

CLEAN COPY

**A Scoping Review of Time Use Research in Occupational Therapy and
Occupational Science**

**[Running headline: Time Use Research in Occupational Therapy and
Occupational Science]**

Abstract

Background: Time use is a defining interest within occupational therapy and occupational science. This is evident through the range of contributions to the disciplinary knowledge base. Indeed, it has been suggested that time use methods are amongst the most established research techniques used to explore aspects of human occupation. However, the extent and nature of such activity in occupational therapy and occupational science has not been examined to date. *Aim:* This study sought to map the extent and nature of time use research in occupational therapy and occupational science journals and the extent to which studies explored the relationship between time use and health. *Method:* A scoping review method was used. *Results:* Sixty-one studies were included. Scandinavian countries contributed the most number of studies (n=16, 26%). While time use diaries were used most frequently (n=30, 49%), occupational therapists and occupational scientists have developed a range of data collection instruments. Forty-nine studies (80%) focused on time use in clinical or defined population sub-groups. Ten studies (16%) included an empirical examination of the relationship between time use and health. *Conclusion:* Future research should examine time use and health amongst well populations across the lifespan and in different parts of the world.

Key words: *everyday activities, health, literature review, time diary*

Introduction

Time use is a defining interest in the fields of occupational therapy and occupational science. Adolph Meyer [(1), p. 642], widely considered the ‘father of occupational therapy’ [(2), p.44] called for ‘the awakening to a full meaning of time as the biggest wonder and asset of our lives’. Kielhofner revisited the work of Meyer and Meyer’s contemporary, Eleanor Clarke Slagle and credited them with one of occupational therapy’s core propositions that ‘in the richness of man’s daily routines and his purposeful use of time, there was both health maintaining and health regenerating potential’ [(3), p. 236]. To this day, occupational therapists are passionate in their belief that the things people do in their everyday lives are the foundation of health and well-being (4).

In the first publication from the discipline of occupational science Yerxa et al. [(5), p. 8]) similarly positioned a ‘concern for time’ as central to understanding human occupational behaviour, with consideration required of ‘how a person occupies time, how satisfied she or he is with the use of time and how well time use supports values and goals’. Yerxa [(6), p. 3] further argued that occupational science sought to address a major question confronting societies – ‘what is the relationship between human engagement in a daily round of activity (such as work, play, rest, and sleep) and the quality of life people experience including their healthfulness’. Eminent Canadian economist and time use researcher Andrew Harvey [(7), p. 2] asserted that what people do minute-by-minute day-by-day is at the heart of understanding them as occupational beings. Wilcock (8) recently commented on the goodness of fit between the interdisciplinary field of time use research and occupational science, remembering a key meeting of time use researchers (including Andrew Harvey) interested in exploring time use, health, and well-being that took place in Canada in 1993 as the interdisciplinary potential of occupational science grew.

In 2003 Australian occupational therapist Louise Farnworth (9) renewed attention on occupational therapy's association with time use. She explored the related concepts of time use, tempo, and temporality and questioned whether such topics are the core business of occupational therapy or of other professions. The central and enduring importance of time use in occupational therapy and occupational science is evident through the broad and sustained range of outputs and contributions to the knowledge base (see Table I). While the information in this table did not emanate from the scoping review process, it provides a useful background to contextualise this review.

[Insert Table I about here]

Wilcock (44) suggested that time use methods are amongst the most established research techniques used in exploring important aspects of human occupation. However, to date, the extent and nature of such research activity in occupational therapy and occupational science has not been examined. Therefore the purpose of this study is to map the extent and nature of time use research in occupational therapy and occupational science. A secondary aim is to examine the extent to which the included studies explored the relationship between time use and health. In this regard, Yerxa's [(45), p. 412] definition of health is employed. She described health not as the absence of pathology, but as a 'positive, dynamic state of 'well-beingness', reflecting adaptability, a good quality of life and satisfaction in one's own activities'.

Method

A scoping review method was used to map the relevant literature. According to Rumrill, Fitzgerald, and Merchant [(46), p. 399) 'many medical and social science fields have witnessed the emergence of scoping literature reviews as an alternative to traditional literature review methods'. The Cochrane Public Health Group [(47), p. 147] described scoping reviews as 'a useful and increasingly popular way to collect and organize important background information and develop a picture of the existing evidence base'. Unlike traditional systematic reviews, scoping studies do not seek to assess the quality

of evidence, synthesise evidence or aggregate findings from different studies (48). However scoping reviews are particularly useful when an area is complex or has not been reviewed comprehensively before, where many different study designs are employed (48), when there is a high volume of published work (46), and in younger disciplines when the lack of randomized controlled trials makes it difficult to undertake systematic reviews (49). Moreover scoping reviews are more time and cost effective than full systematic reviews. Scoping review methodology is growing in popularity in occupational therapy (50) and has been used to examine interventions for chronic diseases (51), immigration and its impact on daily occupations (52), occupational and self identity after a brain injury (53), occupational engagement of older adults with low vision (54), and ecological sustainability (55).

Arksey and O' Malley (48) published the first methodological framework for conducting scoping reviews. They outlined five steps to guide researchers through the process: identifying the research question, identifying relevant studies, study selection, data charting and finally, collating, summarizing and reporting the results. Levac, Colquoun, and O' Brien (49) noted some challenges and limitations with Arksey and O' Malley's framework. They argued that the purpose of scoping studies can lack clarity, that the study selection process is iterative rather than linear and that the analytical method of charting data is poorly defined. Furthermore they acknowledged the ongoing debate regarding the need or otherwise for quality assessment of included studies particularly given the large number of studies often included in scoping reviews. Importantly they highlighted how the breadth and comprehensiveness of the scoping process needed to be balanced with feasibility. Arksey and O' Malley's (48) five steps are outlined below.

Identifying the research question(s)

This review seeks to address the following two questions:

1. What is the extent and nature of time use research in occupational therapy and occupational science? Specifically research trends, gaps in evidence, and methodological issues are examined.
2. To what extent do the identified studies examine the relationship between time use and health? Specifically the review examines whether the studies empirically explored the relationship between time use and health using psychometrically tested instruments.

