

Co-Producing and Co-Creating Public Value? A Systematic Literature Review

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1. Introduction

Scholarly interest in co-production and co-creation has increased over the last two decades (Brandsen, Steen, & Verschuere, 2018; Voorberg, Bekkers, & Tummers, 2015). Co-production and co-creation, related to citizen involvement in service design and delivery, are seen as an innovation that constitutes new forms of democracy (Capolupo, Piscopo, & Annarumma, 2020). As is asserted by different scholars (Brandsen et al., 2018; Jaspers & Steen, 2019; Meijer, 2016), systematic research into the effects of these co-processes is scarce. Moreover, much of the academic research has focused on co-production and co-creation arrangements, drivers and motivations or barriers (Mees, Crabbe, & Driessen, 2017; Torfing, Sørensen, & Røiseland, 2019; Voorberg et al., 2015).

To evaluate this claim, a systematic literature review into the effects of co-production and co-creation in public services is conducted. Additionally, this allows to systematically link the findings within this field of research (Brandsen & Honingh, 2018) and map the existing research in terms of scope and methodologies applied. In order to do so, this systematic review answers the following research question: *What are the effects of co-production and co-creation in public services?* In order to answer this question, we firstly conceptualize ‘effects’, after which we systematically review the literature to increase our understanding of which effects can be observed under which conditions.

This review is carried out following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol and conceptualises co-production and co-creation effects within a public value framework. Public value is conceptualised by focusing on the purpose of government action (Moore, 1995). Moreover, as Nabatchi (2012) quotes Moore (1995), attention is shifted towards the political and legal support, administrative and operational feasibility and the public value of the purpose of government action. In short, purposeful decisions have to be made about needs to be satisfied, strategies averted in order to do so and

processes to deliver (Nabatchi, 2012; Spano, 2009). Using an open coding, we will label co-production outcomes in terms of democratic quality, service delivery, and relationship within a public value framework (Jaspers & Steen, 2019).

Below, we first set out our conceptual framework as we explore co-production and co-creation, its effects and connect it to public value. We then provide the reader with our methodology, before turning to the results of this review in which we offer an overview of the state of the art and a discussion thereof. We also offer some key takeaways for practitioners. We briefly reflect upon our findings in the conclusion.

2. Co-production and co-creation: potential and public value

Co-production relates to the involvement of regular consumers as producers “[...] through directly coordinated efforts of the different actors, or indirectly through independent, yet related efforts” (Parks et al., 1981, p. 1002). Originally, Ostrom understood coproduction to be “[...] the process through which inputs used to produce a good or service are contributed by individuals who are not “in” the same organization” (1972; 1996, p. 1073). In narrow terms, co-production relates to citizen participation in the (co-)implementation of public services (Voorberg et al., 2015, p. 15). Brandsen and Honingh (2016, p. 431) also offer a narrow definition of co-production, understanding the process as “a relationship between a paid employee of an organization and (groups of) individual citizens that requires a direct and active contribution from these citizens to the work of the organization” (Ansell & Torfing, 2021). Nevertheless, as Ansell and Torfing (2021) note, other scholars (e.g. Nabatchi, Sancino, & Sicilia, 2017) offer extensive typologies of co-production, focusing on different stages of service delivery, types of tasks and organisational modes of citizens or focus on issues transcending the public service realm (e.g. Bovaird, 2007; Osborne & Strokosch, 2013). In this

review, we define coproduction in line with Bovaird (2007); Bovaird and Loeffler (2012) en dat is? (hier best dan expliciet de definitie geven die wij in deze paper gebruiken). Moreover, we view co-production as “[...] the provision of services through [...] relationships between professionalized service providers (in any sector) and service users or other members of the community, where all parties make substantial resource contributions” (Bovaird, 2007, p. 847). Co-creation is a related yet more encompassing term (Brandsen & Honingh, 2018). The term is “newer” and more “slippery”, opposing the longstanding co-production tradition (Brandsen & Honingh, 2018, p. 10). It is defined as “[...] the process through which a plethora of public and private actors are involved – ideally on equal footing – in a collaborative endeavour to define common problems and design and implement new, better, yet feasible, public solutions” (Ansell & Torfing, 2021, p. 216; Torfing et al., 2019). In this review, we understand co-creation as a collaborative manner in which citizens and government identify problems and plan, design, implement and evaluate solutions to these problems, similarly to Ansell and Torfing (2021). Although there is a clear conceptual difference between both terms, this literature review regards co-production and co-creation as related forms of citizens involvement in the planning, design, implementation and/or evaluation of public services. Nevertheless, this does not entail an endorsement of the conceptual ambiguity identified by different scholars (e.g. Brandsen & Honingh, 2018; Voorberg et al., 2015). Rather, by exploring the scarce academic literature on the effects of these emerging forms of citizen involvement, we believe incorporating both concepts can offer more diverse insights.

