up screening procedures (e.g., 15 papers a day for 10 to 15 minutes each), we allow for greater concentration and overall decreased mistakes.

There were multiple practical exercises woven throughout the workshop training. Some that stood out included defining if a study met qualification as a systematic review or another type of review, screening procedures, and running a meta-analysis using a statistical software package called JAMOVI. This software had an advantage compared to other programs in that it was capable of running R in the background, and it is free to the public. Without the financial burden that accompanies other programs, JAMOVI is student-budget-friendly, and allows for more researchers to conduct systematic reviews.

Overall, the EHPS CREATE Workshop grant was beneficial for both authors' current research goals. Jorge's PhD project is designed to investigate which psychological mechanisms determine successful long-term weight loss maintenance. To inform his studies, he is currently conducting a systematic review that intends to analyse the effects of theory-

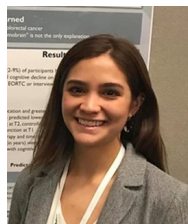
informed DBCIs on behavioural outcomes related to weight loss maintenance. The CREATE Workshop focused precisely on these topics and was an excellent opportunity to learn more about systematic reviews and meta-analytical procedures. Also, with this CREATE grant, Jorge attended for the first time an EHPS conference, representing a great opportunity to share his work among his peers and to enrich his academic expertise in health psychology and behaviour change theoretical models.

For Caroline, this grant afforded her the opportunity to travel the distance from New York to Dubrovnik. Like Jorge, this was her first time attending EHPS. Caroline is a member of the Coping and Health in Context Lab at Hunter College, under Dr. Tracey Revenson. Caroline's research interests include stress and coping, as well as adaptation to chronic skin disease. Psychodermatology is an interdisciplinary field that has limited attention in U.S. settings but is more readily studied in Europe. The CREATE workshop came at a pivotal point in Caroline's research and academic training, as she begins her first independent systematic review on the role of stigma in skin disease. She expects the review to reveal implications of skin disease stigma across multiple domains-- mental health, physical health, social functioning, sexual health, and preventive health behaviors. The workshop guided her methods and allowed her to hit the ground running with this review upon her return to New York.

References

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