Identifying relevant studies

The following databases were searched: CINAHL, EMBASE, PsycINFO, Medline, Proquest, OTDBase, PubMed, with the keywords: Activity pattern, time, diary, time use, time budget, yesterday diary, time studies, time utilization, daily activities, time allocation and MeSH terms: time factors, time perceptions, time, occupational therapy, time and motion studies, time management. Boolean operators and truncation were used.

Study selection

The review period was from when the first occupational science publication emerged in 1990 to June 2011 in the first instance. The review was then updated to March 2014. Studies were selected using the inclusion and exclusion criteria detailed in Table II.

[Insert Table II about here]

Data charting

The data charting form captured information relating to the author(s) and year of publication; geographical location of the study; study participants; sample size; if data was collected across 24 hours of the day; whether the study employed primary or secondary data analysis; the data collection method and analysis system used; the extent

to which the studies addressed the varied methodological issues associated with time use research and whether the study empirically explored the relationship between time use and health using psychometrically tested instruments.

Collating, summarizing and reporting the results

Numerical analyses of the extent, nature, and distribution of the studies included in the review were conducted (48) and the results were mapped in tables and charts. Non-numeric findings (e.g., the methodological issues associated with time use research) were synthesised and these results are presented in narrative form.

Results

Sixty-one studies published between 1990 and 2014 met the inclusion criteria for this review. Figure I illustrates the number of publications in each year of the review period.

[Insert Figure I about here]

The number of studies has generally increased with a peak of seven studies in 2010. Of the regions represented in the review, Scandinavian authors contributed the most studies (n=16, 26%) followed by USA, Canada, and Australia (Table III). The most frequently studied population was people with enduring mental illness followed by other clinical groups, defined population sub-groups, and finally 'well' populations across the lifespan (Table IV). The vast majority of studies (n=50, 82%) were small/medium scale primary research projects with sample sizes ranging from one to 731. An additional seven (11%) studies related their findings (empirically or descriptively) with population-level time use datasets. Secondary analysis of representative population-level time use datasets was employed in 5 (7%) studies. Almost half of the studies (n=30, 49%) used time diaries as data collection instruments. In 10 of these cases the time diary was a modified version of that used in the respective national time use surveys in Australia, Canada, Ireland, Japan, and Sweden. Table V presents the data collection methods used in the included studies.

[Insert Table III, IV and V about here]

Forty-eight studies (79%) captured data across the 24 hours of the day, with three of these studies only reporting selected activities in the featured publication. Six studies (9%) captured data from early morning to late at night. These studies generally used the original Occupational Questionnaire (38) which records time use from 5am – 12midnight. Five studies (8%) employed daytime momentary observations while the remaining two studies focused on time use during a school day and working day respectively. The studies captured data from various combinations of single weekdays; a weekday and a weekend day; ‘typical’ days; and full weeks; or single days recorded at intervals of a few weeks or pre and post an intervention.

A range of data coding approaches was noted. In the majority of studies the researcher(s) coded the activities recorded by the respondents. Coding schemes were derived from discipline specific sources such as the American Occupational Therapy Association (AOTA) *Uniform Terminology* (113), the AOTA (114) *Practice Framework* and the Canadian Association of Occupational Therapists *Guidelines for Client Centred Practice* (115). One study referred to the terminology of the World Health Organisation (116) *International Classification of Functioning, Disability and Health*. Twenty studies (33%) used modified versions of coding schemes developed for use in national time use surveys in Australia, Canada, Ireland, the UK, and the USA as well as harmonised European coding systems (117). A small proportion of studies used a pre-coded diary where respondents recorded what they were doing by picking one of a number of listed activities largely representative of the diary day. The Occupational Questionnaire requires respondents to record their activities in their own words and also assign one of four codes to each listed activity. Additionally several authors used previous research to guide their data coding. Instrument specific coding systems and analysis software were used where applicable e.g., the Daily Life software (118) used by time-geographers. Although some of the coding schemes and software have up to

600 individual activity codes, the number of codes reported across all studies ranged from three to 79 and in some cases included the use of sub-categories. Finally some researchers combined their time use data with interview transcripts and used qualitative methods in their analyses.

Ten studies (16%) included empirical examinations of the relationship between time use and health using generic instruments with established reliability and validity. The measures used were the Short Form 36 (in full or part) (119), the Swedish version of the Manchester Short Assessment of Quality of Life (120), the Göteborg Quality of Life Scale (121), the Life Satisfaction Index-Z (122), the Self-esteem scale (123), the Sense of Coherence scale (124), the Mastery instrument (125), the Life satisfaction measure (126), overall perceived health (127) and the Satisfaction with Life Scale (128).

The majority of studies (n=46, 75%) included some consideration of the methodological issues present in time use research. These included using quality measures such as explicit training and procedures to maximise accuracy and consistency in data collection and coding; having a defined cut-off for the amount of 'missing time' in a diary day; and the examination of extreme values/outliers. The psychometric properties of instruments were generally reported when applicable. Furthermore many studies assessed the validity of their data by asking respondents to rate how well the diary day represented an average day. In some cases supplemental interviews were used to enhance diary quality. A smaller number of studies addressed one or more specific time use research issues, such as seasonal variation in time use, the potentially high level of variability in time use across days of the week undermining the idea of a 'typical day', the potential underreporting of simultaneous and short duration activities, the challenge of classifying activities, the time lapse between the designated diary day and diary completion, the error associated with retrospective recall of activities, and the possible social desirability bias when doing so.

Discussion

This is the first scoping review of time use research in occupational therapy and occupational science. Evidently time use is of enduring interest to occupational therapists and occupational scientists. The number of publications has generally grown in the time period. Indeed the decision to focus only on discipline specific occupational therapy and occupational science journals means that the increasing numbers of occupational time use researchers who are publishing to a wider audience in a broad range of interdisciplinary journals was not captured (129-133). Taken together there is evidence to suggest that occupational therapists and occupational scientists are making an important contribution to the field of time use research.

