



**Whose Knowledge Counts? Examining Paradigmatic Trends
in Adapted Physical Activity Research**

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12 Whose Knowledge Counts? Examining Paradigmatic Trends in Adapted Physical

13 Activity Research

For Peer Review

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1 **Abstract**

2 Who is the expert? Whose knowledge counts and what knowledge for whom and by whom is
3 produced? Consequentially, whose knowledge is marginalized? These are critical questions to
4 ask in relation to the field of Adapted Physical Activity (APA). Guided by epistemic and ethical
5 responsibility, the purpose of this study was to respond to these questions through an extensive
6 review of the paradigmatic trends in APA and to report on the roles of people experiencing
7 disability in APA research other than as participant. Attending to the level of epistemology, we
8 go beyond reporting the state of the field to reveal in what ways APA research may or may not
9 be guided by the concerns and needs of the people it is intended to serve and support. Building
10 on the findings, we discuss participatory research and its relevance to APA.

11 *Keywords: epistemology, knowledge, participatory, research trends, reviews*

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1 An essential feature of Western research is the centralizing of knowledge and its
2 acquisition (Le Grange, 2019). While post-qualitative approaches have both challenged and
3 attempted to decentre the dominance of knowledge, it is critical that scholars continue to
4 question the positioning of knowledge in contemporary scholarship. “Knowledge from whom
5 and for whom? knowledge for what ends? whose interests influence the perception of what is
6 really useful knowledge?”. In essence, “whose knowledge counts?” (Ingham & Donnelly, 1990,
7 p.58). The question of ‘whose knowledge counts?’ in research is not novel. Ingham and
8 Donnelly (1990) posed the above questions within sociology of sport research and practice in
9 addressing challenges as to how knowledge is produced and disseminated. Kelly et al. (2008)
10 asked “what should count as knowledge and, by extension whose knowledge counts” (p. viii) in
11 policy, research, and practice in education, bringing attention to the ways in which knowledge
12 making, control, and access are managed. Lastly, Ribenfors (2020) asked the question of ‘whose
13 knowledge counts?’ related to whose expertise we include and subsequently value in establishing
14 and justifying our research projects. Despite these and other examples, we wonder if we as
15 academics sufficiently interrogate whose knowledge is privileged in our own work. Academia
16 represents a powerful epistemic community. As a collective of recognized experts in a particular
17 area, epistemic communities have significant control over how knowledge is produced and what
18 information is valued and disseminated (Ngyuen, 2016). In the broader epistemic academic
19 community, there exists multiple smaller epistemic communities (e.g., researchers in specific
20 disciplines) within which further epistemic subdivisions also exist (e.g. researchers who focus on
21 specific topics, follow particular paradigms, and engage with different methodologies). Within
22 the field of Adapted Physical Activity (APA), researchers are part of various epistemic
23 communities. Therefore, as APA scholars, we hold significant power in what and whose

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1 knowledge is attended to, valued, and disseminated, and consequently, whose knowledge may be
2 marginalized and even silenced within and through the research we do and do not do.

3 Knowledge has been and can be understood in various ways. What counts as knowledge
4 is inextricably linked to different ways of knowing (Slife & Williams, 1995), feeling, and
5 personal beliefs. Scientific knowledge, a specific form of knowledge, is frequently associated
6 with founding figures and their followers in a particular area or discipline. Established scientific
7 practices (i.e., paradigms) often enjoy widespread acceptance in research communities and are
8 used to justify set criteria, against which research quality and robustness are measured (Bouffard
9 & Spencer-Cavaliere, 2016). Paradigms represent a set of worldviews comprised of assumptions
10 underlying “how researchers see the world (ontology), and the various judgements about
11 knowledge and how to gain it (epistemology)... [and] form the philosophical parameters that
12 guide decisions on appropriate methodological practices” (Markula & Silk, 2011, p. 24). While
13 clearly defined standards can preserve the integrity of a discipline/scientific area, these traditions
14 may also overshadow the emergence of other, alternative scientific practices and knowledges.
15 McNamee (2005) observed that the maintenance of the dominant scientific establishment is often
16 achieved by dismissing external criticism and/or claims that “only a certain kind of knowledge
17 counts” (p.6) and that specific research designs and approaches (e.g., causal, experimental, and
18 quasi-experimental) are considered the gold standard. When questioning whose knowledge
19 counts? related to marginalized voices, Ribenfors (2019) highlighted how traditional knowledge
20 hierarchies situate scholarly knowledge underpinned by assertions of neutrality and objectivity,
21 as superior to experiential knowledge (knowledge of individuals and communities generated
22 through experiences), which is criticized for lacking credibility and objectivity. In response to
23 such criticisms, scholars have developed research quality criteria that are more in-line with the

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1 philosophical standpoint of experiential research (for a discussion see Tracy, 2010). Goodley and
2 Lawthom (2005) emphasized the ongoing importance of ontology and epistemology, their
3 underlying assumptions, and the need to reflect on and question whose knowledge counts in
4 research specifically with regard to the meaningful inclusion of disabled people¹.

5 The question of ‘whose knowledge counts?’ in research related to the voices and
6 perspectives of people experiencing disability and others who have historically lived on the
7 margins, has received attention across multiple disciplines, theoretical perspectives, and
8 approaches (e.g., Indigenous knowledges and postcolonial work; see Kilty et al., 2014). Much of
9 this attention aims to reveal, resist, and take action against the marginalization and silencing of
10 voices of people who have and continue to be oppressed based on race, gender, sexual
11 orientation, class, ability, etc. One approach to ‘taking action’ against this oppression is for
12 researchers to engage with and centralize the voices and knowledges of people who are
13 marginalized. In their call for change to research in kinesiology (which includes APA), health,
14 and disability, Harrison et al. (2021) expressed the need for researchers to examine “the issues
15 from the perspective of the researched and valuing their stories... [as a way to produce more]
16 informative research and result in productive ways to develop a socially just society” (p.238).
17 APA is a “cross-disciplinary body of practical and theoretical knowledge directed toward
18 impairments, activity limitations, and participation restrictions in physical activity” (International
19 Federation of Adapted Physical Activity, 2014, para.1). As scholars in the field of APA, the
20 perspectives and experiences of people experiencing disability are of great consequence to our
21 work and potential contributions to creating a more socially just world.

¹ When referring directly to previous studies, we do so by using disability terminology from the original manuscripts unless otherwise noted. When writing from our own perspectives, we use the term ‘person experiencing disability’ and at times ‘disabled’ in keeping with a social relational and experiential model of disability and the term impairment in reference to non-normative biological functioning (see Peers et al., 2014).

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1 A number of APA scholars have brought the importance of exploring the perspectives of
2 people experiencing disability to the forefront in their work. Goodwin and Rossow-Kimball
3 (2012) engaged the concept of knowledge landscape to explore professional and practical
4 knowledges and the stories that comprise them. A key recommendation of their work was the
5 need for more counterstories in APA, “constructed from the lived experiences of persons with
6 impairments” (p. 305). In establishing the significance of research with disability communities in
7 APA, Eales and Peers (2016) stated, “that those who experience disability often have access to
8 fundamentally different ways of knowing, and fundamentally different kinds of knowledge
9 because their subjectivities, experiences, and embodiments are structured by a constant barrage
10 of disabling social contexts and normative expectations” (p.62). These calls have not gone
11 unnoticed. Indeed, there are several examples in APA where the perspectives of people
12 experiencing disability are the primary focus. Nevertheless, we still wonder about the
13 prominence of the voices of people experiencing disability in APA research.

14 Beyond including the perspectives of people experiencing disability, who are
15 participants, we also question the roles people who experience disability play in other aspects of
16 APA research. For example, are research questions in APA generated by or with input from and
17 in consultation with members of disability communities? Do we have scholars with insider
18 knowledge of the experience of disability? Do our epistemologies make room for or prioritize
19 ways of generating knowledge that ensure these possibilities? Bredahl (2008) asked specifically
20 these kinds of questions in her exploration of the ethical aspects of APA research. She pressed
21 for closer dialogue between researchers, participants, and practitioners, as well as the
22 involvement of people with disabilities, including as the ones conducting research. In exploring
23 alternate epistemologies in APA research, Eales and Peers (2016) similarly argued for

1 engagement “with the knowledges produced by disability community members (p.62).
2 Addressing axiology, Peers (2018) advocated for “researching together-APA scholars and
3 disability communities-as knowers, and stakeholders, and students, and researchers” (p.281). It is
4 these kinds of suggestions that inspired our guiding question: ‘whose knowledge counts in
5 APA?’ The aim of this paper is to promote a self-reflective approach to our scientific practices.

6 **Research Assumptions**

7 The 1998 “Questioning our Research Assumptions” special edition of Adapted Physical
8 Activity Quarterly (APAQ) was salient in bringing attention to different research approaches
9 including the philosophies and methodologies viewed as “essential to the ongoing inquiry,
10 reflection, and development processes in adapted physical activity” (Bouffard & Watkinson,
11 1998, p. 205). Foundational to this edition was the importance of recognizing the assumptions
12 underlying different ways of knowing (i.e., epistemologies), which are central to the types of
13 knowledges generated in the field. Philosophical beliefs and related research practices are an
14 important part of responding to questions about the value of different knowledges in answering
15 the question of ‘whose knowledge counts in APA?’ Despite invitations to “question the
16 assumptions of how we have typically done our research and open up possibilities for research”
17 (Bouffard et al., 1998, p. 263), and more recently to consider “mobilizing, accepting, and
18 connecting to a wider range of epistemological approaches” (Eales & Peers, 2016, p. 56), we
19 query the extent to which these have occurred. In revealing the assumptions underlying our
20 research choices, we have the opportunity to recognize whose knowledge is present in research
21 and simultaneously reveal whose knowledge is marginalized and voices are absent. Recognizing
22 these assumptions can help us to answer the question of ‘whose knowledge counts in APA?’