Scholars have mentioned the (potential) benefits of co-production and co-creation since the emergence of the term (Brudney, 1984; Verschuere, Brandsen, & Pestoff, 2012). However, systematic research into its effects is still largely absent (Brandsen et al., 2018; Loeffler & Bovaird, 2018b; Voorberg et al., 2015). From understanding co-creation as a “[...] tool for public governance aimed at mobilising and harnessing societal resources” (Ansell & Torfing,

2021, p. 216) to claiming that co-production can enhance citizen trust (Fledderus, 2016) and government legitimacy (He & Ma, 2021): the list of (potential) benefits of these co-processes is extensive. Furthermore, co-production potentially enhances citizen empowerment (Jo & Nabatchi, 2018), democratic principles (Verschuere, Vanleene, Steen, & Brandsen, 2018) and service quality (Loeffler & Bovaird, 2018a, 2020). However, the potential of co-production and co-creation can also be seen as harmful. Potential downsides of these co-processes are the troubling of accountability, reinforcing inequalities or co-destruction of public value, only to mention a few (Steen, Brandsen, & Verschuere, 2018; Williams, Kang, & Johnson, 2016).

How can we classify the potential of co-production and co-creation? A public value framework enables us to conceptually harness the (potential) outcomes of co-production and co-creation. In line with Loeffler (2021a, p. 336), we define public value as “[...] the balance between the achievement of priority quality of life outcomes and priority governance principles in a resilient system” (Loeffler & Bovaird, 2019, p. 242). Public value offers an avenue for value creation from a citizen perspective (Cordella & Bonina, 2012). Public values, then, refer to the legitimation and guiding principles of public action (Jaspers & Steen, 2019). The distinction between public value and public values is important. Moreover, Nabatchi (2012) quotes Moore (1995, p. 22) relating public value to the purpose of public action (“whether it is publicly valuable, whether it will be politically and legally supported, and whether it is administratively and operationally feasible”). Oppositely, public values generate “[...] normative consensus about (a) the rights, benefits and prerogatives to which citizens should (and should not) be entitled; (b) the obligations of citizens to society, the state, and one another; and (c) the principles on which governments and policies should be based” (Bozeman, 2007, p. 22; Nabatchi, 2012).

Following a non-exhaustive coding list provided by Jaspers and Steen (2019), public values can be classified along three main categories. Moreover, taken from the social care sector literature,

the authors have clustered public values relating to “better services”, “better relationship” and “better democratic quality” (Jaspers & Steen, 2019, p. 613). In this review, public values emerge as guiding principles to understand co-production and co-creation processes and outcomes (see also Bryson, Sancino, Benington, & Sorensen, 2017). Yet, what does this entail? By categorising the outcomes of these co-processes in relation to (1) the service, (2) the relationships, and (3) the democratic quality, we are able to synthesise scholarly debate within a public value framework. We believe that connecting the potential of co-production and co-creation to public value allows for a more elaborate categorising, and subsequent evaluation. Moreover, co-processes are analysed in terms of their value-generating capacity, rather than more narrowly in terms of efficiency and/or effectivity, as is the case in a traditional cost-benefit analysis. This emerging way of valuing public management outcomes allows for a full appreciation of the potential of co-production and co-creation (Bovaird & Loeffler, 2012). Therefore, such a framework is suitable as it provides avenues for further theorizing as well as guidance to evaluate co-production and co-creation initiatives.

3. Methodology

We relied on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 protocol for conducting this systematic literature review. By facilitating adequate recording of the review process, the protocol ensures transparency and replicability of the review (Liberati et al., 2009).

3.1. Research strategy

We developed a search string capturing the theme of interest to search two electronic databases (*Web of Science* and *Scopus*). We limited our search to the ‘Social Sciences Citation Index’ and

the ‘Emerging Sources Citations Index’ in *Web of Science* and to the subject area of ‘social sciences’ in *Scopus* in light of feasibility of this review. The topic of studies eligible for this review was the effects of co-production and/or co-creation in public service provision. In light of the interchangeability of the concepts (Voorberg et al., 2015), the focus of this review lies on the effects of both processes for which both terms were used in the search query. Our query was based on an in-depth analysis of 33 publications. This provided an adequate foundation to capture the terms used by scholars to denote co-production and co-creation in public services, and its effects. An important focus was on the effects among participating citizens in co-production and co-creation initiatives. For this reason, our search query also contained the terms *citizen*, *participant*, *user* and *client*. Our search query can be found in the appendix (8.1.). We searched for both empirical as well as conceptual/theoretical works in the form of journal articles, books, book sections, conference proceedings and presentations. This approach was both feasible and desirable, as research on this specific topic is believed to be rather scarce (Brandsen et al., 2018; Jaspers & Steen, 2019; Voorberg et al., 2015). Regarding the report eligibility criteria, no year restriction was imposed. This allows us to fully capture the body of research investigating this specific topic and to track its evolution over time. Both published as well as early access sources were eligible for the review. We only searched for records in English, facilitating replicability of this systematic review (Amorim Lopes & Alves, 2020). A table containing our eligibility criteria can be found in the appendix (8.2.).

The search query resulted in the identification of 1261 records. After deletion of duplicates, 897 records were retained to be screened on title and abstract. For this screening, we used an automated screening tool, ASReview. Active learning algorithms ensure the review process is sped up (van de Schoot et al., 2021). The AI tool was trained using 15 relevant and 5 irrelevant records to automatically rank records by relevance. As a rule, we decided to stop screening based on title and abstract, once the tool brought up 100 irrelevant records consecutively. The

second and third author both independently checked 55 of these irrelevant records identified by the first author. In this way, 100 records were checked twice and 10 records were screened by all three authors. The authors found no conflicts in assessing the non-inclusion of all 100 records. Of the 641 records screened on abstract and title, 95 were retained for full text screening, which were then sought for retrieval. We deleted book sections of which the book itself was also listed among the records for full text screening to avoid duplicates. 87 records were retained for full text screening (records not retrieved: $n = 5$; book sections deleted if book in record list: $n = 3$). 33 records were excluded after full text screening. Reasons for exclusion were a minor focus on effects ($n = 23$), a focus on private rather than public services ($n = 4$) and a focus on knowledge co-production/co-creation rather than public service co-production/co-creation ($n = 6$). In total, we included 54 records in the review, of which two book sections and two books. We decided to include the book sections that were relevant of those 2 books, rather than entire books. In this way, 66 sources were included in the review (of which 50 journal articles and 16 book sections). The sources included in the review can be found in a list in the appendix (8.3.).

