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A scoping review on occupational science research in European contexts

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ABSTRACT

Background: A survey showed European occupational scientists cover a broad range in occupational science (OS) research, however, no contemporary overviews of European OS research exists, and current research may provide valuable information for OS and occupational therapy. **Aim:** The aim was to provide an overview of contemporary European OS research.

Materials and method: A scoping review was performed, including studies conducted in Europe and published in the British Journal of Occupational Therapy (BJOT), the Scandinavian Journal of Occupational Therapy (SJOT) or the Journal of Occupational Science (JOS) between 2015 and 2020. The journals were systematically searched, and quality assessment and thematic analysis were undertaken.

Results: Findings from 93 articles identified many studies from the Nordic countries. Most studies applied qualitative research methods. Theoretical concepts from OS were used in data generating and discussions. A wide range of demographics, and living conditions were explored. Recent articles took a reflexive stance on the positionality of the researcher/s.

Conclusions: This review highlights the diversity of OS research, suggesting a solid theoretical knowledge base within European OS research.

Significance: The results contribute to further development and maturation of the discipline of OS in Europe and internationally.

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Knowledge base; occupational science; occupation; research methods; theoretical concepts

Introduction

Occupational science (OS) has developed a diverse definition since it was first presented in 1989 at the University of Southern California. In this scoping review, OS is understood as a scientific discipline that '... studies the things that people do in their everyday lives and how those occupations influence and are influenced by health, wellbeing, and their environments' [1]. Since the publication of this definition, there has been an evolving debate between the definition of OS and its relationship to occupational therapy. These debates include: the need for justice, critical reflexivity, inclusion and interdisciplinary

research in OS [2]; understanding human occupations include what people do to survive and achieve health and well-being [3], including how people feel about their occupations and the effects on their development, and the societal mechanisms through which that development occurs [3]; and to describe and understand occupations, OS focuses on the form, function and meaning of human occupation, and illuminates the relationships between human activity, health and well-being [4].

Despite OS having roots in the USA and Australia, it has developed globally, reflecting the diversity of political and social structures. Largely, OS

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publications stem from English-speaking countries such as Canada and USA, Australia, New Zealand and Europe. The latter includes 51 independent states [5]. There are 24 recognized languages within the EU, with over 100 regional languages and dialects [6], and diverse political, educational, social and cultural systems and beliefs. Within this diversity OS has grown over recent years. The Occupational Science Europe (OSE) network was formed in 2012 (https://os-europe.org) and was a catalyst to promoting the development of several language-specific OS interest groups over the last decade, e.g. Danish Research Network of Occupational Scientists, German Occupational Science Association, Spanish Occupational Science Group, Austrian Association of Occupational Science and French Occupational Science Group. In some countries, OS has been developed as part of the OT curricula, and recently the European joint doctoral Programme in OS, P4Play, was launched with a focus on OS [7].

As part of this process the Occupational Science Europe Research Committee (OSERC) was created in 2012. OSERC is an international independent group of researchers, who work for the expansion of OS research in Europe. The OSERC reports to the OSE executive board, who has the overall responsibility for the work of the committee. The committee members and authors of this review are currently representing Austria, Denmark, England, Germany, Israel, Sweden and Wales.

Witnessing the diversity evident in European OS from the OSE conferences, inspired the OSERC to conduct an online survey amongst occupational scientists in Europe with the aim to inform future OS research in Europe [8]. The findings suggested a broad understanding of OS from diverse perspectives [8]. Additionally, the survey identified that OS in Europe was a growing discipline, with a variety of topics. One of the significant categories was classified as 'Breadth and variety of research'. Meaningful and collective occupations, the relationship of occupation to health and well-being, co-occupations, occupational roles across various age groups and social transformation through occupation were some of the broad spectra of interests around human occupation that were evident [8].

Roberts [9, p. 177], in her account of OS in Europe, wrote that a 'A body of theoretical and research publications has been generated from Europe, ... including the meaning of people's engagement in occupation and the link to health and well-being." However, there was still a need to explore and describe the scope of OS around Europe. Hence this scoping review was undertaken to support the creative development and discussions about OS, present a broader and more diverse understanding of OS, and thus contribute to the development and maturation of the discipline of OS in Europe and indeed, internationally.

Aim

The aim of this study was to explore and describe empirical OS research carried out in Europe between 2015 and 2020.

Methods

Applying the methodology of Levac, Colquhoun and O'Brian [10], a scoping review was carried out to provide an overview of OS research studies conducted in a European context from January 2015 to 2021. Given the diversity of the OS research studies conducted in the European context, a scoping review was deemed the appropriate methodological choice to synthesize knowledge of the key concepts [11]. To ensure a systematic methodology, The Joanna Briggs Institute Reviewers' Manual - Methodology for the Joanna Briggs Institute (JBI) Scoping Reviews 2015 edition was judiciously applied [12]. The recommended framework of six stages (Table 1) was applied to conduct this study [10].

Identifying the research question

Broad research questions were constructed to provide opportunities to explore answers through a scoping review [11]. The questions were structured to capture the development in publication volume, publication date and geographical context, along with research methods, OS theories and theoretical concepts, and were as follows:

What characterizes the identified research methods, theories or theoretical concepts and target in the peer-reviewed OS groups applied research literature?

Table 1. Six stages of conducting a scoping review.

Stages	Actions
1	Identifying the research question
2	Identifying relevant studies
3	Selecting the studies
4	Charting the data
5	Collating, summarizing, and reporting the results
6	Consultation with stakeholders, which is optional



2. What recent development is seen when mapping the empirical-based and peer-reviewed European OS research literature in accordance with publication volume, publication date and geographical context?

Identifying relevant studies

In this scoping review, OS was defined as a scientific discipline dedicated to the systematic study of the human as an occupational being [13], focussing on the form, function and meaning of human occupation, and illuminating the relationships between human activity, health and well-being, social connections and environment.