23 Systematic and scoping reviews on specific topics in APA are common practice

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1 particularly in APAQ, one of the key journals in the field (Poretta & Sherrill, 2005). Within these
2 reviews, authors report on study design, participant details and settings, measurement outcomes,
3 and results, illuminating current research foci, and future areas to address. Reid and Broadhead
4 (1995) performed an analysis of APAQ in its tenth year, followed by Porretta and Sherrill's
5 (2005) similar analysis in its twentieth year. In 2015, Haegele et al. carried out an analysis of
6 research trends published in APAQ from 2004 to 2013. These works have been useful in
7 identifying trend profiles such as author country affiliation, the role of theory, the presence of
8 intervention work, different research methods, impairment focus, and key research topics.
9 Collectively, these analyses have helped create a picture of the field and highlight future
10 directions. However, missing from these reviews is a focus on research paradigms and the
11 assumptions that ultimately play a critical role in determining if and in what ways the
12 knowledges of disability communities are present in APA scholarship. Given the relevance of
13 revealing assumptions underlying the disciplines within which we operate and the philosophical
14 standpoints that guide our work, exploring paradigmatic trends at the level of epistemology is
15 critical. Of the previous reviews of APA research, none have focused on epistemology.

16 Purpose

17 The purpose of this study was to respond to 'whose knowledge counts in APA?' via
18 systematic content analysis of APA literature. Our main objectives were: (a) to analyze the
19 development and current state of the field with regard to the types of research paradigms,
20 specifically epistemologies², used in APA, (b) to identify the roles of people experiencing
21 disability in APA research other than as participants and, (c) to respond to the findings of our
22 analysis by exploring participatory work, thus broadening the possibilities of the field so as to

² While research paradigms are comprised of ontology, epistemology, and methodology, we focused on epistemology.

1 enhance its relevance to the lives and communities of people experiencing disability.

2 **Guiding Theoretical Principles**

3 This research was guided by the ethical precepts of epistemic responsibility and modesty
4 (Carlson, 2010; Kittay, 2009). Kittay describes “epistemic responsibility: know the subject that
5 you are using to make a philosophical point; and, second, epistemic modesty; know what you
6 don’t know” (p.614). Adding to this, Carlson speaks to the “responsibility that accompanies the
7 process of making and evaluating knowledge claims” (p.60). As scholars and members of
8 epistemic communities, we play critical roles “in determining which knowledge claims are
9 valued, accepted and included” (Carlson, 2010, p.61). We must be accountable to these roles by
10 (re)considering the underlying philosophical assumptions of our research practices and their
11 consequences for people experiencing disability, disability communities, and broader society.

12 **Method**

13 **Researcher Positionality**

14 “We begin from the position that research is shaped by the socio-political, cultural, and
15 economic contexts in which it takes place, as well as by the scholars, participants, and
16 communities involved” (Felices-Luna et al., 2014, p. 327). Accordingly, we acknowledge our
17 positions of privilege and the paradigmatic assumptions that guide our scholarship. I (first
18 author) do not experience disability and have normatively moved through life in my white,
19 settler, cisgender, woman, body. Through a critical realist lens that has both clouded and
20 brightened my APA research, I recognize a reality independent of myself and my work, while
21 acknowledging the fallibility of a direct understanding of a conceptually mediated social world
22 (Danermark et al., 2002). I most often engage person-centered approaches (i.e., I talk with
23 people) drawing on aspects of interpretivism. I (second author) have experienced life as a white,

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1 nondisabled³, cisgender, straight male academic, a father, and a migrant. My research,
2 predominantly sociology informed, has focused on understanding and empowerment of
3 marginalized and disenfranchised communities, leading to exploring intersections of socio-
4 cultural oppression. I approach my research from a constructivist point of view, which purports
5 that reality manifests in various forms of social constructions by active social agencies, leading
6 to research findings that are co-produced through researcher-participant interactions. We come to
7 this work with a desire to disrupt within our own programs of research and more broadly,
8 normative, privileged, and exclusionary ways of knowing, being, and doing research.

9 **Study Design**

10 Our study was in part guided by the work of Dart (2014), who produced a systematic
11 content analysis of the field of sociology of sport “to establish a baseline from which to perform
12 such self-examination” (p.646). A systematic content analysis is useful for methodically and
13 consistently exploring the content of any form of communication (Singleton & Straits, 1999).
14 Such field-of-research examination is critical to our reflection on past, present, and future ways
15 of engaging in research. Our positionalities relative to our individual paradigmatic beliefs may
16 appear inconsistent with the decision to perform a systematic content analysis. While paradigms
17 are critiqued for their inflexibility, “researchers can and do move between different approaches”
18 (Ankeny & Leonelli, 2016, p.20). This study is such an example.

19 **Journals.** To move beyond previous reviews and map the state and development of APA
20 from paradigmatic perspectives, we executed a full-scale historical review of two key APA
21 academic journals from their inceptions: APAQ from 1984 to 2020 and the European Journal of
22 Adapted Physical Activity (EUJAPA), from 2008 to 2020. Importantly, these journals are not a

³ The second author did not identify as disabled at the time of writing this paper, but has previously experienced disability and disablement in keeping with relational and social models of disability.

1 complete representation of an academic area, as there are many other forms of knowledge
2 dissemination (e.g., conferences, symposiums, other journals), to date, however, APAQ is the
3 most commonly analyzed source used to examine research trends in APA (Skelnarikova et al.,
4 2016). Both journals are international, multidisciplinary, and dedicated to APA research. APAQ
5 is the official journal of the International Federation of Adapted Physical Activity, as is EUJAPA
6 for the European Federation of Adapted Physical Activity. These journals are key sources of
7 expressions of power in the control and distribution of knowledge (Tomlinson, 2006), thus, their
8 influence is “far reaching” (Dart, 2014, p. 464).

9 **Inclusion and exclusion criteria.** As the emphasis was to perform a historical
10 examination of APA, we exclusively focused on research (including brief research notes),
11 review, viewpoint, application, and invited (e.g., editorial) articles. We included editorials as
12 they can offer insight into our question of ‘whose knowledge counts in APA?’ We excluded
13 book reviews, media, digests, and tributes⁴.

14 **Data gathering, analysis, and quality.** We developed an excel spreadsheet where all
15 data were categorized. Embracing previous APA reviews and to ensure we had breadth and
16 depth, we began with the following categories: journal, year, issue, article type (i.e., empirical,
17 review with analyses, and viewpoint), author names, purpose/question, conceptual/theoretical
18 approach, methodology, data collection techniques, analysis techniques, data presentation, and
19 participants. We then created a subcategory titled, type of knowledge generation, and placed
20 articles into either quantitative, qualitative, mixed method, review, or viewpoint sections which
21 we determined by analyzing the categories of article type, methodology, data collection and
22 analysis techniques, and data presentation. Viewpoint articles were understood as manuscripts

⁴ The article types listed here reflect APAQ and EUJAPA journal sections, some of which have changed.

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1 containing “an articulated organized perspective on a topic of importance” (APAQ, 2020, para
2 2.) and were comprised of both viewpoint articles and editorials. Articles described by authors as
3 a form of review without a systematic method section were categorized as viewpoints.

4 Reflecting our focus on epistemic responsibility, we also included the following
5 categories: paradigm, research roles of people experiencing disability beyond that of participant,
6 and writing style (i.e., first or third person). Regarding research roles, we only categorized
7 instances where authors identified specific roles or individuals self-identified as experiencing
8 disability or with impairment. We did not cross-reference this information to other articles,
9 respecting the right to self-identify and acknowledging diversity in understanding disability.

10 Writing style assisted in categorizing paradigms which we further delineated using
11 Lincoln and Guba’s (2003) descriptions of positivism/postpositivism, constructivism, critical
12 theory, and participatory paradigms. While a broader range of epistemologies do exist, given this
13 was a historical review, these four paradigms were more likely to have relevance to the analysis.
14 Postpositivism aligns with a critical realist ontology (i.e., reality exists out there but access to it
15 is incomplete) and epistemologically, a modified objectivism. Objectivity is an ideal with limited
16 approximation where methodological approaches are typically experimental. Given
17 postpositivism is a modified version of positivism, we elected to group these paradigms together
18 while recognizing differences between them. Constructivism holds to ontological relativism
19 where multiple realities exist and a subjectivist epistemology where knowledge is co-created
20 through interaction of the inquirer, the topic of inquiry, and research participants.
21 Methodologically, constructivists engage with hermeneutic and dialectic approaches. Critical
22 theory aligns with a critical realist ontology, a subjectivist epistemology guided by values, and
23 methodologies that are dialogic and transformative. Participatory research prioritizes knowledge

1 and the understanding of reality through knowledge that is generated by participants (i.e., living
2 knowledge), and emphasizes the alleviation of power imbalances inherent in western research by
3 re-defining the role of researcher as facilitator in a collaborative process with participants
4 (Lincoln & Guba, 2003). (For additional information about paradigms see, for example,
5 Williams, 2016; Markula & Silk, 2011; Slife & Williams, 1995).

6 When present, we categorized paradigms consistent with authors' descriptions. However,
7 it was most common that paradigms were not noted. We then applied Lincoln and Guba's
8 conceptions, as described above, along with other indicators (e.g., methodology, type of data) in
9 order to guide our categorization that appeared to best fit the research. We did not categorize
10 viewpoint articles by paradigm given few indicators. A few viewpoint articles provided some
11 epistemological evidence, we were mindful of our epistemic responsibility and modesty. For
12 these reasons, we did not categorize reviews by paradigm, although we did encounter one review
13 in APAQ where authors specifically described their ontological and epistemological
14 assumptions. We independently categorized and cleaned the data, comparing our findings against
15 each other's for each article. We discussed discrepancies ($n \sim 10\%$) and returned to contentious
16 articles until we agreed. We kept a detailed audit trail which included the categorizing of each
17 article to make cross comparisons and as a reminder of decision-making processes.

18 **Results and Discussion**

19 Using the criteria outlined above, our review captured 1072 articles⁵ (APAQ $n=951$;
20 EUJAPA $n=121$). Along with our purpose, we present the findings related to paradigm and
21 research roles. We share our findings numerically, graphically, and in text to ensure transparency
22 and accessibility. Our discussion focuses on the question of 'whose knowledge counts' by

⁵ We eliminated one editorial from APAQ that was comprised solely of a table of contents.