3.2. Synthesis and analysis of sources

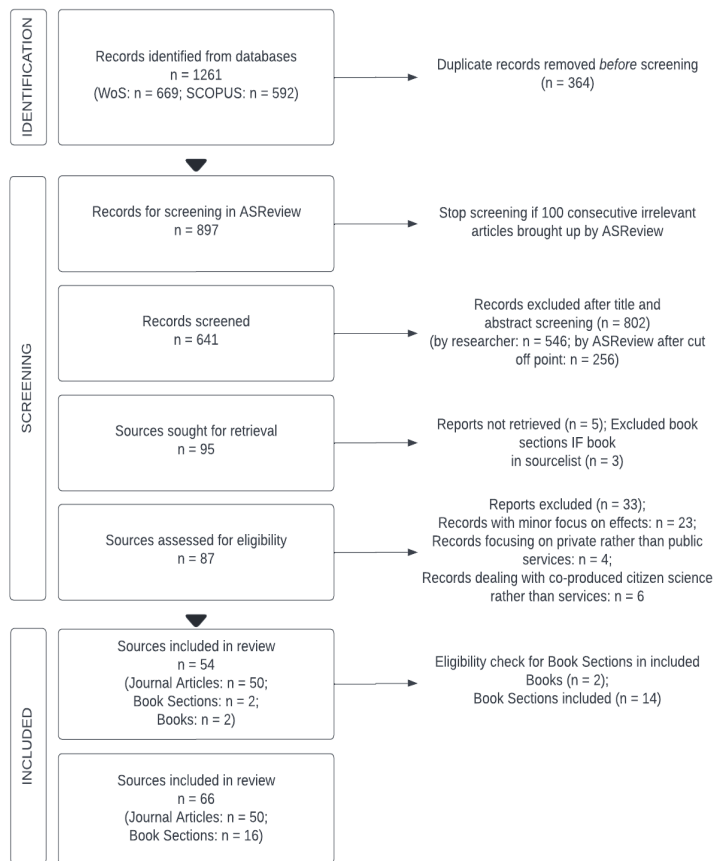


Figure 1. Flow chart

processes. With regard to the former two, motivations for and barriers to co-production/co-creation, as well as actors and organisational factors were analysed. Our coding also included the specific public service domain, if applicable. We were also sensitive to geographical focus and, when mentioned, history of co-processes within that specific area. Additionally, we also coded the applied definitions of co-production and/or co-creation, as well as the study design of each source. With regards to the co-production/co-creation effects, the coding used by Jaspers and Steen (2019) to denote public values provided an adequate starting point but was non-exhaustive. The explorative nature of this review allowed to expand the coding list as provided by these authors in terms of co-production/co-creation outcomes. This resulted in 4 categories in which effects can be grouped: (1) effects related to the service itself, (2) effects related to the relationship between citizens and government, citizens and professionals, citizens

All 66 sources included in the review were coded using NVivo, ensuring an extensive and “trustworthy” coding process (Amorim Lopes & Alves, 2020, p. 563). In line with Flemig and Osborne (2019) who rely on a Gioia methodology (Gioia, Corley, & Hamilton, 2013), we were sensitive to capture aspects related to the implementation of co-production/co-creation

initiatives studied, the context and the potential of these co-

amongst themselves, (3) effects related to democratic quality, and (4) a more general category related to quality of life and well-being. Our final coding scheme can be found in the appendix (8.4.). All of this information was combined in an Excel-file to analyse the relevant data for each record (Amorim Lopes & Alves, 2020).

4. Results

4.1. Research trends

Of 66 publications included in the review, 40 are empirical works and 26 are theoretical or conceptual. Of those empirical works, 33 employ a case study methodology (3 mixed methods, 29 qualitative, 1 quantitative) and 7 are experiments (of which 2 survey and 2 vignette experiments). 3 publications are conceptual studies, 20 publications are theoretical, of which 5 also empirically test a proposed theory. Of the 3 literature reviews included in this review, 2 are systematic. Most empirical studies have been carried out in a Western context, only 15 studies have another geographical context (Africa: 4; Asia: 6; South America: 5). With regards to the number of publications per year included in the review, figure 2 clearly illustrates the growing academic interest in the potential of co-production and co-creation. Although, it is important to mention that the value for 2018 is an outlier, as it includes 11 book sections from one book (Brandsen et al., 2018). Furthermore, as the search was concluded on 28/01/2022, only sources published in the first four weeks of 2022 related to the scope of this review (1) are included. Nevertheless, figure 2. Also shows that the body of empirical studies grows steadily. Regarding theoretical contributions, we see a positive but fluctuating trend.