The inclusion criteria applied were as follows:

- Empirical-based OS research studies published in the Scandinavian Journal of Occupational Therapy (SJOT) or the British Journal of Occupational Therapy (BJOT) or the Journal of Occupational Science (JOS).
- English language articles to counteract translation problems.
- Peer-reviewed OS research studies published between January 2015 and December 2020.

The exclusion criteria were:

- Peer-reviewed OS research studies undertaken outside Europe.
- Peer-reviewed OS research studies published before January 2015 and after December 2020.
- Research presenting or discussing occupational therapy theory, concepts and practice.

Search strategy and study selection

To identify literature relevant to our research questions the three journals were systematically manually searched by two reviewers independently (JJ, AM, AR, M A-B and HKK). The inclusion and exclusion criteria guided the search and were used to screen all titles and abstracts in every publication for eligibility. Any inconsistencies between the two reviewers (JJ, AM, AR and HKK) regarding study selection for inclusion were resolved by consulting one more reviewer (M A-B). Thus, 120 articles were selected for further scrutiny and mapped into an excel file presenting authors, country, journal, title, publication year, DOI and keywords. The review procedure and grading were calibrated through a common review and grading of five articles by four main reviewers (A-L M, JJ, AM and HKK). Afterwards, two review teams (A-L.M, AR (later MA-B) and JJ, HKK) from the OSERC

Table 2. The selected questions relating to the concept of dependability.

- Is there congruity between the research methodology and the research question or objectives?
- 2 Is there congruity between the research methodology and the methods used to collect data?
- Is there congruity between the research methodology and the representation and analysis of data?
- 4 Is there a statement locating the researcher culturally or theoretically?
- Is the influence of the researcher on the research, and vice-5 versa, addressed?

independently assessed each article for full-text eligibility based on the inclusion and exclusion criteria. Any disagreement within the review teams regarding study selection for final inclusion were solved by the contentious articles being emailed to the entire Research Committee for further consideration and decision.

Quality appraisal and further mapping

To evaluate the methodological quality of the included studies, the remaining 93 articles were given a thorough appraisal guided by the JBI Critical Appraisal Tools [12].

The quality appraisal of the included studies based on qualitative designs encompassed dependability, credibility and grading inspired by the ConQual Approach [14]. Dependability of each study was established through the assessment from the JBI Critical Appraisal Tools [12], where five questions of this checklist were viewed as specifically relating to the concept of dependability (see Table 2).

In accordance with the checklist, all qualitative research studies started out as graded 'high' on a scale of High, Moderate, Low to Very Low; downgrading then took place when the five criteria for dependability were not met. When four to five of the responses to the questions in Table 3 were positive, the study remained at its current level. If two to three of these responses were positive, it moved down one level (e.g. from High to Moderate). If zero to one of the answers were yes, the study was moved down two levels (from High to Low, or Moderate to Very Low).

The next step was to assess the credibility of each study's findings by determining the congruency of the data and the authors' interpretation. We adopted Munn et al.'s [14] ranking scale to improve the confidence in qualitative research findings:

• Unequivocal (findings accompanied by an illustration that is beyond reasonable doubt and therefore not open to challenge).

Table 3. The four levels of occupational science research by Doris Pierce.

Table 5. The four levels of occupational science research by bons rierce.				
Level one, descriptive research	Level two, relational research	Level three, predictive research	Level four, prescriptive research	
The descriptive, or base, level of occupational science identifies and describes previously unknown aspects of different occupations, including their contexts.	Level two research addresses how occupation, its core concept, is related to the core concepts of other disciplines. The adequacy and depth of this level of research is completely dependent on the degree to which it is supported by full and theoretically developed descriptions at level one.	Level three extends the discoveries of descriptive and relational research to research into the broader patterns of occupation, over populations, time, space, and social conditions. Looking at occupation over development and across transitions is of special value in occupational science. Research at this level offers knowledge that allows general prediction of typical patterns of occupation.	In occupational therapy, prescriptive research has always been the focus. Strong intervention outcomes depend completely on the adequacy of these underlying levels. In this scoping review, level four concerns citizens and patients' experiences of taking part in occupational therapy.	

- Equivocal (findings accompanied by an illustration lacking clear association with it and therefore open to challenge).
- Unsupported (findings are not supported by the data) [14].

Following Munn et al. [14], where findings were unequivocal, we rated their credibility as high. Mixed unequivocal/equivocal findings were rated as moderate; a mix of plausible/unsupported findings was rated low; unsupported findings were rated as very low.

For studies based on quantitative designs the quality appraisal followed the same chain of reasoning and grading inspired by the ConQual Approach by Munn et al. [14]. The quality of each study was established through the appraisals by applying the JBI Critical Appraisal Tools [12]. In these appraisals, the numbers of questions of the checklist decided the ranking. Similarly, we started with a ranking of 'high' on a scale of High, Moderate, Low to Very Low. Downgrading one level followed when two to three of the responses to the questions were negative (from High to Moderate). If more answers were negative, the study was moved further down (from High to Low or Moderate to Very Low).

To gain an overall and nuanced understanding of the emerging OS knowledge base, a further examination of the included studies was carried out, separating them into four distinct but interdependent levels of theory and research; descriptive, relational, predictive, and prescriptive [15] (see Table 3).

For this reason, the studies in this scoping review were mapped in accordance with the four levels of theory and research: descriptive, relational, predictive and prescriptive presented by Pierce in the 2011 Ruth Zemke Lecture [15].

Results

The characteristics of the studies are presented in Table 4. Additionally, the extended version in

Supplementary Appendix 1, the included research studies are mapped for further in-depth presentation: authors, journal, country, objective/aim, study design and methods, participants, topic/concept in focus, quality assessment and Pierces level 1–4.