The geographical distribution of the included studies may reflect the parameters of the scoping review which included studies written in English only. It may also reflect the Western perspective that dominates the occupational therapy and occupational science literature (134). This is an important consideration in time use research when there are such variations in the perception and meaning of time across cultures (135, 136). There is some evidence of culturally sensitive explorations of unique time perceptions for Maori (137) and Aboriginal (138) peoples by occupational therapists and occupational scientists. The findings of this scoping review suggest that further time use research is required 'to gain a better understanding of occupational engagement for individuals from diverse communities, cultures and in varying geographical locations' [(139), p. 440).

This study provides evidence in support of Wilcock's [(44), p. 3] claim that there is a 'propensity for studies that are small scale, individually based, and have significance or relevance to the practice of current day occupational therapy such as disability, care-giving and ageing'. Over half of the included studies involved clinical populations with modest sample sizes. Approximately 20% (n=12) of the studies examined the time use of 'well' populations, with eight of the 12 focusing on the time

use of older people. Without doubt the focus on older people is warranted as the World Health Organisation (140) projects the number of people aged 65 or older will grow from an estimated 524 million in 2010 to nearly 1.5 billion in 2050, with most of the increase in developing countries. As a result they call for coordinated research to discover the most cost-effective ways to maintain healthy lifestyles and everyday functioning in countries at different stages of economic development and with varying resources. However given that there is also growing international recognition of the need for targeted, holistic, age-appropriate preventive and clinical services for all young people, not just those who are at risk or experiencing difficulties (141-143), occupational researchers are encouraged to advance this agenda and prioritise studies on the lives of well children and young people as Hunt et al. (105) and Lynch (107) have done.

Secondary analysis of representative population-level time use datasets was employed in only five (7%) of the studies in this review. Evidently occupational researchers have yet to fully realize the potential of large population-level datasets, some of which now include data on time use and well-being (24). Pierce (144) called for large pattern predictive research on population differences in occupation and occupational patterns across 24-hour cycles, requiring methods and instruments that are better fit to the study of large samples. Indeed there are increasing calls for the strengthening of population and public health perspectives in occupational therapy and occupational science research, policy, and practice (139, 145-149). Wilcock (8, 150-153) and Hocking (4) have been key proponents in this regard. Hocking [(4), p. 34] argued that ‘occupational therapists need to look beyond providing good quality intervention for individuals who have already acquired a health condition’ and extend their thinking to ‘practice that influences groups, organisations, communities – the whole of society’ (p. 37). Moll, Gewurtz, Krupa, and Law (148) believed that the benefits associated with occupation should be promoted in the realm of public health, as

well as how occupation can be a risk factor for ill-health. Similarly in her editorial in the recent edition of the *Journal of Occupational Science*, devoted in its entirety to occupation for population health, Wicks [(154), p. 2] encouraged occupational scientists' 'quest to understand how occupation has positive and negative implications for health at the personal, local, and global levels'.

Ten studies (16%) were identified that included an empirical examination of the relationship between time use and subjective well-being. Some studies did collect health and well-being data but did not examine their relationship with time use (108) while others examined related concepts such as occupational balance and health related variables (57). Arguably then Yerxa's (6, 155) question of how daily occupations including their patterns in time contribute to human happiness, life satisfaction, quality of life, and health requires further empirical attention. Law, Steinwender, and Leclair (156) found little empirical evidence in the occupational therapy literature to support the belief that there is a relationship between occupation, health, and well-being. More recently Pierce [(144), p. 302] claimed that the lack of research on the relationship of occupation to health and quality of life is a 'critical gap' in occupational science research. Wilcock [(44), p. 3-4] has called for further exploration of 'the apparent health or illness outcomes of contemporary lifestyles from an occupational perspective'. Such explorations need to include quantitative and qualitative studies to grasp actual relationships between occupation and health at the population level (157). Crucially longitudinal research is required that may identify causal pathways in the relationship between time use and health (156).

A significant number of the included studies used discipline specific coding schemes to guide their analyses. Wilcock (8) suggested recently that the use of discipline specific terminology by all those who seek to 'describe or study particular aspects of all that people do across the wake-sleep continuum from birth to death' has restricted knowledge development. For example, the term occupation is 'not currently in the lexicon of public health' [(148), p. 115]. Clark [(158), p. 176] advocated the careful

use of language that ‘travels well in interdisciplinary contexts to describe the relationship of occupation to health’. Farnworth (28) argued that activity is a more appropriate concept to use in population-level time use research rather than occupation which relates to time use at the individual level. Occupational researchers may wish to consider using generic activity coding schemes such as that contained in the recently released United Nations (159) *Guidelines for Harmonising Time Use Surveys*. In this way time use research can contribute important and valid information on the ‘form’ or ‘observable aspects’ [(160), p. 80] of occupation at a population level. Alternative approaches to categorising occupation have also been used developed that reflect ‘the complexity of human occupation from a time and doing perspective [(15), p.16] by exploring main, hidden and unexpected occupations, as well as sleep, which is considered a building block in the patterns of daily occupation.

According to Pentland and Harvey [(135), p. 264], ‘in order that time use research be maximally useful across disciplines, investigators have a responsibility to consider and consult various theoretical and methodological aspects’. While it was reassuring to find that the majority of the studies in this review were sensitive to issues of reliability, validity, and trustworthiness, specific time use research methodological considerations received less attention. Many excellent resources are available to assist occupational researchers in conducting high quality time use research (27, 159).