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1 directing attention to the findings of whose knowledge is prevalent and whose knowledge is
2 underrepresented as understood through the assumptions underlying different paradigms and
3 research roles. We then discuss some considerations for participatory research in APA.

4 **Research Paradigm Trends**

5 In addition to the previously described categories to determine paradigms, type of
6 knowledge generation was instrumental. In both journals, a broad range of issues were addressed
7 via different forms of knowledge generation. Examples included, quantitative studies exploring
8 instrument development⁶, intervention work⁷, psychological constructs, participation rates,
9 pedagogy and program development, and other forms of measurement. Examples of qualitative
10 knowledge generation in both journals included disability and identity narratives, experiences
11 and perceptions of physical activity and programs, learning processes, postsecondary training
12 and pedagogical practices, and perceptions of inclusion across varied settings. Mixed method
13 approaches were rare and most often used questionnaires and interviews with a focus on, for
14 example, teacher training, movement interventions, and attitudes. Viewpoints were associated
15 with the inception of both journals, special issues, and field debates. Viewpoints addressed
16 varied topics such as disability language, research assumptions, service delivery, development of
17 assessment tools, impairment specific considerations, and the development of APA. Review
18 articles examined literature and research across topics such as motor skill interventions, reviews
19 of APAQ, physical education inclusion, and impairment specific physical activity measurement.

20 Unsurprisingly, across both journals, there was a strong connection between the topics
21 addressed using quantitative and qualitative knowledge generation and postpositivist and

⁶ For both journals, instrument development articles that included mention of qualitative data, for example content analysis of items by experts, but did not report this data, were categorized as quantitative.

⁷ For both journals, intervention studies using qualitative observation to produce quantitative data (e.g., by quantifying performance observations) were categorized as quantitative unless qualitative data were thoroughly described.

1 constructivist paradigms, respectively. The few critical theory articles present examined topics
2 such as media portrayals of athletes with impairments, research guidelines, and international
3 perspectives on APA. There was one participatory article, which addressed APA student
4 practicum experiences. Of the 818 articles categorized by paradigm, in only 3.79% ($n=31$) of
5 cases (APAQ $n=29$; EUJAPA $n=2$) did authors distinctly refer to paradigmatic assumptions
6 (constructivist $n=24$; critical theory $n=4$; positivist/postpositivist $n=2$; multiple epistemologies
7 $n=1$). Articles from a constructivist perspective were more likely to include ontological and
8 epistemological information, likely due to different methodological traditions and expectations⁸.

9 **APAQ.** Of the 717 APAQ articles considered from a paradigmatic perspective (see
10 Figure 1), there was a dominance of positivist/postpositivist work (e.g., Goosey-Tolfrey &
11 Crosland, 2010), with 84.52% ($n=606$) of articles. Constructivist manuscripts (e.g., Bredahl,
12 2013), were the second most represented with 13.25% ($n=95$). Work from a critical theory
13 perspective (e.g., Hodge et al., 2007), was also present, albeit with only 1.95% ($n=14$). We
14 identified one article as participatory (i.e., Standal & Rugseth, 2014), representing 0.14% ($n=1$)
15 and one that stated multiple epistemological viewpoints (i.e., Spencer-Cavaliere & Peers, 2011),
16 accounting for 0.14% ($n=1$) of publications. When examining trends over time, we see the gap
17 lessening between positivist/postpositivist and constructivist work. A partial explanation for the
18 lack of critical theory articles may have been our categorization of viewpoint articles, which we
19 did not examine by paradigm given the lack of indicators and our epistemic responsibility and
20 modesty. Regarding participatory work, while a few authors described viewing participants as
21 co-investigators and may have included some alternative forms of participant engagement, there
22 was little evidence to suggest the presence of a participatory paradigm, with the exception of the

⁸ The methodological debate of qualitative versus quantitative research traditions is beyond the scope of this paper.

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1 one afore-mentioned publication.

2 **EUJAPA.** Across the 101 EUJAPA articles considered (see Figure 2), there was a
3 consistent dominance of positivist/postpositivist work (e.g., Gillespie, 2009), accounting for
4 82.18% ($n=83$) of publications. This was followed by constructivism (e.g., Blagrove, 2017), with
5 15.84% ($n=16$). Critical theory (e.g., Mitchell et al., 2019), represented 1.98% ($n=2$) of articles
6 published. There has been little fluctuation in research paradigm trends in EUJAPA over the 13
7 years. There were four years (2009-2011, 2016) with only positivist/postpositivist representation.
8 Similar to APAQ, lack of critical theory work could, in part, be explained by our categorization.
9 There was no evidence of the participatory paradigm.

10 **Research Roles of People Experiencing Disability**

11 In reporting the roles of people experiencing disability in APA research, beyond that of
12 participant, we included articles where authors described these ‘other roles’ or explicitly
13 expressed experiencing disability. We did not extend this knowledge to other works by the same
14 authors in line with social relational and experiential approaches disability, and an individual’s
15 right to self-identify (Peers et al., 2014). As a result, our reporting may underrepresent the
16 engagement of people experiencing disability in research in roles other than as a participant.

17 Within APAQ, we identified ten manuscripts (e.g., Peers et al., 2014; Schell & Carlisle Duncan,
18 1999; Sherrill et al., 1984), where individuals expressed experiencing disability, being disabled,
19 having a disability, being a classified Paralympic athlete, and/or, shared impairment information
20 and held research roles other than or in addition to being a participant. The roles held by these
21 individuals were primarily as authors/investigators, although a few examples such as interviewer
22 or aiding interview guide development, were noted. It was difficult at times to determine if these
23 roles were in addition to authorship. In EUJAPA, we did not find any examples of contributions

1 of people experiencing disability to research in roles others than as participant. Despite the
2 limitations of our categorization, the lack of diversity in research roles engaged in by people
3 experiencing disability warrants critical attention.

4 **Whose Knowledge is Missing in APA?**

5 The findings of this study raise many questions for debate and discussion. Critical
6 observations include the dominance of positivist/post-positivist inquiry and the conspicuous lack
7 of participatory research practices underscored by the paucity of research roles held by people
8 experiencing disability, other than as participant. We also recognize the growth of constructivist
9 work that has brought attention to the perspectives of people experiencing disability and the lack
10 of critical theory work. We are not arguing that research that has been conducted in APA has not
11 contributed to knowledge and understanding of some pressing concerns, or that it has not
12 enhanced the wellbeing of many people experiencing disability. We do argue, however, the
13 importance of “challenging the dominant modes of research production” (Goodley & Lawthom,
14 2005, p. 136) and questioning how “the researcher’s subject position shapes research
15 content...(what questions one asks, which data one finds relevant, what one emphasizes in the
16 reporting of findings, etc.)” (Eales & Peers, 2016, p.58). The prominence of one scientific
17 establishment over others in our field and the lack of diverse roles held by people experiencing
18 disability in APA research, as demonstrated here, provide a critical opportunity for us to reflect
19 on, question, and broaden the epistemologies we engage with. We have a responsibility “to
20 engage rather than exclude epistemologies not our own that may help us produce different
21 knowledge and produce knowledge differently” (Adams St. Pierre, 2006, p.239). We also have a
22 responsibility, as members of a powerful epistemic community, to address “the ongoing problem
23 of disabled people being viewed as objects of research instead of partners and leaders in

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1 research” (Arstein-Kerslake et al., 2020, p. 412). In doing so, we must engage deeply and
2 reflexively with the history of research that has marginalized and discriminated against people
3 experiencing disability (see Stone & Priestly, 1996).

4 Alternate approaches to researching with people experiencing disability to address issues
5 of marginalization both within the research itself and in society have emerged. Some of these
6 approaches are decades old, however, they are lacking in APAQ and EUJAPA. Noted exceptions
7 are some constructivist and critical theory work, APA articles published in other fields, and
8 writing that bring these issues to the fore. We focus here on the participatory paradigm, given our
9 analysis, while acknowledging there exists a range of approaches (e.g., emancipatory and arts
10 based research) that seek meaningful engagement with disability communities and the many
11 assumptions about disability that need to be challenged and reimagined (e.g., disability as
12 tragedy, abnormal, needing to be fixed etc.; see Peers 2018; Stone & Priestly, 1996).

13 To counterbalance western, researcher-driven approaches to identifying issues and ways
14 of investigating them, participatory research practices began to emerge in the 1970s (Singh,
15 2011). Park (1992) explained that this research paradigm emerged from social scientists’
16 disappointment with traditional approaches that privileged and benefited western values and
17 researchers. Thorne (2016) observed that such research practices emerged from “the community
18 based and academically supported political activism of 1970s Latin America” (p. 283).
19 Notwithstanding several definitions of participatory research and its variants⁹ (e.g., participatory
20 action research), collectively they point to the idea that research should be a social act (Arstein-
21 Kerslake et al., 2020), actualized through social action (Park, 1992), follow a bottom-up
22 approach (Singh, 2011), while extensively considering and continually addressing pre-existing

⁹ We draw on some specifics of participatory action research in our generalized discussion of participatory research and recognize some scholars may disagree with this approach.

1 and pre-defined power imbalances between researchers and communities (Arstein-Kerslake et
2 al., 2020). Participatory (action) approaches “articulate a core commitment to social justice,
3 ethical relationships with coparticipants, democratic inclusive practices, and altering unjust and
4 inequitable systems” (Lake & Wendland, 2018, p.12). Accordingly, participatory research in
5 APA, from the outset, would have active engagement with the community in a research process
6 that attends to their needs in order to benefit them directly (Kanemasu & Molnar, 2019).