Study characteristics

The included literature (n=93), published from 2015 to 2020, consisted of peer-reviewed scientific articles published primarily in JOS (n=57), followed by SJOT (n=28) and BJOT (n=8). Consistent with our inclusion criteria, the included studies were undertaken in Europe (n=93), primarily in Scandinavia (n=56), United Kingdom (UK) (n=21) and Ireland (n=8), Germany (n=2), Austria (n=2), Portugal (n=1), Italy (n=1), Croatia (n=1) and Spain (n=1).

Qualitative study design numbered 77 studies, and quantitative 16. Applying the JBI Critical Appraisal Tools [12,16] and adapted ConQual Approach by Munn et al. [14], the quality assessments resulted in high scores for 56 studies, medium scores for 34 studies and three studies scored low. Based on the four levels developed by Pierce [15], most of the included studies were categories as the predictive level 3 (n=53), followed by studies at the descriptive level 1 (n=19), the relational level 2 (n=16) and the prescriptive level 4 (n=5).

Developing themes

Seven themes were derived from the critical appraisal of the articles. The themes were wide-ranging covering the following topics: Occupation in its broadest context including work, work-like and leisure occupations; contexts where occupations are embedded, e.g. institutions for mental health or the elderly, and specific life situations and personal traits in different

Table 4. A shortened presentation of Supplementary Annandiy 1

Appendix 1.	
Publication year	Counts of each publication year
	2015: 18
	2016: 9
	2017: 7
	2018: 16
	2019: 27
	2020: 16
	= 93
Journal	Counts of articles published in each journal
	JOS: 57
	SJOT: 28
	BJOT: 8
	= 93
Country	Counts of articles published in each EU-country
•	Sweden: 32
	UK: 21
	Norway: 13
	Denmark: 9
	Ireland: 8
	Germany: 2
	Austria: 2
	Iceland: 2
	Croatia: 1
	Portugal: 1
	Italy: 1
	Spain: 1
	= 93
Study design	Counts of designs – categorized
study design	in qualitative and quantitative
	Oualitative: 77
	Ouantitative: 16
	= 93
Participants	Presenting the span – categorized
, articipants	in qualitative and quantitative designs
	Oualitative: 1–61
	Ouantitative: 8-4451
Quality assessment	Counts of the assessments: high, medium, low
	High: 56
	Medium: 34
	Low: 3
	= 93
Pierce level	Counts of levels: 1 – 4
	1: 19
	2: 16
	3: 53
	4: 5
	= 93

contexts; age-related occupations, for example the elderly and children with or without a clinical diagnosis.

The decision to use categories, such as work, and leisure was driven by a historical understanding in the European context. Thus, these categories are pertinent to this scoping review. The authors are aware that such categorizations may not capture the diversity of human occupational experience.

Work and work-like occupations

Work related to paid employment, voluntary and/or unpaid work, including caring for ill children. Work was considered from individual and collaborative perspectives where the benefit to a community was evident. Work or absence of work were the focus of 19 articles (#2, #7, #9, #15, #19, #28-#30, #32, #33, #35, #37, #42, #45, #54, #71, #75, #76, #79, #89) notably relating to lack of work for immigrants, or low paid, low-status jobs (#9, #45, #71, #76, #89). Furthermore, four articles focussed on the process of work rehabilitation and transition from sick leave to return to work (#2, #19, #42, #71). Notably, women were overrepresented. Work life was described as intertwined with occupational identity and the occupational injustices: being denied work or work rehabilitation of no meaning or value highlighted the experiences of immigrant populations (#2, #71). Two articles focussed on the social ideologies from an individual perspective (#7, #42), for example one article explored the impact of new mothers returning to work (#7). Gender differences were notable within social ideologies of returning to work, highlighting the opportunities and motivation to participate in family and leisure occupations (#42). Mothers working as health care assistants experienced low occupational balance; unclear job-descriptions and working over full time hours (#75). Furthermore, one article focussed on the occupational balance and stress in a working population, highlighting the workplace demands and capability may not match the balance to live a full life, including family and leisure (#32).

Two articles from Sweden focussed on working beyond retirement age by choice (#28, #29). Participants reported extending their work life added significantly to their well-being, occupational balance, a positive occupational identity, social inclusion and improved financial security (#29). The financial resources were an added incentive. Alternatively, others were forced to prolong their work life due to economic issues, such as a low pension (#28).

Work and work-like occupations were considered as caring responsibilities, for example caring for elderly relatives and the change in family dynamics (#33). Being a carer/supporting others is complex, issues, such as 'being in a state of readiness' and managing resistance from elderly parents reluctant to 'let go' of their independence. The role as caregiver for a spouse is challenging and created a need for personal time and influenced the spouse's own recovery (#15).

Drawing on the contemporary focus of the dark side of occupations [#17] was two articles (#30, #54). A common thread was that these work occupations were valued by the participants; however not valued or sanctioned by society. One article focussed on the occupation of prostitution; whilst vilified by many for centuries, was seen as a meaningful and valued occupation to the participants (#30). In contrast, the work occupation (turf cutting), deeply rooted for generations in the local community's culture and identity was considered a more acceptable occupation. Turf cutting destroys the environment, has a negative impact on wildlife and eco systems (#54), and using turf as a resource for heating a house pollutes the air.

Finally, begging is considered an occupation and work not sanctioned by society, but an occupation forced to engage in for livelihood, a contemporary topic for discussion (#35, #89).

The theme work and work-like occupations demonstrated the diversity in the research and the importance of paid or unpaid work in daily life. The tensions created by social ideologies and expectations specific to gender were highlighted. Notably research into the dark side of occupations nuances the scoping review to a more contemporary focus. The OS concepts of Occupational identity, Occupational balance, Co occupations and Occupational justice are all present in the studies.