Finally, as Michelson [(161), p. 103] stated, ‘the whole is greater than the sum of its parts’ particularly given the zero-sum nature of time ‘in which there is only a fixed amount of time to be distributed and traded off among necessary and desired activities’ (p. 18). The reporting of aggregate-level statistics and major time allocation estimates does not allow for the full richness of time use data to be utilized (135). Unique patterns that are not represented by the aggregate-level average may be identified by person-centred rather than more traditional variable-centred approaches (162). While such methods are increasingly popular in contemporary research on

lifestyles and health behaviours (163-167), none of the studies in our review used these empirical cluster or latent class analytic strategies. [An interesting study by Andersson, Eklund, Sundh, Thundal, and Spak (168) did employ cluster analytic techniques in the analysis of women's patterns of everyday occupations and alcohol consumption but did not meet the inclusion criteria for this review.] Seven studies (11%) in this review used person-centred time-geographic methods (39), capturing activity patterns as a multidimensional unit with outputs in the form of graphs that illustrate the complexity of 'everyday patterns of doing' [(15), p. 16].

Limitations

As with all research this study has a number of limitations. The review was limited to studies of time use to the exclusion of studies of tempo and temporality of which there are many. Indeed these topics could be the focus of future scoping reviews. While many of the included studies reported affective states or states of mind associated with time use and perceived competence, value, and enjoyment in relation to time use, only those studies that examined time use and health using generic instruments with established psychometric properties were considered. While the two authors consulted throughout this scoping review process resource limitations prohibited the independent review of each of the full articles. As is the norm in scoping reviews (48) the findings from these studies were not synthesised. Therefore a review focusing exclusively on these studies would be an important contribution to the knowledge base. In addition the present review excluded studies that explored the meaning of time use. However as Pierce [(169), p.144) stated 'occupational therapists require sophisticated understandings of both the cultural repertoire of typical activities for persons of different ages and backgrounds and the complex nature of the personally constructed and fully contexted occupational experiences', thus necessitating both quantitative and qualitative approaches as advocated by Frank (157).

Conclusion

This scoping review extends the existing literature by mapping for the first time the extent and nature of time use research in occupational therapy and occupational science journals and the extent to which studies have explored the relationship between time use and health. Sixty-one studies were identified. Evidently time use is of enduring interest to occupational therapists and occupational scientists. Studies from Scandinavia, North America, and Australia predominate. While time use diaries were used most frequently occupational therapists and occupational scientists have developed a range of time use data collection instruments. Forty-nine studies (80%) focused on time use in clinical or defined population sub-groups. A detailed evaluation and synthesis of the evidence emanating from the small number of studies (n=10, 16%) that empirically examined time use and health is warranted. Moreover occupational therapists and occupational scientists should consider more large-scale, quantitative research into the time use and health of well populations across the life span at local and global levels. In so doing they will be able to further strengthen the core business of occupational therapy of creating health in everyday patterns of doing (15) and answer Yerxa's (6, 155) central question of how work, rest, play, and the quotidian occupations including their patterns in time contribute to human happiness, health, and quality of life.

Declaration of interest: The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

References

1. Meyer A. The philosophy of occupation therapy. *Am J Occup Ther.* 1922/1977;31:639-642.
2. Söderback I. Adaptive interventions. In: Söderback I, ed. *International handbook of occupational therapy interventions.* Dordrecht: Springer; 2009:39-51.
3. Kielhofner G. Temporal adaptation: a conceptual framework for occupational therapy. *Am J Occup Ther* 1977;31:235-242.
4. Hocking C. Occupation for public health. *NZ J Occup Ther.* 2013;60:33-37.
5. Yerxa EJ, Clark F, Frank G, Jackson J, Parham D, Pierce D, Stein C, Zemke R. An introduction to occupational science: a foundation for occupational therapy in the 21st century. *Occup Ther Health Care* 1990; 6:1-17.
6. Yerxa EJ. Occupational science: a new source of power for participants in occupational therapy. *J Occup Sci* 1993;1:3-9.
7. Harvey A. Editorial. *J Occup Sci* 1998; 5:2-3.
8. Wilcock AA. Reflections from the JOS founder. *J Occup Sci* 2014;21:3-5.
9. Farnworth L. The Sylvia Docker Lecture 2003: Time use, tempo and temporality: occupational therapy's core business or someone else's business. *Aust Occup Ther J* 2003;50:116-126.
10. Persson D, Erlandsson L-K, Eklund & Iwarsson S. Value dimensions, meaning and complexity in human occupation: a tentative structure for analysis. *Scand J Occup Ther* 2001;8:7-18.
11. Poulsen AA, Ziviani JM. Health enhancing physical activity: factors influencing engagement patterns in children. *Aust Occup Ther J* 2004;51:69-79.
12. Law M. Participation in the occupations of everyday life. *Am J Occup Ther* 2002;56:640-9.
13. Christiansen C. Adolf Meyer revisited: connections between lifestyles, resilience and illness. *J Occup Sci* 2007;14:63-76.
14. Zemke R. Time, space, and the kaleidoscopes of occupation. *Am J Occup Ther* 2004;58:608-620.
15. Erlandsson L-K. Fresh perspectives on occupation: creating health in everyday patterns of doing. *NZ J Occup Ther,* 2013;60:16-23.
16. Desha LN, Ziviani JM. Use of time in childhood and adolescence: a literature review on the nature of activity participation and depression. *Aust Occup Ther J* 2007; 54:4-10.
17. Eklund M, Leufstadius C, Bejerholm U. Time use among people with disabilities: implications for practice. *Psych Rehab J* 2009;32:177-191.
18. Barclay L, Callaway L, McDonald R, Farnworth L, Brown T, Broom L. Time use following spinal cord injury: an examination of the literature. *Br J Occup Ther* 2011;74:573-580.
19. Pemberton S, Cox DL. What happened to the time? - The relationship of occupational therapy to time. *Br J Occup Ther* 2011;74:78-85.
20. Farnworth L, Mostert E, Harrison S, Worrell D. The experience sampling method: its potential use in occupational therapy research. *Occup Ther Int* 1996;3:1-17.
21. Holsti L, Barr RG. The importance of electronic diary studies for occupational therapy research. *OTJR (Thorofare N J)* 2006; 26:80-83.
22. Ziviani J, Lim C, Jendra-Smith D, Nolan D. Variability in daily time use: methodological considerations in the use of time diaries for children. *J Occup Sci* 2008;15:111-116.
23. Daunhauer L, Bundy-Fazioli K. Panel study of income dynamics. *OTJR (Thorofare N J)* 2008;28:141-143.
24. Hunt E, McKay EA. Using population-level time use datasets to advance knowledge of human activity, participation and health. *Br J Occup Ther* 2012;75:478-480.