7 Participatory research is not without tensions and challenges. For example, conflicting
8 academic and community agendas, the allocation of funds and resources, gaining ethical
9 approval, traditional peer review expectations and inflexible academic structures, apprehension
10 on the part of communities that have previously experienced harm through research, the
11 establishment of equitable and trusting relationships with communities while at the same time
12 addressing inherent power imbalances, are among just a few (Lake & Wendland, 2020). While
13 there appear countless reasons not to engage in participatory research, scholars and practitioners
14 across a broad range of fields and disciplines (e.g., critical studies, education, health, indigenous
15 studies, business etc.) have pursued this type of work in order “to shift who controls the
16 production of knowledge and what counts as knowledge” (Lake & Wendland, 2020, p.22). We
17 encourage more APA scholars (ourselves included) to do the same. As researchers have been
18 engaging in participatory work for decades, we can look to other disciplines to support our own
19 work and learning. Participatory research in education, given many shared areas of interest with
20 APA, can offer useful and accessible direction. There is also participatory work with disability
21 communities in APA published outside of APAQ and EUJAPA that can inform our learning. As
22 with any paradigm, participatory research is not without its criticisms (see Lake & Wendland,
23 2020 for details). At the same time, work that reinforces principles of epistemic and moral

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1 responsibility (Carlson 2010; Kittay 2009) and accountability to the individuals and communities
2 the research is intended to benefit, should be prioritized in APA.

3 Who is the expert? Whose knowledge counts? and what knowledge for whom and by
4 whom is produced? It is our hope that through reflexive attention to these and similar questions,
5 the opportunities for participatory research that actively and extensively engages people
6 experiencing disability and disability communities in the research process, may lead to more
7 meaningful and transformative research outcomes in APA, expanding what counts as knowledge
8 and therefore, whose knowledge counts.

9 **Limitations and Future Directions**

10 We acknowledge limitations to this study. First, in categorizing knowledge generation,
11 we used quantitative, qualitative, and mixed methods to delineate modes of empirical research,
12 and viewpoint and review, from other forms of knowledge generation. At times, we found
13 ourselves debating the placement of viewpoint articles and questioning our assumptions of what
14 it means for research to be empirical. Second, authors rarely identified their philosophical
15 assumptions. We used a range of indicators to best determine paradigms, yet authors may
16 disagree. Third, authors may identify with different paradigms than suggested by the research
17 studies to which they contribute. As noted earlier, this study is such an example as we moved
18 “between different approaches” in completing this work (Ankeny & Leonelli, 2016, p.20). We
19 encourage authors to articulate philosophical assumptions underlying their scholarship. In doing
20 so, our understanding of each other’s work will be more robust and we can learn to and practice
21 collaborating across epistemic fissures.

22 With regard to the various roles held by people experiencing disability, other than as
23 participant, we were limited to when authors self-identified or added information about other

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1 roles. While it is crucial to outline positionality relative to paradigmatic standpoints, we do not
2 advocate for compulsory self-identification related to disability experience, it is a choice of the
3 individual. What is clear from the findings is that we need more scholars in APA who have an
4 emic understanding of disability, more participatory research, and through that, more meaningful
5 engagement with disability communities (Eales & Peers, 2016). While our emphasis here was on
6 marginalized voices associated with disability, recognizing how the intersections of one's social
7 and political identities, including disability, combine to create unique modes of discrimination
8 and oppression is a critical area of future research in APA.

9 In closing, we concur with Harrison and colleagues' (2020) recommendation for
10 kinesiology (which includes APA), disability, and health research, that "the lens through which
11 the research is viewed must be adjusted to uplift and empower historically, and contemporarily
12 marginalized groups" (p.238). As Bouffard and Watkinson wrote in 1998, "We [too] hope that
13 you will engage in the debates and make informed choices about different ways of working and
14 knowing" (p. 206) and along with us, reflexively work toward being accountable to the question
15 of 'whose knowledge counts?' in APA research.

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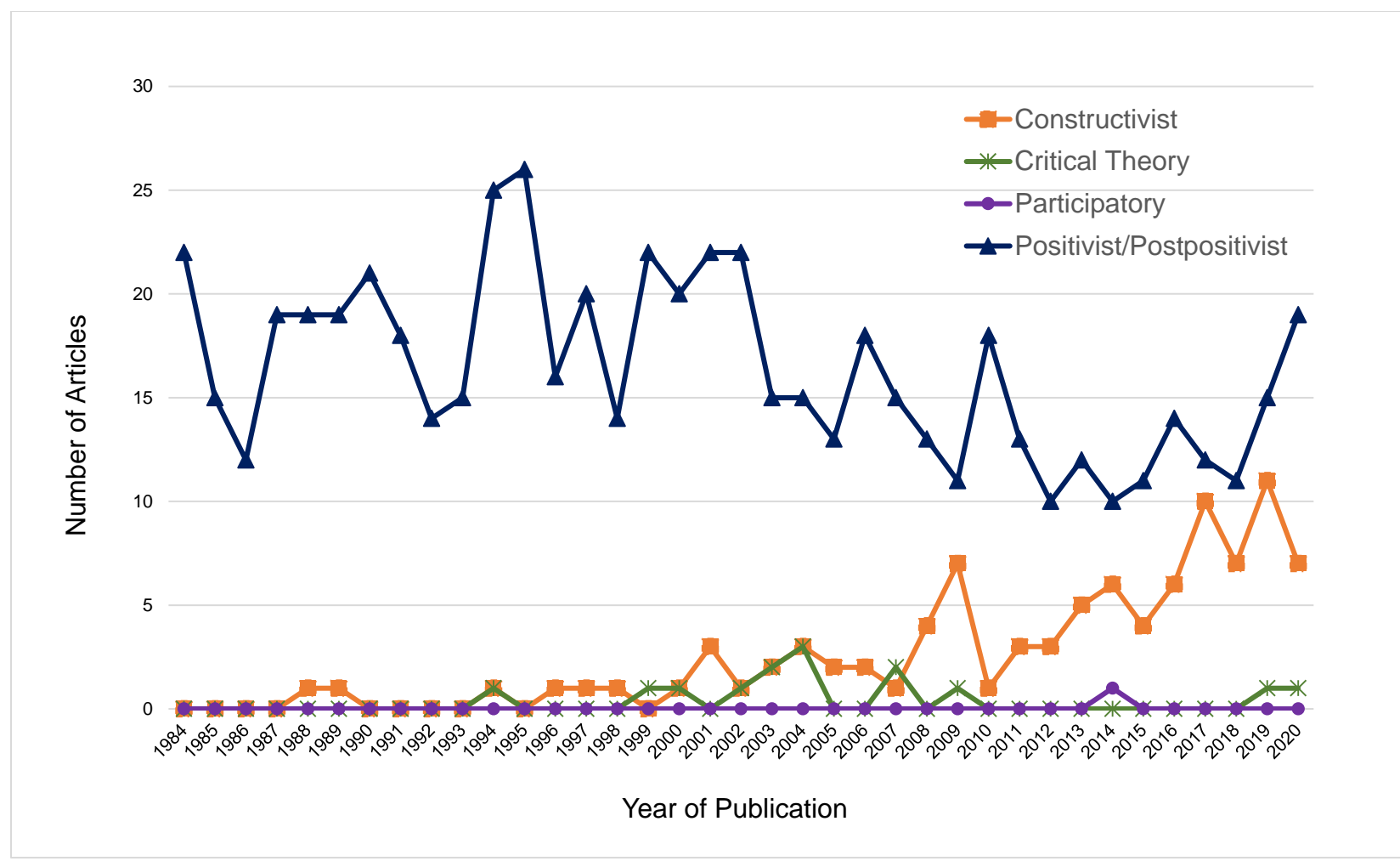
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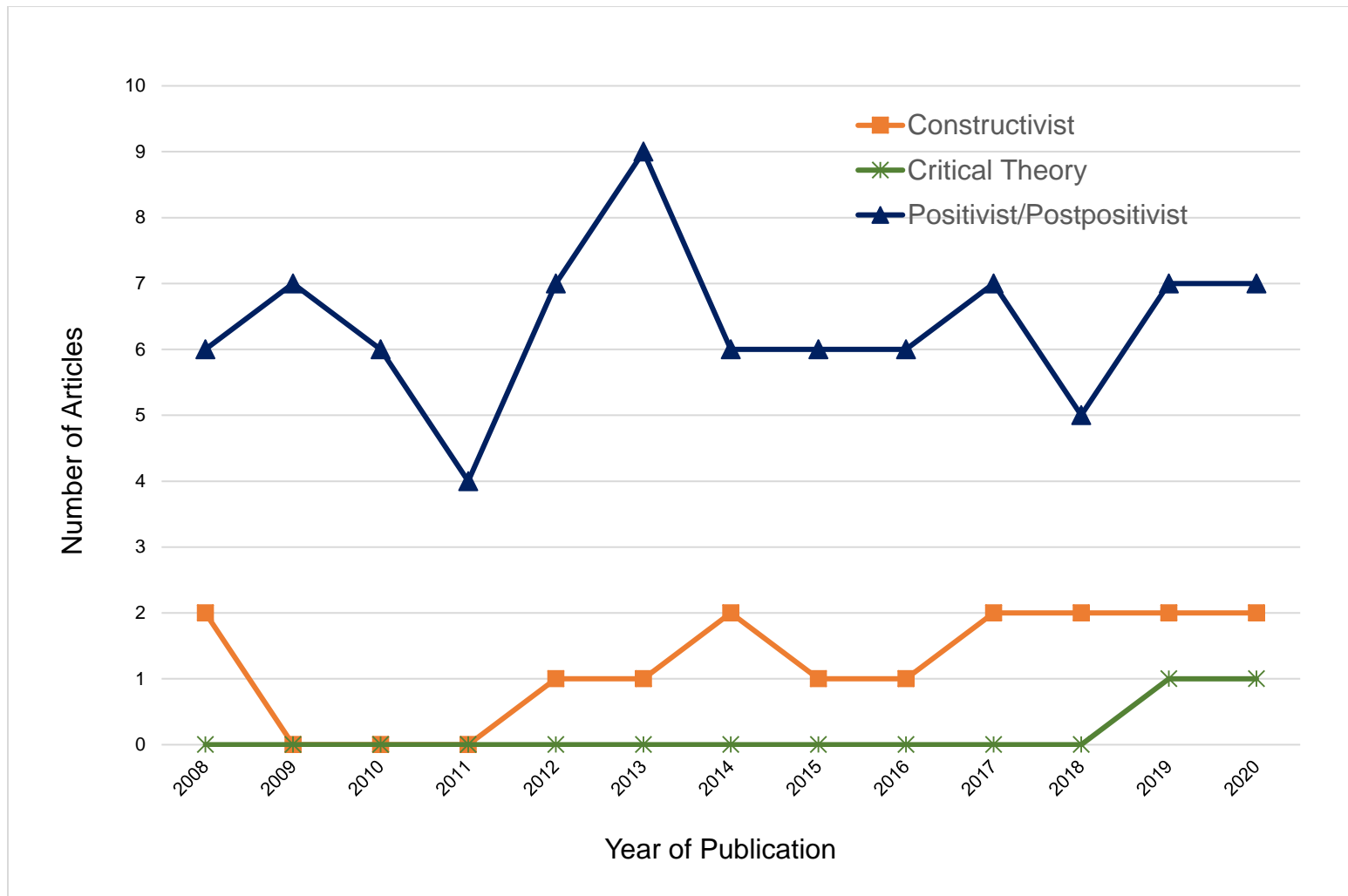
Figure 1

Paradigm Trends: APAQ



Note. Trends for type of paradigm for the Adapted Physical Activity Quarterly (APAQ).