Leisure occupations

Seven articles focussed solely on leisure occupations, for example, model building, creative writing, line dancing, volunteering/altruism, online social participation (#12, #34, #66, #69, #72, #74, #85, #86). The articles showed that leisure occupations were associated with meaning and value, and intrinsically bound to well-being and happiness, irrespective of the participants. In general, the articles identified the joy and value of being connected to others and the interdependence created from 'doing' together.

Some leisure occupations were performed individually; others were performed in groups. Despite some leisure occupations being performed individually, a strong bond and connectedness to others with the same interests were noted. An article considering asylum seekers and singing in a choir showed that the inclusion and opportunity to connect with members of the host community was a strong factor in finding a place in their new context (#72). Some articles included the aspect of altruism through volunteering as a motivating factor, providing meaning and a reflection of one's own values and connection, to the relevant society's values (#12, #66, #85). The focus was not only on the doing together, but also that the participation in leisure activities had a strong influence on identity making and the creative experimentation that supported the development of identity.

In contrast to this, one article described bingedrinking as a leisure occupation that gave meaning and value by being a source of choice and control (#34). As binge drinking is widely deemed unhealthy and, in some groups, seen as unacceptable, this is a more negative view of how meaning can be derived from leisure occupations.

Institutional contexts

Several articles focussed on individuals, primarily elderly and persons with mental health issues, living in or users of institutions, for example, care-homes, hospitals, day centres, asylum centres (#1, #14, #16, #20, #21, #26, #31, #39, #46, #50, #55, #57, #58, #62, #83, #88, #91).

The articles mostly focussed on the influence of the institutional environmental on occupation and showed it could be both a barrier and facilitator in creating meaning and value in occupation.

For example, being in an institutional setting as a mental health patient, could create a lack of engagement through restrictions, and a loss of productive roles, thus impacting negatively on wellbeing (#31, #39). This was also evident in articles concerning asylum seekers. Restrictive institutions also increased problems for mental health patients as occupational restrictions were evident (#57, #58). Three articles regarding mental health patients focussing on occupational satisfaction, occupational values and meaning, suggested these three factors were related to general well-being and empowerment for persons attending daycentres or living in supported housing (#20, #21, #83). However, in contrast, one article about asylum seekers (#57) found that activity level was a more important factor than occupational satisfaction in relation to well-being.

Occupational satisfaction and occupational balance appeared to be important, though there were conflicting results from one of the articles (#50). Furthermore, gender may play an important role during rehabilitation, as one article described that established gender roles can prevent development to full potential and transition to e.g. the work market (#91).

However, institutional settings related to mental health were seen as places for recovery and enrichment (#58,#62). The experience of taking part in a programme focussing on occupation (#62), helped the participants in their recovery and improved their mental health. Furthermore, despite structural barriers asylum centres may hold an opportunity to develop a wider repertoire of occupations (#58). One article suggested the 'doing' with others in everyday occupation is closely linked to what creates meaning (#88).

Elderly care settings led to significant institutionalization, often displaying limited opportunities to engage in occupations and thus declining performance ability (#16). One article raised the issue of participation in social occupations in Care Homes (#46). The social occupations were gender dependent, related to length of stay and the type of care home, suggesting women who had stayed for shorter duration and residents in special care units were more likely to participate in social occupations (#46). Another article showed that the opportunities for engagement in occupations were more likely when enabling partnerships and resourcefulness were present among residents thus, supporting the residents to influence the occupations they participated in (#55). In contrast, one article suggested the occupations the elderly engaged in on a daily basis were perceived as important and performed to the client's satisfaction (#14).

An overarching concept highlighted the opportunity for connecting with others supported individuals to connect with others and (re-)discover the social dimensions of being a person, thus maintaining an occupational identity (#26, #62). Additionally, it was evident that occupational in-justices, due to structural, cultural and physical restrictions were prevalent.

One article focussed on the staff in a mental health setting, during milieu therapy and how the situated relations between staff and patients emerged and facilitated change in the way patients made meaning in occupations (#1).

Children and adolescents' occupations

Ten articles were related to children or adolescents' occupations, and amongst those were children with specific diagnosis (#4, #5, #22, #24, #40, #51, #56, #65, #82, #92).

For the younger children, play was the central occupation, reported to enhance their well-being and happiness. Playing was a source for happiness whether playing alone or with and/or alongside others (#51). The 'doing with' was not only related to peers, but animals and family members who were also a source of well-being (#22, #56).

However, problems with participation were also present and arose when children with disabilities took part in sports or other physical activities, often this was due to a child's sense of not physically able to take part in a sport. (#4, #5) or from low self-esteem

generated by their perceived inability to participate to the level of others, which correspondingly, led to a child with an impairment terminating the occupation (#4, #82). Nevertheless, one article (#65) suggested that the children focussed on their own preferences and friendships and not barriers per se.

The use of electronic devices is often seen as a problem, findings suggested that the children enjoyed using electronic devices for social activities and gaming, identity building, social behaviour and for the children with a disability, creating a universe where their disability was not evident (#40). The participation in play and gaming was not only done on-screen, but meeting in each other's homes and 'doing' the occupation together (#40). The 'doing together' in the now with peers was a common theme throughout the articles; and regarding disability, one article suggested that a new way of thinking about play occupations is needed, i.e. Now, being, occupation, de-emphasizing the becoming (#22). Categorization of occupations for children are often done by adults, but in one article the children's own experience was the focus and they categorized their own occupations (#92).

Only one article included children from a disadvantaged community (#24), where occupations and choice of occupations were closely linked to the contextual factors, demonstrating that the occupational choices did not come from an internal interest or motivation, but from socio-cultural expectations.

This theme highlights the importance of sociocultural expectation and social ideologies that surrounds and influence children and adolescents.