25. Farnworth L, Fossey E. Occupational terminology interactive dialogue: explaining the concepts of time use tempo and temporality. *J Occup Sci* 2003;10:150-153.
26. International Society for Occupational Science (2010). Online international discussion – Occupational Patterns in Time and Space. Available from <http://www.isocsci.org/>
27. Pentland WE, Harvey AS, Lawton MP, McColl MA, ed. *Time use research in the social sciences*. New York: Kluwer Academic; 1999.
28. Farnworth L. Time use and disability. In: Molineux M, ed. *Occupation for occupational therapists*. Oxford: Blackwell Publishing, 2004: 46-65.
29. Ziviani J, Desha L, Rodger S. Children's occupational time use. In: Rodger S, Ziviani J, eds. *Occupational therapy with children*. Sydney: Blackwell Publishing, 2006: 91-112.
30. Harvey AS, Singleton J. Time use and balance. In: Matuska K, Christiansen C, eds. *Life balance: multidisciplinary theories and research*. Thorofare, N.J.: Slack Inc, 2009:95-114.
31. Harvey AS, Pentland W. What do people do? In: Christiansen CH, & Townsend EA, eds. *Introduction to occupation: the art and science of living* (2nd ed). Upper Saddle River NJ: Pearson, 2010:102-13.
32. Mosey AC. *Activities therapy*. New York: Raven Press, 1973.
33. Wood W. Towards developing new occupational science measures: an example from dementia care research. *J Occup Sci* 2005;11:121-129.
34. Crowe TK. *Caregiver's activity and recording of events inventory (CARE)*. [dissertation]. [Albuquerque, NM]: University of New Mexico, 2001
35. Bejerholm U, Hansson L, Eklund M. Profiles of occupational engagement in people with schizophrenia (POES): the development of a new instrument based on time use diaries. *Br J Occup Ther* 2006;69:58-68.
36. Scanlan JN, Bundy A. Development and validation of the modified Occupational Questionnaire. *Am J Occup Ther* 2011;65:11-19.
37. Rassafiani M, Kahjoogh MA, Hosseini A, Sahaf R. Time use in mothers of children with cerebral palsy: a comparison study. *HKJOT* 2012; 22:70-74.
38. Smith NR, Kielhofner G, Watts JH. The relationship between volition, activity pattern, and life satisfaction in the elderly. *Am J Occup Ther* 1986;40:278-283.
39. Kroksmark U, Nordell K, Bendixen HJ, Magnus E, Jakobsen K, Alsaker S. Time geographic methods: application to studying patterns of occupation in different contexts. *J Occup Sci* 2006;13:11-16.
40. McNulty M, Crowe T, Kroening C, VanLeit B, Good R. Time use of women with children living in an emergency homeless shelter for survivors of domestic violence. *OTJR (Thorofare N J)* 2009;29:183-190.
41. Edgelow M, Krupa T. Randomized controlled pilot study of an occupational time use intervention for people with serious mental illness. *Am J Occup Ther* 2011; 65:267-276.
42. Erlandsson L-K. The redesigning daily occupations (ReDO) programme: supporting women with stress-related disorders to return to work: knowledge base, structure and content. *Occupational Therapy in Mental Health* 2013;29:85-101.
43. Orban K, Edberg A-K, Thorngren-Jerneck K, Önnarfalt J, Erlandsson L-K. Changes in parents' time use and its relationship to child obesity. *Phys Occup Ther Pediatr* 2014;34:44-61.
44. Wilcock AA. Occupation and health: are they one and the same? *J Occup Sci* 2007;14,3-8.
45. Yerxa EJ. Health and the human spirit for occupation. *Am J Occup Ther* 1998;52:412-418.
46. Rumrill PD, Fitzgerald SM, Merchant WR. Using scoping literature reviews as a means of understanding and interpreting existing literature. *Work* 2010;35:399-404