Spencer-Cavaliere and Peers (2011) was categorized as multi-paradigmatic and is not represented on the graph.

Figure 2*Paradigm Trends: EUJAPA*

Note. Trends for type of paradigm for the European Journal of Adapted Physical Activity (EUJAPA).

Response to Reviewers

Reviewer 1

	Reviewer Comment	Author Response
1	Excellent contribution and timely addition to the literature of Adapted Physical Activity.	Much appreciated.
2	Please provide working definitions for Constructivist, Critical Theory, Participatory, and Positivist/Postpositivist.	We appreciate this comment and the reason for it. At the same time, we are hesitant to provide working definitions that could, in essence, be perceived as reductionist. In our categorization, we did delineate paradigms using Lincoln and Guba's (2003) descriptions, supplemented by other indicators. In response, we have inserted additional references should readers be interested in reading more about paradigms. We hope this is sufficient. “(For additional information about paradigms see, for example, Williams, 2016; Markula & Silk, 2011; Slife & Williams, 1995).”
3	P.4 (3), l.22: Avoid contractions APA writing use: do not	Done.
4	P.7 (6), l.5: Nevertheless (remove hyphens)	Done.
5	P.8 (7), l.17: Introduce acronym first use Adapted Physical Activity Quarterly	Thank you. The acronym was introduced in the previous paragraph.
6	P.9 (8), l.11: Use APA- (a) . . . , (b) . . . , and (c) . . .	Done.
7	P.9 (8), l.14: do not capitalize	Done.
8	P.12 (11), l.22: What are the definitions? This would significantly help the reader.	Please see response to #2.

Reviewer 2

	Reviewer Comment	Author Response
1	I read it with great interest. I found it interesting, insightful and thought-provoking, something I rarely experience when reading systemic reviews. I saw special value in the sections relating to the role of those experiencing disability, and the call for more participatory research.	Thank you so much.

2	There is a taken for granted assumption in the Introduction that ‘knowledge’ is the purpose of academia, research and journal article outputs. First, I suggest establishing this basis before posing questions about the privileging of knowledge (s). I think it would also be worth mentioning that post qualitative approaches, for example, have attempted to decentre or challenge the dominance of ‘knowledge’.	We have addressed this comment in the first two sentences of the paper: “An essential feature of Western research is the centralizing of knowledge and its acquisition (Le Grange, 2019). While post qualitative approaches have both challenged and attempted to decentre the dominance of knowledge, it is critical that scholars continue to question the positioning of knowledge in contemporary scholarship.”
3	There is, in my view, paradigmatic discrepancy between researcher positionalities relating to what was said about interpretivism and constructionism, and the decision to do a systemic content analysis. This needs acknowledging and explaining, especially given the focus of the article.	We have added the following in our study design section: “Our positionalities relative to our individual paradigmatic beliefs may appear inconsistent with the decision to perform a systematic content analysis. While paradigms are critiqued for their inflexibility, “researchers can and do move between different approaches” (Ankeny & Leonelli, 2016, p.20). This study is such an example.
4	As I reader, I am eager to know the articles that include, for example, a person who experiences disability as author, interviewer, etc. There is no need to cite all sources but some references (e.g., X, Y and Z) would be welcome. The same can be said for the section about research paradigm trends. This would be useful for readers wanting to follow up references.	We have added one example per paradigm for each journal (simply due to space and expanding the reference list), as well as several examples, across different decades, for the roles of people experiencing disability.
5	P3, L2: Capitalise ‘In essence, ...’	Done
6	P3, L19: I would challenge the claim that APA is a research ‘discipline’.	We agree and have removed the phrase containing discipline from the sentence.
7	P4, L15: It may be worth tying this to research design, either here or later, whereby casual, experimental and quasi-experimental approaches are considered (not my view) to be the gold standard.	We have added your comment to the following sentence: “McNamee (2005) observed that the maintenance of the dominant scientific establishment is often achieved by dismissing external criticism and/or claims that “only a certain kind of knowledge counts” (p.6) and that specific research designs and approaches (e.g., causal, experimental, and quasi-experimental) are considered the gold standard.”
8	P4, L18: It may be worth mentioning here that these criticisms, among other things, have spurred academics to develop quality criteria that are more aligned to the philosophical positioning of	In keeping with this recommendation, we have read Tracy and included the following sentence: “In response to such criticisms, scholars have developed research quality criteria that are more in-line with the philosophical standpoint of

	experiential research. I am thinking here of Tracy's (2010) Eight Big-Tent Criteria as an example, although these have received critique since publication.	experiential research (for a discussion see Tracy, 2010)."
9	P5, L3: It would be worth mentioning post-colonial approaches and indigenous knowledges here too.	We have included both as examples: "The question of 'whose knowledge counts?' in research related to the voices and perspectives of people experiencing disability and others who have historically lived on the margins, has received attention across multiple disciplines, theoretical perspectives, and approaches (e.g., Indigenous knowledges and postcolonial work; see Kilty et al., 2014)."
10	P5, L11: This needs rewording because it does not read well: "As scholars in the field of APA, a "cross-disciplinary body of practical and theoretical knowledge directed toward impairments, activity limitations, and participation restrictions in physical activity" (International Federation of Adapted Physical Activity, 2014, para.1), the perspectives and experiences of people experiencing disability are of great consequence to our work and potential contributions to creating a more socially just world".	We have separated this into two sentences.
11	P9, L17: Not a significant point but I wondered why you used the term 'non-disabled' here rather than 'not experienced of disability'. Was this intentional? The language used has epistemic implications.	We have added the following footnote: "The second author did not identify as disabled at the time of writing this paper, but has previously experienced disability and disablement in keeping with relational and social models of disability."
12	P9, 17: It is interesting that your research is generally interpretivist and constructionist but you chose a systemic content review, which has very different paradigmatic anchorage. I think this is worth acknowledging and explaining given the significance of philosophical consistency.	Please see response to comment #3 above.
13	P10, 6: Delete the comma.	Done.
14	P17, L11: You need to be careful here about the claims you make about APA research and that which is critical and participatory in nature. While it is evident that critical and participatory studies are in the minority when it comes of APA research in APAQ and EUJAPA, that is	We have changed the sentence to indicate the criticism is of APAQ and EUJAPA. We have also removed the word 'some' from the sentence to which you refer so as to highlight that participatory and critical work exists outside of APAQ and EUJAPA. We have

<p>not necessarily the case when it comes to APA research generally. This is acknowledged later, on page 19, line 6, but it needs a little more attention. I am a scholar from the UK. Much of the 'APA' research I have conducted over the past 15 years or so has been critical and participatory. I don't submit my research to APAQ especially because, in my experience, it has never been receptive to this type of research. I have several colleagues who say the same. Editorial boards and advisory boards need to take some responsibility here too.</p>	<p>also been more specific with our language in other places to address this concern.</p> <p>We hope this article might make a dent in journals that are resistant to publishing a wider range of research. Thank you for this comment.</p>
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For Peer Review

Knowledge in Adapted Physical Activity 1

1 Running head: Knowledge in Adapted Physical Activity

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12 Whose Knowledge Counts? Examining Paradigmatic Trends in Adapted Physical

13 Activity Research

For Peer Review

Knowledge in Adapted Physical Activity 3

1 An essential feature of Western research is the centralizing of knowledge and its
2 acquisition (Le Grange, 2019). While post-qualitative approaches have both challenged and
3 attempted to decentre the dominance of knowledge, it is critical that scholars continue to
4 question the positioning of knowledge in contemporary scholarship. “Knowledge from whom
5 and for whom? knowledge for what ends? whose interests influence the perception of what is
6 really useful knowledge?” ~~in~~ In essence, “whose knowledge counts?” (Ingham & Donnelly,
7 1990, p.58). The question of ‘whose knowledge counts?’ in research is not novel. Ingham and
8 Donnelly (1990) posed the above questions within sociology of sport research and practice in
9 addressing challenges as to how knowledge is produced and disseminated. Kelly et al. (2008)
10 asked “what should count as knowledge and, by extension whose knowledge counts” (p. viii) in
11 policy, research, and practice in education, bringing attention to the ways in which knowledge
12 making, control, and access are managed. Lastly, Ribenfors (2020) asked the question of ‘whose
13 knowledge counts?’ related to whose expertise we include and subsequently value in establishing
14 and justifying our research projects. Despite these and other examples, we wonder if we as
15 academics sufficiently interrogate whose knowledge is privileged in our own work. Academia
16 represents a powerful epistemic community. As a collective of recognized experts in a particular
17 area, epistemic communities have significant control over how knowledge is produced and what
18 information is valued and disseminated (Ngyuen, 2016). In the broader epistemic academic
19 community, there exists multiple smaller epistemic communities (e.g., researchers in specific
20 disciplines) within which further epistemic subdivisions also exist (e.g. researchers who focus on
21 specific topics, follow particular paradigms, and engage with different methodologies). Within
22 the field of Adapted Physical Activity (APA), ~~as with any field or research discipline,~~
23 researchers are part of various epistemic communities. Therefore, as APA scholars, we hold

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1 significant power in what and whose knowledge is attended to, valued, and disseminated, and
2 consequently, whose knowledge may be marginalized and even silenced within and through the
3 research we do and don't do not do.