Elders' occupations

Articles focussing on the well elderly often explored elderly inclusion in the digital and on-line world (#3, #10, #23, #44, #49, #90). One article reported the elderly embraced the new technology, which gave meaning and value in daily life, redefining identity and facilitating enhanced participation (#23). Using technology enabled the elderly to connect to others and created the experience of belonging (#44). One article anticipated that use of technology may be restricted in rural and/or urban areas (#90). Another interesting point from the articles results was that the ability to use technology seemed to be independent of factors such as diagnosis and/or education (#90).

Time use and its relationship to health in the elderly was described (#10), where self-care and reflection/recreation were associated with lower health, whereas spending time on housekeeping

preparation of food was associated with higher health. Similarly, being an immigrant ageing in a host country also influenced health and maintaining connection and a sense of belonging to the country of birth was seen as a resource for health and provided an experience of continuity in life (#3).

One article did not look at elderly's occupations per se, but their definitions and understanding of the concept of occupation (#49). Based on the results, the elderly reflected on the disadvantage of stable or fixed definitions of different categories of occupations and put forth arguments for more relative definitions.

Occupations related to specific diagnosis

Twenty-one articles could not be linked to any of the previous themes and concerned specific diagnosis and occupations, including sleep patterns (#6,#8,#13, #25, #27, #36, #43, #47, #48, #52, #53, #60, #61, #63, #64, #67, #73, #78, #79 ,#84, #93). This category contains diverse diagnoses focussing on individuals or groups experiences of occupations, and the links to their health and wellbeing. The diagnoses included: broad disabilities (#6); stroke (#8, #47, #48, #73); intellectual disability (#25); chronic obstructive pulmonary disease (COPD) (#27); community mobility impairments (#36); sight loss (#43); cancer (#52, #67); sleep disorders and borderline personality disorder (#53, #93); dyslexia (#60); Addison's disease (#61); rheumatism (#13); chronic fatigue syndrome (#63); acquired brain injury (#64, #73); polio (#78, #79) and dementia (#84).

The majority (n = 18)applied qualitative approaches to the research design using focus groups, semi-structured interviews, observation and photo voice date collection methods. These provided an indepth exploration of the experiences of individuals and their occupations impacting on health and wellbeing. One study applied a quantitative survey design (#27) investigating time use in work, daily living tasks, recreation and the rest occupations of participants over 45 years of age experiencing COPD and living at home. Thus, providing a population view of the correlation between time use of individuals with COPD, perceived competence, importance and how these choices impacted on health and wellbeing.

There is some overlap with the previous narrative synthesis of themes, however, these studies focus on a diagnosis and notably are nuanced to the specific experiences of individuals as opposed to a broader population and multiple diagnoses or contexts. The overarching theme within the studies was every day,

or daily living occupations and changes due to a diagnosis, notably individuals recovering from or living with, disabilities following a stroke (#47), Addison's disease (#61), COPD (#27), chronic fatigue syndrome (#63) and polio (#78, #79).

Social occupations following a stroke explored in a study how stroke survivors experienced change in occupations (#47). The change in occupations and the creation of self-identity during transitions in life was experienced as demanding in a study using secondary analysis (#73), showing that people through occupations kept revising and creating new meanings.

Occupational value (#64) and occupational balance (#63, #64, #53, #93) were notable outcomes of studies considering occupation and cancer where participation in occupation was a marker of self in advanced cancer (#52). One study investigating the experiences of stroke survivors in lifestyle groups found that changes in occupations assisted in the transition phases to adjusting to the occupational disruption and in maintaining occupational balance (#48)

Additionally, the impact of sleep on maintaining occupational balance and engagement in occupations was noted in a study focussing on women and sleep (#53) and borderline personality disorder diagnoses (#93).

Occupational value and occupational balance were noted as key factors in the rehabilitation of individuals following acquired brain injury, linking here to promoting life satisfaction (#64).

Sense of self and identity and sense of belonging were themes in studies concerning dementia (#84) and the application of meaningful occupations to construct a sense of self and identity. Master's level students with dyslexia highlighted the occupational potential and achieving their potential or 'possible selves' and the impact on their resilience. Notably, individuals experiencing advanced cancer suggested that engagement in occupations facilitated a sense of belonging and quality of life (#67).

Finally, the inequalities and impact of socio-political structures leading to occupational deprivation and social marginalization were noted in studies (#6, #25, #36, #78, #79). Participation in occupations among individuals with disabilities in Croatia identified occupational deprivation and social marginalization as an everyday experience (#6). Conducting everyday occupations for individuals with Intellectual Disabilities in group homes were negatively influenced by neoliberal ideals (#25). Services and systems were shown to restrict community mobility for individuals with mobility impairments (#36). Migrants living with



polio experienced inequalities in daily life and occupations (#78, #79). Thus, suggesting that a positive socio-political environment is essential for individuals with disabilities to thrive.

Personal traits related to culture and context

A final group of articles were found not to relate to specific occupations per se, but to focus on occupations in specific contexts, life situations or, as in one case, a personal characteristic such as being very tall (#10, #11, #17#18, #38, #41, #68, #70, #77, #80, #81).

The latter article described how that characteristic influenced occupational engagement and performance and identified that the participants, using strategies and compromises, managed to adapt and use their height effectively in occupations (#11). Thus, personal characteristics such as height can affect occupational choice and influence the development of an occupational identity.

Another two articles where identity played a major role were about gender transition and cross dressing (#18, #77). The articles explored occupational choices, losses and possibilities, and how these had influenced participants' ability to live their lives in alignment with their gender identity. However, the articles also described the vulnerability and marginalization of transgender persons and cross dressers. Another article which also highlighted both negative and positive experiences in terms of cultural contexts focussed on people with tattoos (#38). Findings identified how the experience of stigma and a subsequent need for concealing tattoos was also mixed with positive emotions, an improved body image and a sense of belonging through being able to connect with other with tattoos.