47. Armstrong R, Hall BJ, Doyle J, Waters E. Cochrane update. Scoping the scope of a cochrane review. *J Public Health* 2011;33:147-150.
48. Arksey H, O' Malley L. Scoping studies: towards a methodological framework. *Int J Social Research Methodology* 2005;8:19-32.
49. Levac D, Colquhoun H, O' Brien KK. Scoping studies: advancing the methodology. *Implement Sci* 2010;5:69.
50. McKinstry C, Brown T, Gustafsson L. Scoping reviews in occupational therapy: the what, why, and how to. *Aust Occup Ther J* 2014;61:58-66
51. Hand C, Law M, McColl MA. Occupational therapy interventions for chronic diseases: a scoping review. *Am J Occup Ther* 2011;65:428-436.
52. Bennett KM, Scornaiencki JM, Brzozowski J, Denis S, Magalhaes L. Immigration and its impact of daily occupations: a scoping review. *Occup Ther Int* 2012;19:185-203.
53. Bryson-Campbell M, Shaw L, O'Brien J, Holmes J, Magelhaes L. A scoping review on occupational and self identity after a brain injury. *Work* 2013; 44:57-67.
54. McGrath CE, Rudman D. Factors that influence the occupational engagement of older adults with low vision: a scoping review. *Br J Occup Ther* 2013;76:234-241.
55. Wagman P. How to contribute occupationally to ecological sustainability. *Scand J Occup Ther* 2014;21:161-165.
56. Orban K, Edberg A-K, Erlandsson L-K. Using a time-geographical diary method in order to facilitate reflections on changes in patterns of daily occupations. *Scand J Occup Ther* 2012;19:249-259.
57. Bejerholm U. Occupational balance in people with schizophrenia. *Occup Ther Mental Health* 2010;26:1-17.
58. Eklund M, Erlandsson L, Leufstadius C. Time use in relation to valued and satisfying occupations among people with persistent mental illness: exploring occupational balance. *J Occup Sci* 2010;17:231-238.
59. la Cour K, Nordell K, Josephsson S. Everyday lives of people with advanced cancer: activity, time, location, and experience. *OTJR (Thorofare N J)* 2009;29:154-162.
60. Leufstadius C, Eklund M. Time use among individuals with persistent mental illness: identifying risk factors for imbalance in daily activities. *Scand J Occup Ther* 2008;15:23-33.
61. Leufstadius C, Erlandsson L-K, Björkman T, Eklund M. Meaningfulness in daily occupations among individuals with persistent mental illness. *J Occup Sci* 2008;15:27-35.
62. Eklund M, Leufstadius C. Relationships between occupational factors and health and well-being in individuals with persistent mental illness living in the community. *Can J Occup Ther* 2007;74:303-313.
63. Alsaker S, Jacobsen K, Magnus E, Bendixen HJ, Kroksmark U, Nordell K. Everyday occupations of occupational therapy and physiotherapy students in Scandinavia. *J Occup Sci* 2006;13:17-26.
64. Bejerholm U, Eklund M. Engagement in occupations among men and women with schizophrenia. *Occup Ther Int* 2006;13:100-121.
65. Erlandsson L-K, Eklund M. Levels of complexity in patterns of daily occupations: relationship to women's well-being. *J Occup Sci* 2006;13:27-36.
66. Leufstadius C, Erlandsson L, Eklund M. Time use and daily activities in people with persistent mental illness. *Occup Ther Int* 2006;13:123-141.
67. Bejerholm U, Eklund M. Time use and occupational performance among persons with schizophrenia. *Occup Ther Mental Health* 2004; 20:27-47.
68. Liedberg G, Hesselstrand M, Henriksson C. Time use and activity patterns in women with long-term pain. *Scand J Occup Ther* 2004;11:26-35

69. Kellegrew DH, Kroksmark U. Examining school routines using time-geography methodology. *Phys Occup Ther Pediatr* 1999;19:79-91.
70. Tjörnstrand C, Bejerholm U, Eklund M. Participation in day centres for people with psychiatric disabilities – a focus on occupational engagement. *Br J Occup Ther* 2013;76:144-150.
71. Fritz H, The influence of daily routines on engaging in diabetes self-management. *Scand J Occup Ther* 2013;21:232-240.
72. Crowe TK, Hallie M.. Time use of mothers with adolescents: a lasting impact of a child's disability. *OTJR: Occupation, Participation and Health* 2011;31:118-126.
73. DeLany J, Jones M. Time use of teen mothers. *OTJR (Thorofare N J)* 2009;29(4):175-182.
74. Wood W, Womack J, Hooper B. Dying of boredom: an exploratory case study of time use, apparent affect, and routine activity situations on two Alzheimer's special care units. *Am J Occup Ther* 2009;63:337-350.
75. Crowe T, Florez S. Time use of mothers with school-age children: a continuing impact of a child's disability. *Am J Occup Ther* 2006;60:194-203.
76. Daunhauer L, Bolton A, Cermak S. Time use patterns of young children institutionalized in Eastern Europe. *OTJR (Thorofare N J)* 2005;25:33-40.
77. Bear-Lehman J, Bassile C, Gillen G. A comparison of time use on an acute rehabilitation unit: subjects with and without stroke. *Physical and Occupational Therapy in Geriatrics* 2001;20:17-27.
78. Crist PH, Davis CG, Coffin PS. The effect of employment and mental health status on the balance of work, play/leisure, self-care and rest. *Occupational Therapy in Mental Health* 2000;15:27-42.
79. Albert SM, Todak G, Elkin E, Marder K, Dooneief G, Stern Y. Time allocation and disability in HIV infection: a correlational study. *J J Occup Sci* 1994;1:21-30.
80. Yerxa E, Locker S. Quality of time use by adults with spinal cord injuries. *Am J Occup Ther* 1990;44:318-326.
81. Roy L, Rousseau J, Fortier P, Mottard J-P. Patterns of daily time use of young adults with or without first-episode psychosis. *Occup Ther Mental Health* 2013;29:232-245.
82. Forhan M, Law M, Vrkljan BH, Taylor VH. Participation profile of adults with class III obesity. *OTJR: Occupation, Participation and Health* 2011; 31:135-142.
83. Forhan M, Backman C. Exploring occupational balance in adults with rheumatoid arthritis. *OTJR: Occupation, Participation and Health* 2010; 30:133-141.
84. Krupa T, McLean H, Eastabrook S, Bonham A, Baksh L. Daily time use as a measure of community adjustment for persons served by assertive community treatment teams. *Am J Occup Ther.* 2003;57:558-565.
85. Peachey-Hill C, Law M. Impact of environmental sensitivity on occupational performance. *Can J Occup Ther* 2000;67:304-313.
86. Pentland W, Harvey A, Walker J. The relationships between time use and health and well-being in men with spinal cord injury. *J Occup Sci* 1998;5:14-25.
87. Zuzanek J. Time use, time pressure, personal stress, mental health and life satisfaction from a life cycle perspective. *J Occup Sci* 1998;5:26-39.
88. Singleton J, Harvey A. Stage of lifecycle and time spent in activities. *J Occup Sci* 1995;2:3-12.
89. Zuzanek J, Mannell R. Gender variations in the weekly rhythms of daily behaviour and experiences. *J Occup Sci* 1993;1:25-37.
90. McKinnon, A. Time use for self care, productivity, and leisure among elderly Canadians. *Can J Occup Ther* 1992;59:102-110.
91. Liddle J, Gustafsson L, Bartlett H, McKenna K. Time use, role participation and life satisfaction of older people: impact of driving status. *Aust Occup Ther J* 2012;59:384-392.