4 Knowledge has been and can be understood in various ways. What counts as knowledge
5 is inextricably linked to different ways of knowing (Slife & Williams, 1995), feeling, and
6 personal beliefs. Scientific knowledge, a specific form of knowledge, is frequently associated
7 with founding figures and their followers in a particular area or discipline. Established scientific
8 practices (i.e., paradigms) often enjoy widespread acceptance in research communities and are
9 used to justify set criteria, against which research quality and robustness are measured (Bouffard
10 & Spencer-Cavaliere, 2016). Paradigms represent a set of worldviews comprised of assumptions
11 underlying “how researchers see the world (ontology), and the various judgements about
12 knowledge and how to gain it (epistemology)... [and] form the philosophical parameters that
13 guide decisions on appropriate methodological practices” (Markula & Silk, 2011, p. 24). While
14 clearly defined standards can preserve the integrity of a discipline/scientific area, these traditions
15 may also overshadow the emergence of other, alternative scientific practices and knowledges.
16 McNamee (2005) observed that the maintenance of the dominant scientific establishment is often
17 achieved by dismissing external criticism and/or claims that “only a certain kind of knowledge
18 counts” (p.6) and that specific research designs and approaches (e.g., causal, experimental, and
19 quasi-experimental) are considered the gold standard. When questioning whose knowledge
20 counts? related to marginalized voices, Ribenfors (2019) highlighted how traditional knowledge
21 hierarchies situate scholarly knowledge underpinned by assertions of neutrality and objectivity,
22 as superior to experiential knowledge (knowledge of individuals and communities generated
23 through experiences), which is criticized for lacking credibility and objectivity. In response to

1 such criticisms, scholars have developed research quality criteria that are more in-line with the
2 philosophical standpoint of experiential research (for a discussion see Tracy, 2010). Goodley and
3 Lawthom (2005) emphasized the ongoing importance of ontology and epistemology, their
4 underlying assumptions, and the need to reflect on and question whose knowledge counts in
5 research specifically with regard to the meaningful inclusion of disabled people¹.

6 The question of ‘whose knowledge counts?’ in research related to the voices and
7 perspectives of people experiencing disability and others who have historically lived on the
8 margins, has received attention across multiple disciplines, theoretical perspectives, and
9 approaches (e.g., Indigenous knowledges and postcolonial work; see Kilty et al., 2014). Much of
10 this attention aims to reveal, resist, and take action against the marginalization and silencing of
11 voices of people who have and continue to be oppressed based on race, gender, sexual
12 orientation, class, ability, etc. One approach to ‘taking action’ against this oppression is for
13 researchers to engage with and centralize the voices and knowledges of people who are
14 marginalized. In their call for change to research in kinesiology (which includes APA), health,
15 and disability, Harrison et al. (2021) expressed the need for researchers to examine “the issues
16 from the perspective of the researched and valuing their stories... [as a way to produce more]
17 informative research and result in productive ways to develop a socially just society” (p.238). As
18 scholars in the field of APA, is a “cross-disciplinary body of practical and theoretical knowledge
19 directed toward impairments, activity limitations, and participation restrictions in physical
20 activity” (International Federation of Adapted Physical Activity, 2014, para.1).; As scholars in
21 the field of APA, the perspectives and experiences of people experiencing disability are of great

¹ When referring directly to previous studies, we do so by using disability terminology from the original manuscripts unless otherwise noted. When writing from our own perspectives, we use the term ‘person experiencing disability’ and at times ‘disabled’ in keeping with a social relational and experiential model of disability and the term impairment in reference to non-normative biological functioning (see Peers et al., 2014).

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1 consequence to our work and potential contributions to creating a more socially just world.

2 A number of APA scholars have brought the importance of exploring the perspectives of
3 people experiencing disability to the forefront in their work. Goodwin and Rossow-Kimball
4 (2012) engaged the concept of knowledge landscape to explore professional and practical
5 knowledges and the stories that comprise them. A key recommendation of their work was the
6 need for more counterstories in APA, “constructed from the lived experiences of persons with
7 impairments” (p. 305). In establishing the significance of research with disability communities in
8 APA, Eales and Peers (2016) stated, “that those who experience disability often have access to
9 fundamentally different ways of knowing, and fundamentally different kinds of knowledge
10 because their subjectivities, experiences, and embodiments are structured by a constant barrage
11 of disabling social contexts and normative expectations” (p.62). These calls have not gone
12 unnoticed. Indeed, there are several examples in APA where the perspectives of people
13 experiencing disability are the primary focus. ~~Never the less,~~Nevertheless, we still wonder about
14 the prominence of the voices of people experiencing disability in APA research.

15 Beyond including the perspectives of people experiencing disability, who are
16 participants, we also question the roles people who experience disability play in other aspects of
17 APA research. For example, are research questions in APA generated by or with input from and
18 in consultation with members of disability communities? Do we have scholars with insider
19 knowledge of the experience of disability? Do our epistemologies make room for or prioritize
20 ways of generating knowledge that ensure these possibilities? Bredahl (2008) asked specifically
21 these kinds of questions in her exploration of the ethical aspects of APA research. She pressed
22 for closer dialogue between researchers, participants, and practitioners, as well as the
23 involvement of people with disabilities, including as the ones conducting research. In exploring

1 alternate epistemologies in APA research, Eales and Peers (2016) similarly argued for
2 engagement “with the knowledges produced by disability community members (p.62).
3 Addressing axiology, Peers (2018) advocated for “researching together-APA scholars and
4 disability communities-as knowers, and stakeholders, and students, and researchers” (p.281). It is
5 these kinds of suggestions that inspired our guiding question: ‘whose knowledge counts in
6 APA?’ The aim of this paper is to promote a self-reflective approach to our scientific practices.

7 **Research Assumptions**

8 The 1998 “Questioning our Research Assumptions” special edition of Adapted Physical
9 Activity Quarterly (APAQ) was salient in bringing attention to different research approaches
10 including the philosophies and methodologies viewed as “essential to the ongoing inquiry,
11 reflection, and development processes in adapted physical activity” (Bouffard & Watkinson,
12 1998, p. 205). Foundational to this edition was the importance of recognizing the assumptions
13 underlying different ways of knowing (i.e., epistemologies), which are central to the types of
14 knowledges generated in the field. Philosophical beliefs and related research practices are an
15 important part of responding to questions about the value of different knowledges in answering
16 the question of ‘whose knowledge counts in APA?’ Despite invitations to “question the
17 assumptions of how we have typically done our research and open up possibilities for research”
18 (Bouffard et al., 1998, p. 263), and more recently to consider “mobilizing, accepting, and
19 connecting to a wider range of epistemological approaches” (Eales & Peers, 2016, p. 56), we
20 query the extent to which these have occurred. In revealing the assumptions underlying our
21 research choices, we have the opportunity to recognize whose knowledge is present in research
22 and simultaneously reveal whose knowledge is marginalized and voices are absent. Recognizing
23 these assumptions can help us to answer the question of ‘whose knowledge counts in APA?’

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1 Systematic and scoping reviews on specific topics in APA are common practice
2 particularly in APAQ, one of the key journals in the field (Poretta & Sherrill, 2005). Within these
3 reviews, authors report on study design, participant details and settings, measurement outcomes,
4 and results, illuminating current research foci, and future areas to address. Reid and Broadhead
5 (1995) performed an analysis of APAQ in its tenth year, followed by Porretta and Sherrill's
6 (2005) similar analysis in its twentieth year. In 2015, Haegele et al. carried out an analysis of
7 research trends published in APAQ from 2004 to 2013. These works have been useful in
8 identifying trend profiles such as author country affiliation, the role of theory, the presence of
9 intervention work, different research methods, impairment focus, and key research topics.
10 Collectively, these analyses have helped create a picture of the field and highlight future
11 directions. However, missing from these reviews is a focus on research paradigms and the
12 assumptions that ultimately play a critical role in determining if and in what ways the
13 knowledges of disability communities are present in APA scholarship. Given the relevance of
14 revealing assumptions underlying the disciplines within which we operate and the philosophical
15 standpoints that guide our work, exploring paradigmatic trends at the level of epistemology is
16 critical. Of the previous reviews of APA research, none have focused on epistemology.

Purpose

18 The purpose of this study was to respond to 'whose knowledge counts in APA?' via
19 systematic content analysis of APA literature. Our main objectives were: 1(a) To analyze the
20 development and current state of the field with regard to the types of research paradigms,
21 specifically epistemologies², used in APA, 2(b) To identify the roles of people experiencing
22 disability in APA research other than as participants and, 3(c) To respond to the findings of

² While research paradigms are comprised of ontology, epistemology, and methodology, we focused on epistemology.

1 our analysis by exploring participatory work, thus broadening the possibilities of the field so as
2 to enhance its relevance to the lives and communities of people experiencing disability.

3 **Guiding Theoretical Principles**

4 This research was guided by the ethical precepts of epistemic responsibility and modesty
5 (Carlson, 2010; Kittay, 2009). Kittay describes “epistemic responsibility: know the subject that
6 you are using to make a philosophical point; and, second, epistemic modesty; know what you
7 don’t know” (p.614). Adding to this, Carlson speaks to the “responsibility that accompanies the
8 process of making and evaluating knowledge claims” (p.60). As scholars and members of
9 epistemic communities, we play critical roles “in determining which knowledge claims are
10 valued, accepted and included” (Carlson, 2010, p.61). We must be accountable to these roles by
11 (re)considering the underlying philosophical assumptions of our research practices and their
12 consequences for people experiencing disability, disability communities, and broader society.