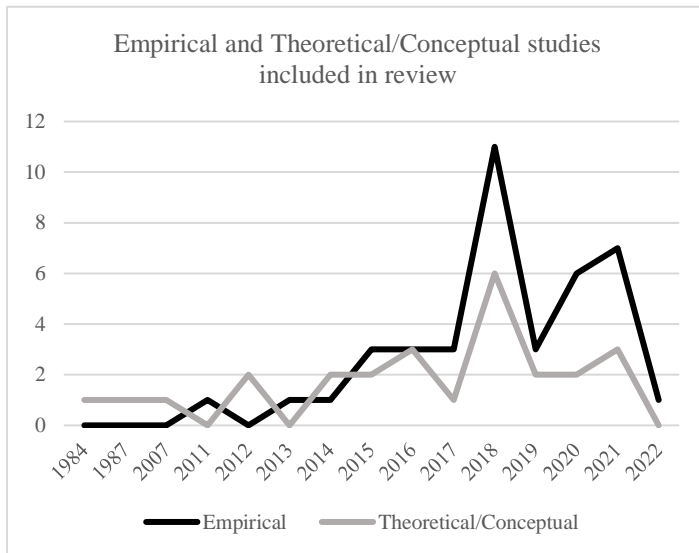


Figure 2. Number of included publications per year

With regards to the empirical studies, research often resides in the spheres of healthcare (8) and social services (13). Education (5), public safety (4) and employment (4) services are also studied in multiple empirical publications. Fewer works are concerned with the fields of agriculture (1), childcare (2), courts

(2), energy (1), public space (2), public transport (3), waste management (2) and water (2). This pattern is also true for studies advancing a theory with empirical testing: 2 apply theory on a healthcare initiative, 3 do so on social services, while one work of this nature is concerned with energy and water services. Theoretical or conceptual works most often do not specify a public service domain. Rare works that do so are literature reviews, such as the works by Amorim Lopes and Alves (2020), who focus on public care services or Mees et al. (2017), focusing on co-production of flood risk management (water).

4.2. Co-production and co-creation potential

For each publication included in the review, the effect(s) it studied were coded using a public value framework. Taken from Jaspers and Steen (2019), we identified three preliminary categories (*better services*, *better relationship*, and *better democratic quality*), which were altered to *services*, *relationships*, and *democratic quality*. Originally, different labels were ascribed to each category, in this way efficiency and effectiveness, for example, were assigned to the category ‘better services’ (Jaspers & Steen, 2019). We supplemented this list with effects found within the publications included in the review. Our final coding scheme can be found in

the appendix (8.4.). Apart from the co-production and co-creation outcomes related to ‘better quality of life and well-being’, all supplemented codes can be accommodated in one of the three categories. The former, we argue, can be seen as a general category in itself, often constituted by a range of factors found within one or more of the three categories of the public value framework.

The results of our analysis reveal that most attention is devoted to the effects of co-production and co-creation in terms of democratic quality. Moreover, effects within the ‘democratic quality’ category (DQ) are mentioned 77 times. This validates our choice for a public value framework to conceptualise the outcomes of these co-processes, which is sensitive to outcome-measures that transcend the service-focus of those found in a regular cost-benefit analysis. However, effects falling within the ‘service’ category (S), are also recurring throughout the literature (64 mentions). Effects related to ‘relationship’ (R) are seemingly researched less, mentioned 42 times. Nevertheless, it is important that to note that these categories are interconnected, as for example trust (R) is related to accountability (DQ) but also to service effectivity and quality (S) (Jaspers & Steen, 2019; Loeffler, 2021a).

It is valuable to distinguish between effects as described in theoretical/conceptual works, and empirical studies, especially, since our coding is sensitive to positive, negative and neutral articulations of the co-production and co-creation potential. Moreover, not only did we distinguish between 32 effects within 4 categories of public values, we also looked at whether these effects were considered beneficial or detrimental (or none or both) for public value creation. In general, theoretical articles are more sensitive to developing a framework in which effects can be labelled negative, as well as neutral (often meaning both positive and negative, depending on the context), whereas empirical studies tend to discern positive outcomes (see figure 3.).

Firstly, with regards to democratic quality, there is a lack of empirical studies researching the effects on flexibility in decision-making and legitimacy of co-processes. Nevertheless, theoretical works mention a possible decrease in flexibility and both positive as well as negative articulations regarding the effects on legitimacy. Furthermore, both empirical and theoretical works reveal a mixed perception of social cohesion and accountability outcomes, again displaying both positive as well as negative articulations. With regards to transparency, theoretical works mention the concept only negatively or neutrally, whereas empirical research only finds positive effects. The empirical works also reveal positive articulations regarding integration, equity in service delivery/outcomes, ownership, social capital, inclusion, empowerment and participation. In theory, we find a similar trend. Nevertheless, theoretical works also mention the possibility of a negative impact on equitable service delivery/outcomes because of co-production.



Figure 3. Number of effect mentions per type of study

Secondly, at a service level, both theoretical and empirical research display similar features. Moreover, public service access, quality, effectiveness, efficiency, service diversity and innovation as well as the mobilisation of otherwise unavailable community resources are evaluated (strongly) positively. Theory also predicts possible negative impacts on some of these values. Empirical studies reveal possible negative impacts for effectiveness and satisfaction, indeed, but only do so to a minor extent. Furthermore, theoretical works advance possible negative impacts regarding the sustainability of service delivery and an increase in service uncertainty. The former is not confirmed by the empirical studies up until now; the latter has not been researched empirically yet.