Though several articles on asylum seekers and immigrants have been presented in earlier themes, the general condition of being an asylum seeker or immigrant is presented here. One article presented the struggles of divorced immigrant mothers, identifying that a complex interplay of being an immigrant, ill and divorced, deprived the mothers of participation in social and work-related occupations (#41). It also showed that cultural norms, lack of opportunities and social position further influenced and complicated the mothers' daily lives.

Cultural views were also relevant in an article on immigrants struggling with mental health issues in a society with an individualistic view (#70). The study highlighted that the different cultural views diverged in terms of how occupational needs and wellbeing were understood, thus influencing, the type of support needed and received.

Two other articles focussing on how immigrants' preference for altruistic occupations (#80, #81) could feed into collectivist not only ideals but promote a positive sense of self through connecting to others, as opposed to just 'staying busy'. This seemed to support the immigrants' abilities to cope with the pressure of being in an unpredictable life situation. Thus, occupation has a potential for positive post-migration wellbeing, by making connections and purpose, and enhancing the feeling of being valued and supporting collectivist ideals.

The topic of individual and collective occupations was also in focus in an article on senior-cohousing, where the mix showed the importance for personal and occupational development later in life (#68). An article (#10) focussed on time-use and health in an elderly population showed that no matter what health status the elderly person had, temporal patterns of daily life were related to subjective perspectives of low and high health, with the low health group spending more time on self-care and recreation than the highhealth group. Finally, an article exploring the occupational engagement of five homeless men living in a hostel found that survival occupations were part of daily life (#17) but that moving beyond survival occupations to apparently ordinary occupations was found to promote and enhance occupational adaptation.

Discussion

The results show that European OS research is growing and of high quality. They also show a diversity in topics and target groups. The results furthermore reflect that OS and OT have different backgrounds in Europe, some focus on social perspectives, whereas others focus on specific diagnostic groups.

However, human occupation in its context and complexity is the focus in European OS research, no matter which perspective. Furthermore, the review shows the difference in the European cultural, social, and legal structures regarding wages, social security and pension systems, and how it influences occupations in general and the conditions for creating and maintaining a positive occupational identity and occupational balance in daily life.

Work and leisure

Two occupations related to doing together and the creation of identity that seems important is work and leisure occupations. This review reflects that work, paid or un-paid, is the primary occupation for most adults, as it gives not only money, but also status, and a base for social relations and thus a sense of belonging and being included [17]. As with other occupations, the belonging to the workplace, and through relationships with others, the workplace can help create meaning and develop or sustain identity by the sharing and participating in practices in community

with common goals [18]. For some, it also provides the opportunity to participate and contribute to society, as the example of elderly, whom to a larger extent participates in work after reaching retirement age [19,20]. This was also seen in relation to leisure activities, whether doing alone or with others, where the occupations provided the same experience as with work, though based on another motive for doing together [21–26].

Though present in other themes, a large portion of articles related to work, focussed on migrants and their opportunities for employment, is not surprising. Migrants in Europe often have trouble entering the workforce; when they are successful, it is often in low-paid and low-status jobs, such as domestic work or even begging [27-31]. It has been discussed that not all cultures value work as high as it is in a European context but judging from the included articles it is a valued and important occupation no matter which cultural background [32]. In the studies regarding immigrants the lack of work or work that did not fit the capability of the persons demonstrated the frustrations and subjection to occupational injustices, such as occupational deprivation and alienation. These challenges deprived the participants from maintaining a positive occupational identity in the host country [27,28,33]. However, the results showed that other occupations, which in a European perspective are seen as leisure occupations, could provide a sense of belonging and a positive cultural identity, through for example, choir singing or altruistic occupations [21,25,34,35].

All the articles within the work theme identified structural and cultural barriers and social ideologies; for example, the expectations of when the elderly should retire or when and how much mothers should work, when to return to work, or who should have the opportunity to work and under what conditions impacting upon occupational engagement [36–38]. A deviation from the culturally accepted narratives of the duties and 'mandatory' occupations when getting older or being a mother in a European context, seems

to be more or less, invisible constraints in relation to having valued and meaningful occupations.

Institutionalization

The institutionalizing of the frail elderly is seen in many European countries, and though some countries have adopted a 'stay-at-home as long as possible' policy, the institutions are still needed for those with a need for care several times daily. The stay-at-home care solutions often include aids and adaptations in people's private homes, and thus removing the sense of home or even institutionalizing the home. Especially if the caregiver is a spouse, child or parent, the results showed how it negatively influenced the carer's daily life and recovery and may even influence health and wellbeing on a long-term basis [38–40].

Institutionalization has been widely critiqued and as the results showed that there are problems in relation to maintaining valued and meaningful occupations in institutions, but they also provided insights regarding how institutions could be a place for growth, meaning and creation of identity through active inclusion of users [33,41–44]. By including users in planning and doing together, the articles show that user-inclusion is necessary to develop relevant occupations that give meaning and value to the group. Buzzwords, such as client-centred, person-centred, etc., are often used as an expression of including and empowering the user. However, judging from the articles this is seldom done, and even more seldom on a group-level.

Though often criticized [45,46], institutions have the possibility of doing together, which is hard to do if 'staying at home if possible' is the usual way of solving the problem of elderly needing support and help.