13 **Method**

14 **Researcher Positionality**

15 “We begin from the position that research is shaped by the socio-political, cultural, and
16 economic contexts in which it takes place, as well as by the scholars, participants, and
17 communities involved” (Felices-Luna et al., 2014, p. 327). Accordingly, we acknowledge our
18 positions of privilege and the paradigmatic assumptions that guide our scholarship. I (first
19 author) do not experience disability and have normatively moved through life in my white,
20 settler, cisgender, woman, body. Through a critical realist lens that has both clouded and
21 brightened my APA research, I recognize a reality independent of myself and my work, while
22 acknowledging the fallibility of a direct understanding of a conceptually mediated social world
23 (Danermark et al., 2002). I most often engage person-centered approaches (i.e., I talk with

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1 people) drawing on aspects of interpretivism. I (second author) have experienced life as a white,
2 nondisabled³, cisgender, straight male academic, a father, and a migrant. My research,
3 predominantly sociology informed, has focused on understanding and empowerment of
4 marginalized and disenfranchised communities, leading to exploring intersections of socio-
5 cultural oppression. I approach my research from a constructivist point of view, which purports
6 that reality manifests in various forms of social constructions by active social agencies, leading
7 to research findings that are co-produced through researcher-participant interactions. We come to
8 this work with a desire to disrupt within our own programs of research and more broadly,
9 normative, privileged, and exclusionary ways of knowing, being, and doing research.

10 Study Design

11 Our study was in part guided by the work of Dart (2014), who produced a systematic
12 content analysis of the field of sociology of sport “to establish a baseline from which to perform
13 such self-examination” (p.646). A systematic content analysis is useful for methodically and
14 consistently exploring the content of any form of communication (Singleton & Straits, 1999).
15 Such field-of-research examination is critical to our reflection on past, present, and future ways
16 of engaging in research. Our positionalities relative to our individual paradigmatic beliefs may
17 appear inconsistent with the decision to perform a systematic content analysis. While paradigms
18 are critiqued for their inflexibility, “researchers can and do move between different approaches”
19 (Ankeny & Leonelli, 2016, p.20). This study is such an example.

20 **Journals.** To move beyond previous reviews and map the state and development of APA
21 from paradigmatic perspectives, we executed a full-scale historical review of two key APA
22 academic journals from their inceptions: APAQ from 1984 to 2020 and the European Journal of

³ The second author did not identify as disabled at the time of writing this paper, but has previously experienced disability and disablement in keeping with relational and social models of disability.

1 Adapted Physical Activity (EUJAPA), from 2008 to 2020. ~~Although~~ Importantly, these journals
2 are not a complete representation of an academic area, as there are many other forms of
3 knowledge dissemination (e.g., conferences, symposiums, other journals), to date, however,
4 APAQ is the most commonly analyzed source used to examine research trends in APA
5 (Skelnarikova et al., 2016). Both journals are international, multidisciplinary, and dedicated to
6 APA research. APAQ is the official journal of the International Federation of Adapted Physical
7 Activity, as is EUJAPA for the European Federation of Adapted Physical Activity. These
8 journals are key sources of expressions of power in the control and distribution of knowledge
9 (Tomlinson, 2006), thus, their influence is “far reaching” (Dart, 2014, p. 464).

10 **Inclusion and exclusion criteria.** As the emphasis was to perform a historical
11 examination of APA, we exclusively focused on research (including brief research notes),
12 review, viewpoint, application, and invited (e.g., editorial) articles. We included editorials as
13 they can offer insight into our question of ‘whose knowledge counts in APA?’ We excluded
14 book reviews, media, digests, and tributes⁴.

15 **Data gathering, analysis, and quality.** We developed an excel spreadsheet where all
16 data were categorized. Embracing previous APA reviews and to ensure we had breadth and
17 depth, we began with the following categories: journal, year, issue, article type (i.e., empirical,
18 review with analyses, and viewpoint), author names, purpose/question, conceptual/theoretical
19 approach, methodology, data collection techniques, analysis techniques, data presentation, and
20 participants. We then created a subcategory titled, type of knowledge generation, and placed
21 articles into either quantitative, qualitative, mixed method, review, or viewpoint sections which
22 we determined by analyzing the categories of article type, methodology, data collection and

⁴ The article types listed here reflect APAQ and EUJAPA journal sections, some of which have changed.

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1 analysis techniques, and data presentation. Viewpoint articles were understood as manuscripts
2 containing “an articulated organized perspective on a topic of importance” (APAQ, 2020, para
3 2.) and were comprised of both viewpoint articles and editorials. Articles described by authors as
4 a form of review without a systematic method section were categorized as viewpoints.

5 Reflecting our focus on epistemic responsibility, we also included the following
6 categories: paradigm, research roles of people experiencing disability beyond that of participant,
7 and writing style (i.e., first or third person). Regarding research roles, we only categorized
8 instances where authors identified specific roles or individuals self-identified as experiencing
9 disability or with impairment. We did not cross-reference this information to other articles,
10 respecting the right to self-identify and acknowledging diversity in understanding disability.

11 Writing style assisted in categorizing paradigms which we further delineated using
12 Lincoln and Guba’s (2003) descriptions of positivism/postpositivism, constructivism, critical
13 theory, and participatory paradigms. While a broader range of epistemologies do exist, given this
14 was a historical review, these four paradigms were more likely to have relevance to the analysis.
15 Postpositivism aligns with a critical realist ontology (i.e., reality exists out there but access to it
16 is incomplete) and epistemologically, a modified objectivism. Objectivity is an ideal with limited
17 approximation where methodological approaches are typically experimental. Given
18 postpositivism is a modified version of positivism, we elected to group these paradigms together
19 while recognizing differences between them. Constructivism holds to ontological relativism
20 where multiple realities exist and a subjectivist epistemology where knowledge is co-created
21 through interaction of the inquirer, the topic of inquiry, and research participants.
22 Methodologically, constructivists engage with hermeneutic and dialectic approaches. Critical
23 theory aligns with a critical realist ontology, a subjectivist epistemology guided by values, and

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1 and accessibility. Our discussion focuses on the question of ‘whose knowledge counts’ by
2 directing attention to the findings of whose knowledge is prevalent and whose knowledge is
3 underrepresented as understood through the assumptions underlying different paradigms and
4 research roles. We then discuss some considerations for participatory research in APA.

5 **Research Paradigm Trends**

6 In addition to the previously described categories to determine paradigms, type of
7 knowledge generation was instrumental. In both journals, a broad range of issues were addressed
8 via different forms of knowledge generation. Examples included, quantitative studies exploring
9 instrument development⁶, intervention work⁷, psychological constructs, participation rates,
10 pedagogy and program development, and other forms of measurement. Examples of qualitative
11 knowledge generation in both journals included disability and identity narratives, experiences
12 and perceptions of physical activity and programs, learning processes, postsecondary training
13 and pedagogical practices, and perceptions of inclusion across varied settings. Mixed method
14 approaches were rare and most often used questionnaires and interviews with a focus on, for
15 example, teacher training, movement interventions, and attitudes. Viewpoints were associated
16 with the inception of both journals, special issues, and field debates. Viewpoints addressed
17 varied topics such as disability language, research assumptions, service delivery, development of
18 assessment tools, impairment specific considerations, and the development of APA. Review
19 articles examined literature and research across topics such as motor skill interventions, reviews
20 of APAQ, physical education inclusion, and impairment specific physical activity measurement.

21 Unsurprisingly, across both journals, there was a strong connection between the topics

⁶ For both journals, instrument development articles that included mention of qualitative data, for example content analysis of items by experts, but did not report this data, were categorized as quantitative.

⁷ For both journals, intervention studies using qualitative observation to produce quantitative data (e.g., by quantifying performance observations) were categorized as quantitative unless qualitative data were thoroughly described.

1 addressed using quantitative and qualitative knowledge generation and postpositivist and
2 constructivist paradigms, respectively. The few critical theory articles present examined topics
3 such as media portrayals of athletes with impairments, research guidelines, and international
4 perspectives on APA. There was one participatory article, which addressed APA student
5 practicum experiences. Of the 818 articles categorized by paradigm, in only 3.79% ($n=31$) of
6 cases (APAQ $n=29$; EUJAPA $n=2$) did authors distinctly refer to paradigmatic assumptions
7 (constructivist $n=24$; critical theory $n=4$; positivist/postpositivist $n=2$; multiple epistemologies
8 $n=1$). Articles from a constructivist perspective were more likely to include ontological and
9 epistemological information, likely due to different methodological traditions and expectations⁸.

10 **APAQ.** Of the 717 APAQ articles considered from a paradigmatic perspective (see
11 Figure 1), there was a dominance of positivist/postpositivist work (e.g., [Goosey-Tolfrey &](#)
12 [Crosland, 2010](#)), with 84.52% ($n=606$) of articles. Constructivist manuscripts (e.g., [Bredahl,](#)
13 [2013](#)), were the second most represented with 13.25% ($n=95$). Work from a critical theory
14 perspective (e.g., [Hodge et al., 2007](#)), was also present, albeit with only 1.95% ($n=14$). We
15 identified one article as participatory (i.e., [Standal & Rugseth, 2014](#)), -representing 0.14% ($n=1$)
16 and one that stated multiple epistemological viewpoints (i.e., [Spencer-Cavaliere & Peers, 2011](#)),
17 accounting for 0.14% ($n=1$) of publications. When examining trends over time, we see the gap
18 lessening between positivist/postpositivist and constructivist work. A partial explanation for the
19 lack of critical theory articles may have been our categorization of viewpoint articles, which we
20 did not examine by paradigm given the lack of indicators and our epistemic responsibility and
21 modesty. Regarding participatory work, while a few authors described viewing participants as
22 co-investigators and may have included some alternative forms of participant engagement, there

⁸ The methodological debate of qualitative versus quantitative research traditions is beyond the scope of this paper.