Thirdly, regarding the relationship category, empirical research has not yet studied impacts of co-production and co-creation on responsibility and the creation of new dependencies. However, both has been theorised on in negative terms. With regards to changing power relations, theory stipulates possible negative effects, which are also found in empirical work. The opposite is true for individual freedom, which is also theoretically stipulated as negatively impacted, while an empirical study included in the review reveals the opposite. With regards to the values of civic education and reciprocity, as well as the consideration of needs and capacities, both theory and empirical research mention a positive impact because of co-processes. With regards to trust, the results are rather fragmented, revealing the importance of the context and implementation of co-production and co-creation initiatives for them to impact trust either positively or negatively. However, what is striking, is that a few empirical studies remain inconclusive regarding this value.

With regards to the category of quality of life and well-being, both theoretical works as well as empirical studies reveal a similar trend. In general, co-production and co-creation are believed to generate a positive impact.

Overall, it can be said that most studies, both theoretical and empirical, reveal the impacts of the research co-processes as predominantly positive. Theoretical works reveal a more fragmented articulation of effects. Moreover, these works account for possible negative public value outcomes stemming from co-processes, on which the empirical research mostly disagrees up until now. Apart from changing power relations and roles of professionals, for which only negative articulations have been found empirically, other values have mostly been positively described in the existing body of empirical work. For a number of values found in empirical works - including social cohesion, accountability, trust, satisfaction and effectiveness -, a more nuanced pattern emerges, with both positive and negative (and a few neutral) classifications.

5. Discussion

This review maps the effects of co-production and co-creation in public services following a public value framework. To our knowledge, it is the only academic work up to this date aiming to systematically generate an overview of the literature on the effects of co-production and co-creation in public services. As a result, this systematic review allows to assess the depth and character of the existing body of research surrounding the effects of co-processes. In light of this, we argue that the body of empirical research has been expanding since 2017. As different authors have called for this need (Brandsen & Honingh, 2016; Voorberg et al., 2015), it is interesting to see that scholars seem to have shifted their attention towards empirically researching the effects of co-production and co-creation. Especially over the last two years, we see that empirical studies outnumber theoretical and conceptual studies. Analysing the number of publications identified through our search query (see appendix), also depicts a similar pattern, indicating that scholarly attention for this topic is growing. Despite these efforts and the co-production being a topical issue in governance practices, the absolute share of public

administration and management literature that falls within the scope of our search remains rather small, as the 66 publications analysed in this review indicate.

Turning to the public value framework applied to categorise the effects as described in the literature, the importance of the context of the initiative (organisational, environmental and legislative factors) and its implementation (i.e. actors involved, their motivations and expectations) (Flemig & Osborne, 2019) becomes clear. Moreover, these variables matter for public value outcomes, as the literature indicates.

For the public value category of democratic quality, *participation*, *empowerment*, *inclusion*, *integration*, *ownership*, and *social capital* surface as interrelated values. Early co-production literature has stressed participation as an outcome (Brudney, 1984). It is related to the fulfilment of “classic democratic functions” (Parks et al., 1981). Despite its friction with values of accountability and responsibility (relationship), citizen engagement is referred to as a constitutive part of improved public governance (Loeffler, 2021a). One reason is that participation is an integral part of empowering processes (Jo & Nabatchi, 2018). For example, collaborative efforts in co-designing solutions for public transport issues in a disadvantaged UK area positively impact participation (Bell, Mullins, Herd, Parnell, & Stanley, 2021). In addition, this process also empowers citizens as barriers related to power relations are overcome when successfully completed, as is theoretically stipulated (Mees et al., 2017; Soares da Silva & Horlings, 2020). This seems to be the case specifically for vulnerable groups and minorities, who can voice their underrepresented ideas by means of these processes (Hjortskov, Andersen, & Jakobsen, 2018). However, additional empirical research also nuances this, claiming that “[...] uneven hierarchical structures, social inequalities and service users’ dependence on organisational service” may impact this potential (Farr, 2018, p. 640). Here, the role of professionals is of uttermost importance (Vanleene & Verschuere, 2018; Verschuere et al., 2018) in order to provide structural support.

Other empirical works also highlight the importance of professional and/or government support of co-production practices to deliver positive participation and empowerment outcomes (Allen, Walnycki, & von Bertrab, 2017; Bell et al., 2021; McMillan, Spronk, & Caswell, 2014). Participation is also related to integration. Theoretical works specifically mentioning integration are absent in our sample. Nevertheless, a few empirical studies dub integration a positive outcome of co-production. Both in the case of asylum seekers (Strokosch & Osborne, 2016) and the reintegration of offenders in the community (Loeffler & Bovaird, 2020), scholars find positive outcomes because of the co-production process. However, this impact is highly contingent with the value of trust (relationship) which in the case studies here remains an important challenge given the “marginalised nature” of the co-producers involved (Strokosch & Osborne, 2016, p. 688).