Immigration

Given that the current situation of the Russian invasion of Ukraine, and civil unrest in other parts of the continents, subsequent shortage of specific foods and the changes in climate, Europe will probably see a drastic rise in asylum seekers and general immigration over the next decade [47]. The political and legal system ensures that one can gain asylum due to persecution and/or risk of torture or other violations of human rights [48]. However, this is not the case with 'climate refugees', making thus group even more vulnerable as they cannot get accepted as refugees in a legal manner. Based on the review, finding new ways

of ensuring that immigrants, no matter why they have immigrated, can be partners in weaving a 'social fabric' [49] is a large challenge, to which OS can contribute by taking a critical approach and avoid occupational colonialism. So far work or training is often seen as a denominator for successful integration along with language proficiency. The focus of the articles is primarily on being productively engaged in work or training, but the included studies also point at the need to focus on occupational roles and identity, interaction with the residents in the host country, e.g. integration in leisure occupations, and social networks [24,35,50] Thus, acknowledging the more complex process of social inclusion and integration in relation to immigrants includes a wider understanding of integration, inclusion and support for participating in civic as well as political life in the host country.

Dark side of occupations – who's perspective?

One of the areas that were not well researched was the area of the Dark side of Occupation or wicked occupations as described by Twinley [51]. It was again evident that the social ideologies and general attitude from others may have an impact on meaning making and choice of occupations. In the case of excessive alcohol use [52], it is deemed unhealthy, however, many cultures accept and/or promote the excessive use of alcohol, and in some countries advertising for alcohol is legal and products below 20% is available for youths from the age of 16 in Denmark or 18 in e.g. UK, Israel and Sweden. The alcohol consumption seen, e.g. Denmark, is responsible for a large amount of alcohol-related diseases and social problems [53]. However, the occupation created meaning and joy in the participants' life and was deemed part of the culture [52], which leaves the discussion on whether this should be categorized as a non-sanctioned occupation [54].

Prostitution is an occupation that seldom is seen as socially acceptable and many countries have laws prohibiting prostitution, though there is a large difference in the legal systems. In the included article, sex workers who chose to engage in prostitution, described it as creating value and meaning in their daily lives, though they felt that the social ideologies and discourse around prostitution gave a one-sided negative picture of prostitution [55]. The key issue here is that they chose to be sex workers. However, sex work is often one of the occupations that is not a choice and might be done involuntarily, and thus harmful and degrading to those forced into prostitution [56].

The articles reflected the many perspectives that human occupation can be seen from, and the influence it has on others. The wicked occupation of turfcutting which were historically deeply rooted in the culture [57], as is prostitution and alcohol use. This reflects the need to look deeper into occupations that are not officially sanctioned by the society, but still is a very strong part of the culture and history, and still may be meaningful and valuable occupations to those who participate.

Doing together/sharing occupations

One overarching theme, whether work, play, leisure, diagnosis revolved around doing together and occupational identity.

Many of the articles presented within the different themes revolved around the importance of doing and being together. The importance of co-occupation and collective occupations has been described and discussed earlier, and the need for crossing the boundaries of the individual-collective dichotomization has been lifted [49,58–60]. Definitions of co-occupation and collective occupations are nebulous, and it needs to be more clearly defined, however, literature on child-mother co-occupations has been published, e.g. Aubuchon-Endsley et al. [61] and Dalvand et al. [62], which does provide some clarity on this concept. However, we have chosen to focus on the 'doing' together, as it was shown to bring meaning and joy to the participants in the studies, whether it was seen from the individual perspective or from a larger group/societal perspective. The joy of doing/being together was especially seen regarding leisure activities for adults and the elderly and play for children, but also in relation to work and occupations in institutions such as care-homes and asylum centres [33,35,41-43,63-65].

The need for occupations that weave a 'social fabric' [49] was seen in relation to creating value and meaning, and furthermore supported the creation and development of (occupational) identity in different settings and may even influence mental health and wellbeing. In the study by Hansson et al. [66], occupational identity was created through 'complex connections comprising both individual and collective components', including connections to others and places over time. The act of doing together seen in the results also took place in a sociocultural context where the identity and not only doing, but belonging was created over time. Nyman and Isaksson [67] have described that occupation has a socio-cultural

dimension, or what they term 'enacted togetherness'. This may not be described as such in the articles, but the socio-cultural dimension is evident in many of the included articles. Thus, the articles support that occupation connects to who one is, but also seems connected to the persons you are with and where you belong and where you can create value and meaning [66].

Methods used and quality assessments of OS research

The number of articles from the Southern and Eastern Europe was limited in relation to the large amount from the Nordic countries. However, it should also be mentioned that publications from countries in the South and Eastern Europe are often published in non-English journals and thus not included, since the review only included peerreviewed literature written in English. This may also reflect that the academic development within OS and OT has developed later in these countries and in some countries at the very beginning.

Examining the European OS research across the four levels presented by Pierce opened to understanding and reflections on the dynamics of the emerging knowledge base [15]. The aims presented in the articles were mainly related to levels 1-3, descriptive, relational and predictive research. The number of articles found on the predictive level were few (n = 5), which was due to the in/exclusion criteria of this scoping review and restricted to concern citizens and patients' experiences of taking part in occupational therapy.

Most of the included studies were categories at the predictive level 3 (n = 53). According to Pierce these study findings encompasses the 'discoveries of descriptive and relational research to research into the broader patterns of occupation, over populations, time, space, and social conditions' [15, p 303]. Studies of e.g. categorizations of occupations, dynamics and interactions between persons, occupations and environments along with development across transitions is seen to be of special interest in OS [15]. When addressing international OS studies, Lawlor [68] highlighted themes as follows: 'the complexity of understanding human beings engaged in their sociocultural contexts', 'demonstrating the effects of occupation on and well-being' and representing the 'interrelatedness of political, social, cultural, and economic influences on participation of individuals and groups' (p. 211). According to Lawlor [68], these themes are of utmost importance for populations who are in vulnerable life situation, marginalized or maybe even not represented; also emphasized in the European studies in this scoping review. The second largest group of studies (n = 20) were categorized at the descriptive level comprising OS research identifying and describing previously unknown aspects of different occupations, including their contexts. In this review studies at this level also concerns the contextualized occupations of groups of people which share challenges in relation to e.g. health conditions and stigmatization. The relational level two research (n = 16) addressed how occupation, as a core concept, is related to other core concepts e.g. to explore how aspects of occupation and social interaction were related with well-being factors such as occupational value, balance and life satisfaction and furthermore related to e.g. sociodemographic characteristics, severity of disability or fatigue.