92. Scanlan J, Bundy A C, Matthews L R. Promoting well-being in young unemployed adults: The importance of identifying meaningful patterns of time use. *Aust Occup Ther J* 2011;58:111-119.
93. Yu M, Ziviani J, Baxter J, Haynes M. Time use, parenting practice and conduct problems in four to five year old Australian children. *Aust Occup Ther J* 2010;57:284-292.
94. McKenna K, Liddle J, Brown A, Lee K, Gustafsson L. Comparison of time use, role participation and life satisfaction of older people after stroke with a sample without stroke. *Aust Occup Ther J* 2009;56:177-188.
95. McKenna K, Broome K, Liddle J. What older people do: time use and exploring the link between role participation and life satisfaction in people aged 65 years and over. *Aust Occup Ther J* 2007;54:273-284.
96. Winkler D, Unsworth C, Sloan S. Time use following a severe traumatic brain injury. *J Occup Sci* 2005;12:69-81.
97. Farnworth L, Nikitin L, Fossey E. Being in a secure forensic psychiatric unit: every day is the same, killing time or making the most of it. *Br J Occup Ther* 2004;67:430-438.
98. Fricke J, Unsworth C. Time use and importance of instrumental activities of daily living. *Aust Occup Ther J* 2001;48:118-131.
99. Farnworth L. Time use and leisure occupations of young offenders. *Am J Occup Ther* 2000;54:315-325.
100. Stanley M. An investigation into the relationship between engagement in valued occupation and life satisfaction for elderly South Australians. *J J Occup Sci* 1995;2:100-114.
101. Chilvers R, Corr S, Singlehurst H. Investigation into the occupational lives of healthy older people through their use of time. *Aust Occup Ther J* 2010;57:24-33.
102. Singlehurst H, Corr S, Griffiths S, Beaulieu K. The impact of binge eating disorder on occupation: a pilot study. *Br J Occup Ther* 2007;70:493-501.
103. Stewart P, Craik C. Occupation, mental illness and medium security: exploring time use in forensic regional secure units. *Br J Occup Ther* 2007;70:416-425.
104. Shimitras L, Fossey E, Harvey C. Time use of people living with schizophrenia in a North London catchment area. *Br J Occup Ther* 2003;66:46-54.
105. Hunt E, McKay E, Fitzgerald, Perry I. Time use and daily activities of late adolescents in contemporary Ireland. *J Occup Sci* 2014;21:42-64.
106. King A, Hunt E. Daily life in later life: exploring the time use of community dwelling Irish older adults. *Irish Journal of Occupational Therapy* 2010;38:21-29.
107. Lynch H. Patterns of activity of Irish children aged five to eight years: city living in Ireland today. *J Occup Sci* 2009;16:44-49.
108. Tuchner M, Meiner Z, Parush S, Hartman-Maeir A. Relationships between sequelae of injury, participation, and quality of life in survivors of terrorist attacks. *OTJR (Thorofare N J)* 2010;30:29-38.
109. Gevir D, Goldstand S, Weintraub N, Parush S. A comparison of time use between mothers of children with and without disabilities. *OTJR (Thorofare N J)* 2006;26:117-127.
110. Krishnasamy C, Unsworth C, Howie L. The patterns of activity and transport to activities among older adults in Singapore. *HKJOT* 2011;21:80-87.
111. Minato M, Zemke R. Time use of people with schizophrenia living in the community. *Occ Ther Int* 2004;11:177-191.
112. Kao C, Kellegrew D. (2000). Self-concept, achievement and occupation in gifted Taiwanese adolescents. *Occ Ther Int* 2000;7:121-133.
113. American Occupational Therapy Association. Uniform terminology for occupational therapy. Third edition. *Am J Occup Ther* 1994;49:1047-1054.

114. American Occupational Therapy Association. Occupational therapy practice framework: domain and process, 2nd ed. Am J Occup Ther 2008;62:625-683.
115. Canadian Association of Occupational Therapists. Occupational therapy guidelines for client-centred practice. Toronto, ON: CAOT Publications, 1991
116. World Health Organisation. International classification of functioning disability and health. Geneva: WHO Publications, 2001
117. Eurostat. Guidelines on harmonised European time use surveys. Luxembourg: Statistical Office of the European Communities, 2004
118. Ellegård K, Nordell K. Daily Life, version 2008 (software). Linköping; 2008.
119. Ware JE, Snow KK, Kosinski M, Gandek B. SF-36 health survey manual and interpretation guide. Boston: The Health Institute, 1993.
120. Björkman T, Svensson B. Quality of life in people with severe mental illness. Reliability and validity of the Manchester Short Assessment of Quality of Life. Nordic J Psychiatry 2005;59:302-306.
121. Tibblin G, Tibblin B, Peciva S, Kullman S, Svärdsudd K. The Göteborg quality of life instrument: an assessment of well-being and symptoms among men born between 1913 and 1923. Method and validity. Scand J Prim Health Care 1990;1:33-38.
122. Wood W, Wylie ML, Sheafor B. An analysis of a short self-report measure of life satisfaction: correlation with inter-rater judgements. J Gerontol 1969;24:465-469.
123. Rosenberg M. Society and the adolescent self image. Princeton, N.J.: Princeton University Press, 1965.
124. Antonovsky A. The structure and properties of the Sense of Coherence scale. Soc Sci Med 1993;36:725-733.
125. Pearlin LI, Menaghan E, Lieberman MA, Mullan JT. The stress process. J Health Soc Behav 1981;22:337-356
126. Michalos A. Satisfaction and happiness. Soc Indic Res 1973;8:385-422.
127. McColl MA, Rosenthal C, McNair T. Issues associated with aging in a spinal cord injured population. 1991/2 (Unpublished raw data).
128. Diener E, Emmons R.A, Larson R, Griffen, S. (1985). The satisfaction with life scale. J Pers Assess 1985;49:71-75.
129. Poulsen AA, Ziviani JM, Cuskelly M. Perceived freedom in leisure and physical co-ordination ability: impact on out-of-school activity participation and life satisfaction. Child Care Health Dev 2007;33:432-440.
130. Sandqvist G, Eklund M. Daily occupations – performance, satisfaction and time use and relations with well-being in women with limited systemic sclerosis. Disabil Rehabil 2008;30:27-35.
131. O'Connell M, Farnworth L, Hanson EC. Time use in forensic psychiatry: a naturalistic inquiry into two forensic patients in Australia. Int J Forensic Ment Health 2010;9:101-109.
132. Desha L, Nicholson JM, Ziviani JM. Adolescent depression and time spent with parents and siblings. Soc Indic Res 2011;101:233-238.
133. Scanlan JN, Bundy AC, Matthews LR. Health and meaningfulness of time use for unemployed individuals: associations with involvement in education. Leisure Studies 2011;30:21-31.
134. Hammell KW. Occupation, well-being and culture: theory and cultural humility. Can J Occup Ther 2013;80:224-234.
135. Pentland W, Harvey A. Future directions. In: Pentland WE, Harvey AS, Lawton MP, McColl MA, eds. Time use research in the social sciences. New York: Kluwer Academic, 1999:259-268.
136. Levine R. A geography of time. The temporal misadventures of a social psychologist. Oxford: One World Publications, 2006.
137. Whiteford G, Barns M. Te Ao Hurihuri: New Zealand's first time. In: Pentland WE, Harvey AS, Lawton MP, McColl MA, eds. Time use research in the social sciences. New York: Kluwer Academic, 1999:211-230.