These findings also relate to inclusion and social capital, as co-processes have allowed the inclusion of vulnerable groups. Moreover, Bell et al. (2021) reveal how people with disabilities can be included to co-design public transport, while Strokosch and Osborne (2016) reveal positive inclusion outcomes for asylum seekers in integration services and Lindsay, Pearson, Batty, Cullen, and Eadson (2021) do so for unemployed through work corporations. This also relates to ownership, as it contributes to public agency (Loeffler, 2021a). Nevertheless, an important condition arises if ownership is to be positively impacted. Moreover, empirical works in the fields of immigrant services (Tu, 2018), public road works (Sudhipongpracha & Wongpredee, 2016), education (Bentzen, 2022) and childcare (Levasseur, 2018), reveal that clear communication is key in delivering positive ownership outcomes. Similarly, co-production is believed to enhance social capital of a community (Bovaird, 2007). It is often mentioned as a desirable outcome of co-processes from the perspective of both citizen co-producers and project coordinators (Jaspers & Steen, 2019). Here, an important condition for

enhancing social capital is the focus on community or group rather than individual co-production (Mees et al., 2017).

With regards to *accountability, equity in service delivery/outcomes, legitimacy* and *transparency*, theoretical works offer a fragmented understanding. Some authors (Amorim Lopes & Alves, 2020; Loeffler, 2021a) describe potential accountability improvements stemming from co-processes, while others claim that accountability becomes blurred (Bovaird, 2007; Steen et al., 2018). Accountability enhancement or obstruction seems related to transparency (Loeffler, 2021b) and trust (relationship) (Sancino, 2016). Similar ties emerge from empirical studies. Negative impacts on accountability emerge in child care arising from conflicts of interests and a limited delegation of authority as well as unclear expectations (Levasseur, 2018). Nevertheless, empirical studies have also found accountability enhancement in co-produced court services (Tuurnas, Stenvall, & Rannisto, 2016) and in water services (McMillan et al., 2014). Here, the need for accessible information and clear communication arise as predominant conditions, revealing the connection between accountability and transparency. As co-production might enhance information asymmetries (Loeffler, 2021b), it might impact this value negatively. Nevertheless, empirical work by Ostling (2017) reveals the increase in government transparency arising from co-production (see also Bell et al., 2021; McMillan et al., 2014).

This transparency is tied to legitimacy, which theoretical works in turn connects to equity in service delivery/comes. When failing to attain the set goals, co-processes can generate negative legitimacy outcomes (Loeffler, 2021a). Nevertheless, other theoretical works reveal how legitimacy can be impacted positively. For example, initiatives successful in empowering citizens in healthcare or public space initiatives are likely to enhance the legitimacy of professionals' and other stakeholders' actions from a citizen perspective (Ellery & Ellery, 2019; Meijer, 2016). If a direct aim of the co-production initiative is equity in service

delivery/outcomes, and this is attained, the legitimacy outcome is enhanced. However, what seems to be important regarding equity in service delivery/outcomes is the role of professionals, especially when dealing with vulnerable groups and minorities (Allen et al., 2017; Vanleene & Verschuere, 2018). Sometimes, the role of professionals in ensuring this can be replaced by smart technologies, as is empirically found by Xu and Tang (2020). Research by Jakobsen and Andersen (2013) reveals the importance of socio-economic status in relation to impacts on equity. This highlights the assertion that co-processes in themselves do not necessarily generate equity in service delivery/outcomes, legitimacy and transparency, but require facilitation from, in these examples, professionals or technologies, to attain their set objectives and ensure clear communication.

With regards to outcomes related to the service itself, *efficiency*, *effectiveness*, *quality* and *satisfaction* are related. Moreover, the former two have been highlighted in early co-production works (Anderson & Clary, 1987; Brudney, 1984). Despite work mentioning the implicit demands of co-production initiatives (Steen et al., 2018), most studies predict enhanced participation (Brix, Krogstrup, & Mortensen, 2020; Duquette-Rury, 2014; Loeffler & Bovaird, 2020; Mees et al., 2017; Soares da Silva & Horlings, 2020). This is confirmed by the empirical works in our sample. However, enhancements in efficiency and effectiveness seem to be service dependent. As Loeffler (2021a) depicts, some public service areas are more suited to experience enhanced effectiveness stemming from co-production (such as social care and health), while this might not be the case for other services (such as public safety). Empirical results seem to confirm this (Buntaine, Hunnicutt, & Komakech, 2021; Jaspers & Steen, 2020; Liu, Wu, & McEntire, 2021; Loeffler & Bovaird, 2020; Tu, 2018; Yeo & Lee, 2020).

These values are also related to quality and satisfaction (Lindenmeier, Seemann, Potluka, & von Schnurbein, 2021; McHunu & Theron, 2018; Meriluoto, 2018). However, important for satisfaction is the nuance brought up by Cerdan Chiscano (2021), who highlights the importance

of goal achievement for positive satisfaction evaluations. Furthermore, positive articulations for *efficiency, effectiveness, quality* and *satisfaction*, seem to be contingent upon the values of *sustainability*, and *access*. Moreover, satisfaction is also impacted by sustainability of co-production, which is often temporary and local in character (Brandesen, Evers, Cattacin, & Zimmer, 2016), although co-designed solutions might enhance their sustainability (Bell et al., 2021). Access to services is also associated with quality and satisfaction, and theoretically (Farr, 2016) and empirically (Allen et al., 2017; Lwembe, Green, Chigwende, Ojwang, & Dennis, 2017) found to be enhanced by co-production especially in the case of vulnerable groups (McMillan et al., 2014).