Seventy-eight studies made use of qualitative study designs mainly based on individual and/or focus group interviews and observations and the 16 quantitative studies were primarily designed as surveys.

The quality assessments were based on critical appraisal tools [12] and an adapted use of the ConQual Approach [14] and resulted in high scores for 57 studies, medium scores for 34 studies and 3 studies scored low.

In the process a pattern emerged showing a strong connection to especially the three following issues, described in the JBI critical appraisal tool [12], as being the cause for downgrading the quality of the 78 studies using qualitative research methods; if there is congruity between the stated philosophical perspective and the research methodology, if there is a statement locating the researcher culturally or theoretically and if the influence of the researcher on the research, and vice versa is addressed [12].

The appraisal tool state that the researcher plays a substantial role in the qualitative research process, and it is important, to know the researcher's cultural and theoretical context and position in relation to the topic as well as the participants in the said study. Research of high-quality will include a statement that clarifies the studies and researcher's context [12]. Moreover, the risk of a researchers influencing the study and vice versa the risk of the researcher being influenced by, aiming for transparency when presentation of the research process [12,69]. These patterns may be due to the research traditions of reporting health sciences. However, recent articles took a more reflexive stance on the positionality of the researcher/

s. Moreover, most of the research included in the review represents the perspective of the people involved by use of interviews and surveys. Using interviews is an acknowledged way of gathering data, but it needs to be questioned if there is an over-reliance on interviews in OS research. E.g. interviews are often described as the interviewee's lifeworld, but are in fact often the biographical work of interviewer and interviewee.

However, user involvement in the research process was seldom reported. It is of utmost importance that OS researchers take a critical stance on methodologies to include and represent the group in question. Hence, a call for more attention on OS research methods to contribute to a socially responsible and inclusive society through its research activities.

Implications for future research

When looking at the development in the literature, it was evident that there was an increased focus on socio-political contexts, and social transformation in both local and global contexts. Another development is the inclusion of modes of critical theory in OS both in relation to research in occupation per se, but also in relation to the development of research methods and the inclusion of participants as fellow researchers. The focus on socio-political contexts has included calls for action and engagement in a more critical approach for the study of occupation. Even though minority groups were included in the review, we found a lack of studies including indigenous groups as either participants or researchers in the review. Notwithstanding Europe does not have the same history as e.g. Canada, USA, Australia and New Zealand, there are indigenous groups such as the Sami in Finland, Norway and Sweden and the Inuit of Greenland, which is a self-governing territory within the Danish Realm,

Furthermore, groups such as the Roma which in some countries are subjected to injustices due to historical, social, economic and cultural contexts were not part of the European OS research.

Concepts from occupational justice were present in many of the articles, expressed as such, and illuminating the occupational deprivation, occupational balance/imbalance, occupational alienation and social exclusion leading to declined health, wellbeing and quality in everyday life. Even though used often in literature few of those concepts are clearly defined or discussed, and the lack of definitions may confuse the issues and impact future research.

Furthermore, the lack of or restrictions on opportunities for creating positive, and productive life roles was part of the results. Occupational in-justices were often evoked by structural barriers, such as legal regulations limiting work opportunities or cultural traditions and values of not including people with disabilities or immigrants in society. Although many of the original articles were related to the individual's viewpoint, more recent publications argue for attention towards a collective view such as groups and/or communities in OS research. The historical perspective from the, as Heinrich et al. termed it, WEIRD population, i.e. people within Western-Educated, Industrialized, Rich and Democratic societies [70] focussing on the individual has been and should still be valued and critiqued. However, there is an urgent need to add a more critical stance from OS researchers focussing not only on the individual and its context, but on groups of people and how unjust societies influence occupation.

Therefore, there is need for user involvement, critical approaches and further recognition of the impact of social, cultural and political influences on occupational engagement and to address the complexity of this and the 'situated nature' of occupation within future OS research.

Methodological strengths and weaknesses

The decision to include only peer-reviewed articles written in English was done due to pragmatics in relation to the number of languages spoken in the group, i.e. we could not provide two reviewers for each language. We are aware that some European countries have peer-reviewed journals in their native language, and that this limits our review, both in topics and context. Though the EU has a common legislation on e.g. asylum politics the handling differs from country to country, and the context (cultural, geographical and economical) in which occupations occur may influence the opportunities for the range of occupations available. Our focus has been on the research and not the researcher's nationality and/or affiliations in our data collection, as the important point was to look at research done in Europe.

Furthermore, we chose not to include articles relating to OT/OS theory or positions articles as our focus was on the empirical research. However, we did find interesting articles relating to theoretical issues, which could be another topic for a review. However, limiting a review to the theoretical understanding and development of OS would miss the whole synergy of developing OS on a global basis.

Conclusion

This scoping review highlights the diversity of European research stemming from a solid theoretical knowledge base in OS. The diverse scope of themes informs and supports current occupational science theory and suggests a wide breadth for future research.

The review demonstrates that OS research in Europe is moving towards a more critical and political approach when researching occupation and its context. However, there is also a need for further development and use of scientific methods to support the rigour of the research.

Based on the review, we would recommend that the future OS research focus on the groups that lacked in this review, such as children, indigenous peoples and vulnerable groups, including ambiguous occupations. Taking a critical view on the wider context of occupation, including societal and political contexts is also needed to situate both research and researcher and thus the context of which the results should be seen. Finally, we would recommend a critical discussion of the methods used in OS research, and the importance of how to include participants from the planning stage of the research.

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