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1 was little evidence to suggest the presence of a participatory paradigm, with the exception of the
2 one afore-mentioned publication.

3 **EUJAPA.** Across the 101 EUJAPA articles considered (see Figure 2), there was a
4 consistent dominance of positivist/postpositivist work (e.g., [Gillespie, 2009](#)) accounting for
5 82.18% ($n=83$) of publications. This was followed by constructivism (e.g., [Blagrove, 2017](#)) with
6 15.84% ($n=16$). Critical theory (e.g., [Mitchell et al., 2019](#)) represented 1.98% ($n=2$) of articles
7 published. There has been little fluctuation in research paradigm trends in EUJAPA over the 13
8 years. There were four years (2009-2011, 2016) with only positivist/postpositivist representation.
9 Similar to APAQ, lack of critical theory work could, in part, be explained by our categorization.
10 There was no evidence of the participatory paradigm.

11 **Research Roles of People Experiencing Disability**

12 In reporting the roles of people experiencing disability in APA research, beyond that of
13 participant, we included articles where authors described these 'other roles' or explicitly
14 expressed experiencing disability. We did not extend this knowledge to other works by the same
15 authors in line with social relational and experiential approaches disability, and an individual's
16 right to self-identify (Peers et al., 2014). As a result, our reporting may underrepresent the
17 engagement of people experiencing disability in research in roles other than as a participant.

18 Within APAQ, we identified ten manuscripts (e.g., [Peers et al., 2014](#); [Schell & Carlisle Duncan,](#)
19 [1999](#); [Sherrill et al., 1984](#)) where individuals expressed experiencing disability, being disabled,
20 having a disability, being a classified Paralympic athlete, and/or, shared impairment information
21 and held research roles other than or in addition to being a participant. The roles held by these
22 individuals were primarily as authors/investigators, although a few examples such as interviewer
23 or aiding interview guide development, were noted. It was difficult at times to determine if these

1 roles were in addition to authorship. In EUJAPA, we did not find any examples of contributions
2 of people experiencing disability to research in roles others than as participant. Despite the
3 limitations of our categorization, the lack of diversity in research roles engaged in by people
4 experiencing disability warrants critical attention.

5 **Whose Knowledge is Missing in APA?**

6 The findings of this study raise many questions for debate and discussion. Critical
7 observations include the dominance of positivist/post-positivist inquiry and the conspicuous lack
8 of participatory research practices underscored by the paucity of research roles held by people
9 experiencing disability, other than as participant. We also recognize the growth of constructivist
10 work that has brought attention to the perspectives of people experiencing disability and the lack
11 of critical theory work. We are not arguing that research that has been conducted in APA has not
12 contributed to knowledge and understanding of some pressing concerns, or that it has not
13 enhanced the wellbeing of many people experiencing disability. We do argue, however, the
14 importance of “challenging the dominant modes of research production” (Goodley & Lawthom,
15 2005, p. 136) and questioning how “the researcher’s subject position shapes research
16 content...(what questions one asks, which data one finds relevant, what one emphasizes in the
17 reporting of findings, etc.)” (Eales & Peers, 2016, p.58). The prominence of one scientific
18 establishment over others in our field and the lack of diverse roles held by people experiencing
19 disability in APA research, as demonstrated here, provide a critical opportunity for us to reflect
20 on, question, and broaden the epistemologies we engage with. We have a responsibility “to
21 engage rather than exclude epistemologies not our own that may help us produce different
22 knowledge and produce knowledge differently” (Adams St. Pierre, 2006, p.239). We also have a
23 responsibility, as members of a powerful epistemic community, to address “the ongoing problem

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1 of disabled people being viewed as objects of research instead of partners and leaders in
2 research” (Arstein-Kerslake et al., 2020, p. 412). In doing so, we must engage deeply and
3 reflexively with the history of research that has marginalized and discriminated against people
4 experiencing disability (see Stone & Priestly, 1996).

5 Alternate approaches to researching with people experiencing disability to address issues
6 of marginalization both within the research itself and in society have emerged. Some of these
7 approaches are decades old. However, they are lacking in APA research and, in particular, in
8 APAQ and EUJAPA. Noted exceptions are some constructivist and critical theory work, APA
9 articles published in other fields, and writing that bring these issues to the fore. We focus here on
10 the participatory paradigm, given our analysis, while acknowledging there exists a range of
11 approaches (e.g., emancipatory and arts based research) that seek meaningful engagement with
12 disability communities and the many assumptions about disability that need to be challenged and
13 reimaged (e.g., disability as tragedy, abnormal, needing to be fixed etc.; see Peers 2018; Stone
14 & Priestly, 1996).

15 To counterbalance western, researcher-driven approaches to identifying issues and ways
16 of investigating them, participatory research practices began to emerge in the 1970s (Singh,
17 2011). Park (1992) explained that this research paradigm emerged from social scientists’
18 disappointment with traditional approaches that privileged and benefited western values and
19 researchers. Thorne (2016) observed that such research practices emerged from “the community
20 based and academically supported political activism of 1970s Latin America” (p. 283).
21 Notwithstanding several definitions of participatory research and its variants⁹ (e.g., participatory
22 action research), collectively they point to the idea that research should be a social act (Arstein-

⁹ We draw on some specifics of participatory action research in our generalized discussion of participatory research and recognize some scholars may disagree with this approach.

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1 Kerslake et al., 2020), actualized through social action (Park, 1992), follow a bottom-up
2 approach (Singh, 2011), while extensively considering and continually addressing pre-existing
3 and pre-defined power imbalances between researchers and communities (Arstein-Kerslake et
4 al., 2020). Participatory (action) approaches “articulate a core commitment to social justice,
5 ethical relationships with coparticipants, democratic inclusive practices, and altering unjust and
6 inequitable systems” (Lake & Wendland, 2018, p.12). Accordingly, participatory research in
7 APA, from the outset, would have active engagement with the community in a research process
8 that attends to their needs in order to benefit them directly (Kanemasu & Molnar, 2019).

9 Participatory research is not without tensions and challenges. For example, conflicting
10 academic and community agendas, the allocation of funds and resources, gaining ethical
11 approval, traditional peer review expectations and inflexible academic structures, apprehension
12 on the part of communities that have previously experienced harm through research, the
13 establishment of equitable and trusting relationships with communities while at the same time
14 addressing inherent power imbalances, are among just a few (Lake & Wendland, 2020). While
15 there appear countless reasons not to engage in participatory research, scholars and practitioners
16 across a broad range of fields and disciplines (e.g., critical studies, education, health, indigenous
17 studies, business etc.) have pursued this type of work in order “to shift who controls the
18 production of knowledge and what counts as knowledge” (Lake & Wendland, 2020, p.22). We
19 encourage more APA scholars (ourselves included) to do the same. As researchers have been
20 engaging in participatory work for decades, we can look to other disciplines to support our own
21 work and learning. Participatory research in education, given many shared areas of interest with
22 APA, can offer useful and accessible direction. There is also some participatory work with
23 disability communities in APA published outside of APAQ and EUJAPA that can inform our

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1 learning. As with any paradigm, participatory research is not without its criticisms (see Lake &
2 Wendland, 2020 for details). At the same time, work that reinforces principles of epistemic and
3 moral responsibility (Carlson 2010; Kittay 2009) and accountability to the individuals and
4 communities the research is intended to benefit, should be prioritized in APA.

5 Who is the expert? Whose knowledge counts? and what knowledge for whom and by
6 whom is produced? It is our hope that through reflexive attention to these and similar questions,
7 the opportunities for participatory research that actively and extensively engages people
8 experiencing disability and disability communities in the research process, may lead to more
9 meaningful and transformative research outcomes in APA, expanding what counts as knowledge
10 and therefore, whose knowledge counts.

11 **Limitations and Future Directions**

12 We acknowledge limitations to this study. First, in categorizing knowledge generation,
13 we used quantitative, qualitative, and mixed methods to delineate modes of empirical research,
14 and viewpoint and review, ~~for from~~ other forms of knowledge generation. At times, we found
15 ourselves debating the placement of viewpoint articles and questioning our assumptions of what
16 it means for research to be empirical. Second, authors rarely identified their philosophical
17 assumptions. We used a range of indicators to best determine paradigms, yet authors may
18 disagree. Third, authors may identify with different paradigms than suggested by the research
19 studies to which they contribute. ~~This study, in some ways, is such an example. While paradigms~~
20 ~~are critiqued for their inflexibility, “researchers can and do move between different approaches”~~
21 ~~(Ankeny & Leonelli, 2016, p.20). As noted earlier, this study is such an example as we moved~~
22 ~~“between different approaches” in completing this work (Ankeny & Leonelli, 2016, p.20).~~ We
23 encourage authors to articulate philosophical assumptions underlying their scholarship. In doing

1 so, our understanding of each other's work will be more robust and we can learn to and practice
2 collaborating across epistemic fissures.

3 With regard to the various roles held by people experiencing disability, other than as
4 participant, we were limited to when authors self-identified or added information about other
5 roles. While it is crucial to outline positionality relative to paradigmatic standpoints, we do not
6 advocate for compulsory self-identification related to disability experience, it is a choice of the
7 individual. What is clear from the findings is that we need more scholars in APA who have an
8 emic understanding of disability, more participatory research, and through that, more meaningful
9 engagement with disability communities (Eales & Peers, 2016). While our emphasis here was on
10 marginalized voices associated with disability, recognizing how the intersections of one's social
11 and political identities, including disability, combine to create unique modes of discrimination
12 and oppression is ~~another relatively untouched, yet~~ a critical area of future research in APA.

13 In closing, we concur with Harrison and colleagues' (2020) recommendation for
14 kinesiology (which includes APA), disability, and health research, that "the lens through which
15 the research is viewed must be adjusted to uplift and empower historically, and contemporarily
16 marginalized groups" (p.238). As Bouffard and Watkinson wrote in 1998, "We [too] hope that
17 you will engage in the debates and make informed choices about different ways of working and
18 knowing" (p. 206) and along with us, reflexively work toward being accountable to the question
19 of 'whose knowledge counts?' in APA research.

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