Public value outcomes related to relationship can be clustered around learning and trust. An enhanced *consideration of needs* and *consideration of capacities* adds to the educative character of co-production and co-creation (Anderson & Clary, 1987; Cerdan Chiscano, 2021; Jaspers & Steen, 2019; Tsai, 2011). This learning is also articulated in the value of *civic education, self-development and learning*, and stresses the adaptability necessary to deal with changing roles of professionals as co-processes may be *impacting working conditions of professionals*. As learning prevails, negative outcomes such as professionals being forced to the sideline (Bovaird & Loeffler, 2007; Loeffler, 2021a) can be overcome by a reorientation towards tasks that can only be performed by professionals, ensuring, for example, better time management and better coordinated efforts (Tuurnas et al., 2016). Furthermore, this learning can enable citizens to direct their voice in an applicable manner, allowing for an increase in individual freedom (Sudhipongpracha & Wongpredee, 2016) rather than a decrease (Thomsen, Baekgaard, & Jensen, 2020).

Furthermore, trust surfaces as a second clustering value. Moreover, *trust* in itself is not necessarily positively affected by co-processes (Fledderus, 2015; J. Fledderus, 2015). Despite some positive yet statistically insignificant results (Kang & Van Ryzin, 2019), enhanced

reciprocity (Jaspers & Steen, 2019; Lindenmeier et al., 2021), attaining the co-production objectives (McMillan et al., 2014) and the creation of sustainable partnerships (Tsai, 2011), can add to positive articulations regarding trust. The creation of new *dependencies* might obstruct trust enhancement (Loeffler, 2021a), although enhanced reciprocity might do away with the negative articulation surrounding such new dependencies (Lindenmeier et al., 2021). Additionally, changing *power relations* and shifting responsibilities might also obstruct trust, as co-processes processes “[...] challenge the relative power positions of government, civil society and citizens” (Steen et al., 2018, p. 287), which do not necessarily evolve towards more equitable positions (Williams et al., 2016). Nevertheless, engaging in clear communication and generating a clear expectation pattern can help overcome these obstructions (Loeffler, 2021a; Sudhipongpracha, 2018).

6. Conclusion

In sum, it can be said that research on the effects of co-production and co-creation has grown over the last few years in particular, and that an increase in empirical studies is following up on earlier recommendations in theoretical works (Verschuere et al., 2012; Voorberg et al., 2015). The effects found to be studied in the academic literature can be analysed using a public value framework, which provides opportunities for the assessment of co-production and co-creation initiatives that are more elaborate than a cost-benefit analysis. Moreover, this approach allows to understand co-processes in terms of their potential to create public value in terms of democratic quality, related to the service itself, and pertaining to relationships between citizens, governments and professionals as well as citizens amongst themselves.

This review has shown that public value outcomes stemming from co-processes are interrelated and dependent upon certain conditions. Moreover, the interconnectedness of public value

outcomes refers to the contingency of different public values within co-production and co-creation initiatives. We have, for example, described how transparency is related to both legitimacy and trust. With regards to conditions, this review has highlighted the importance of clear communication in enhancing public value outcomes. Additionally, this review has stressed the role of professionals and government officials on this account. They are important facilitators for inclusion and empowerment of vulnerable groups and minorities, but also add to the effectiveness and quality of co-produced services.

For practice, we articulate three recommendations stemming from this systematic review with regards to attaining public value outcomes through co-production. Firstly, communication both surrounding expectations as well as regarding the co-process itself is important for the attainment of public value outcomes. Amongst others, clear communication of set objectives and during the process does not only enhance transparency, but also enhances satisfaction if the initiative is successful. Secondly, the role of professionals is crucial both to ensure inclusion of vulnerable groups and for the effectiveness of services. Thirdly, as prior recommendations show, it is important to stress the interrelatedness of public values. Moreover, although we conceptually aim to distinguish between different public value categories, in practice these categories are more fluid. Public value outcomes of specific co-production and co-creation initiatives can enhance public values that are conceptually distinguishable, but practically interrelated.

Limitations of this study are few, as the PRISMA protocol was followed to carry out this systematic review. The checklist and page number of where the respective items can be found within the paper, can be found in the appendix (8.5.). However, it is important to mention that 5 identified sources for full text review were not retrieved, possibly having a minor impact on our generalised findings. Additionally, we acknowledge that our results are highly contingent upon our search query. We developed this query relying on 33 key articles, resulting in an

extensive but non-exhaustive list of terms that are used interchangeably (e.g. “outcomes” and “effects”). Furthermore, We limited our search to the PA literature, in terms of feasibility of this review. Nevertheless, other fields also focus on public-private partnerships, especially in healthcare research, often relying on yet another terminology (Steen, Brandsen, & Verschuere, 2019).

Finally, further research into the effects of co-production and co-creation in public services is necessary to (1) confirm the aforementioned findings, (2) provide clarity on the mixed pattern that is found in the empirical literature regarding some public values, such as trust, effectiveness, efficiency and accountability, and (3) to advance theoretical understandings of the interconnectedness of public values.

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8. Appendix

8.1. Search Query

Information source	Search query
Scopus	<p>(TITLE ("co-produc*" OR "coproduc*" OR "co-creat*" OR "co-destruct*" OR "co-commission*" OR "co-design*" OR "co-deliver*" OR "co-evaluat*" OR "co-monitor*" OR "co-asses*" OR "co-plan*" OR "co-prioritis*" OR "co-manag*") AND TITLE ("effect*" OR "outcome*" OR "impact*" OR "cost*" OR "benefit*" OR "implication*" OR "empowerment" OR "efficien*" OR "inefficien*" OR "effectiv*" OR "ineffectiv*" OR "legitima*" OR "illegitima*" OR "democratic" OR "undemocratic" OR "inclusi*" OR "exclusi*" OR "satisfact*" OR "dissatisfact*" OR "accountab*" OR "unaccountab*" OR "public value*" OR "trust*" OR "distrust*" OR "performan*" OR "fair*" OR "unfair*" OR "equit*" OR "inequit*" OR "responsib*" OR "quality" OR "social capital") AND TITLE ("public") AND TITLE ("citizen*" OR "participant*" OR "user*" OR "client*")) OR (ABS ("co-produc*" OR "coproduc*" OR "co-creat*" OR "co-destruct*" OR "co-commission*" OR "co-design*" OR "co-deliver*" OR "co-evaluat*" OR "co-monitor*" OR "co-asses*" OR "co-plan*" OR "co-prioritis*" OR "co-manag*") AND ABS ("effect*" OR "outcome*" OR "impact*" OR "cost*" OR "benefit*" OR "implication*" OR "empowerment" OR "efficien*" OR "inefficien*" OR "effectiv*" OR "ineffectiv*" OR "legitima*" OR "illegitima*" OR "democratic" OR "undemocratic" OR "inclusi*" OR "exclusi*" OR "satisfact*" OR "dissatisfact*" OR "accountab*" OR "unaccountab*" OR "public value*" OR "trust*" OR "distrust*" OR "performan*" OR "fair*" OR "unfair*" OR "equit*" OR "inequit*" OR "responsib*" OR "quality" OR "social capital") AND ABS ("public") AND ABS ("citizen*" OR "participant*" OR "user*" OR "client*")) AND (LIMIT-TO (SUBJAREA,"SOCT")) AND (LIMIT-TO (LANGUAGE,"English"))</p>
Web of Science	<p>*(TI=("co-produc*" OR "coproduc*" OR "co-creat*" OR "co-destruct*" OR "co-commission*" OR "co-design*" OR "co-deliver*" OR "co-evaluat*" OR "co-monitor*" OR "co-asses*" OR "co-plan*" OR "co-prioritis*" OR "co-manag*") AND TI=("effect*" OR "outcome*" OR "impact*" OR "cost*" OR "benefit*" OR "implication*" OR "empowerment" OR "efficien*" OR "inefficien*" OR "effectiv*" OR "ineffectiv*" OR "legitima*" OR "illegitima*" OR "democratic" OR "undemocratic" OR "inclusi*" OR "exclusi*" OR "satisfact*" OR "dissatisfact*" OR "accountab*" OR "unaccountab*" OR "public value*" OR "trust*" OR "distrust*" OR "performan*" OR "fair*" OR "unfair*" OR "equit*" OR "inequit*" OR "responsib*" OR "quality" OR "social capital") AND TI=("public") AND TI=("citizen*" OR "participant*" OR "user*" OR "client*")) OR (AB=("co-produc*" OR "coproduc*" OR "co-creat*" OR "co-destruct*" OR "co-commission*" OR "co-design*" OR "co-deliver*" OR "co-evaluat*" OR "co-monitor*" OR "co-asses*" OR "co-plan*" OR "co-prioritis*" OR "co-manag*") AND AB=("effect*" OR "outcome*" OR "impact*" OR "cost*" OR "benefit*" OR "implication*" OR "empowerment" OR "efficien*" OR "inefficien*" OR "effectiv*" OR "ineffectiv*" OR "legitima*" OR "illegitima*" OR "democratic" OR "undemocratic" OR "inclusi*" OR "exclusi*" OR "satisfact*" OR "dissatisfact*" OR "accountab*" OR "unaccountab*" OR "public value*" OR "trust*" OR "distrust*" OR "performan*" OR "fair*" OR "unfair*" OR "equit*" OR "inequit*" OR "responsib*" OR "quality" OR "social capital") AND AB=("public") AND AB=("citizen*" OR "participant*" OR "user*" OR "client*")); limited to Social Science Citation Index + Emerging Sources Citation Index and limited to language = English</p>

8.2. Eligibility criteria

Eligibility criteria	
Study eligibility	Type of studies: records dealing with co-production and/or co-creation in public services and extensively (at least one section) deal with their effects.
	Topic of co-creation and co-production: studies should deal with co-produced and/or co-created public services and their outcomes (see 8.1. search query)
	Study design: both empirical as well as conceptual/theoretical works are included in the review
Report eligibility	Language: only English sources are included in the review
	Publication status: only published and early access works are included in the review
	Year of publication: no restrictions are imposed in order to fully capture the academic debate

8.3. List of included records

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8.4. Coding scheme

Coding following a public value framework	
Democratic quality	Participation
	Empowerment
	Inclusion
	Social capital
	Accountability
	Ownership
	Equity in service delivery/outcomes
	Integration
	Legitimacy
	Flexibility in decision-making
	Social cohesion
	Transparency
Service	Efficiency
	Effectiveness
	Quality
	Satisfaction
	Sustainability
	Access
	Mobilization of otherwise unavailable community resources
	Service diversity & innovation
Uncertainty	
Relationship	Civic education, self-development & learning
	Trust
	Consideration of needs
	Consideration of capacities
	Reciprocity
	Individual freedom
Impacting working conditions of professionals	

	Dependencies
	Power relations
	Responsibility
Other	Quality of life and well-being

8.5. PRISMA checklist (to be completed)