138. Yalmambirra. Black time...white time; my time....your time. *J Occup Sci* 2000;7:133-137,
139. Ziviani J, Desha LN, Poulsen AA, Whiteford G. Positioning occupational engagement in the prevention science agenda for childhood obesity. *Aust Occup Ther J* 2010;57:439-441.
140. World Health Organisation. Global health and aging. Geneva: WHO Publications, 2011. Available from http://www.who.int/ageing/publications/global_health.pdf
141. Gore FM, Bloem GC, Patton GC, Ferguson J, Joseph V, Coffey C.... Mathers CD. Global burden of disease in young people aged 10-24 years: a systematic analysis. *Lancet*, 2011;377:2093-2102.
142. Kreipe RE. Focusing on populations to improve the health of individual adolescents and young adults. *J Adolesc Health* 2011;49:111-112.
143. Viner RM, Ozer, EM, Denny S, Marmot M, Resnick M, Fatusi A, Currie C. Adolescence and the social determinants of health. *Lancet* 2012;379:1641-1652.
144. Pierce D. Promise. *J Occup Sci*2012;19:298-311.
145. Whiteford G. The occupational agenda of the future. *J Occup Sci*2001;8:13-16
146. Ciro C. Enhancing our collective research acumen by using an epidemiological perspective. *Am J Occup Ther* 2011;65:594-598.
147. Hildenbrand WC, Lamb AJ. Occupational therapy in prevention and wellness: retaining relevance in a new health care world. *Am J Occup Ther* 2013;67:266-271.
148. Moll SE, Gewurtz RE, Krupa T, Law MC. Promoting an occupational perspective in public health. *Can J Occup Ther* 2013;80:111-119.
149. Urbanowski R, Shaw L, Chemmutter LC. Occupational science value propositions in the field of public policy. *J Occup Sci*2013;20:314-325.
150. Wilcock AA. An occupational perspective of health. Thorofare, N.J.: Slack Inc., 1998.
151. Wilcock AA. Population interventions focused on health for all. In: Crepeau E, Cohn ES, Boyt Schell BA, eds. Willard and Spackmans' occupational therapy (10th ed.) Philadelphia: Lippincott Williams and Wilkins, 2003:pp. 30-45.
152. Wilcock AA. An occupational perspective of health, 2nd ed. Thorofare, N.J.: Slack Inc, 2006.
153. Wilcock AA. Population health: an occupational rationale. In: Scaffa M, Reitz M, & Pizzi M, eds. Occupational therapy in the promotion of health and wellness. Philadelphia: FA Davis, 2010.
154. Wicks A. Editorial: special issue on population health. *J Occup Sci* 2014; 24;1-2.
155. Yerxa EJ. Learning to love the questions. *Am J Occup Ther* 2005;59:108-112.
156. Law M, Steinwender S, Leclair L. Occupation, health and well-being. *Can J Occup Ther* 1998;65:81-91.
157. Frank G. Occupation for population health: an appreciation. *J Occup Sci* 2014;24:77-80.
158. Clark F. One person's thoughts on the future of occupational science. *J Occup Sci* 2006;13:167-179.
159. United Nations Economic Commission for Europe . Guidelines for harmonising time use surveys. Luxembourg: United Nations Economic Commission for Europe, 2013. Available from http://www.unece.org/publications/time_use_surveys.html
160. Larson E, Zemke R. Shaping the temporal patterns of our lives: The social coordination of occupation. *J Occup Sci* 2003;10:80-89.
161. Michelson W. Time use – expanding the explanatory power of the social sciences. London: Paradigm Publishers, 2005.
162. Bergman LR, Magnusson D. A person-oriented approach in research on developmental psychopathology. *Dev Psychopathol* 1997; 9:291-319.
163. Buck D, Frosini F. Clustering of unhealthy behaviours over time: Implications for policy and practice. London: The King's Fund, 2012. Available from <http://www.kingsfund.org.uk/publications/clustering-unhealthy-behaviours-over-time>

164. Newby P, Tucker KL. Empirically derived eating patterns using factor or cluster analysis: A review. *Nutr Rev* 2004;62:177-203.
165. Leech RM, McNaughton SA, Timperio A. The clustering of diet, physical activity and sedentary behaviour in children and adolescents: a review. *Int J Behav Nut Phys Act* 2014;11:4.
166. Ottovaere C, Huybrechts I, Benser J, De Bourdeaudhuij I, Cuence-Garcia, M, Dallongeville J., . . . and the HELENA Study Group. Clustering patterns of physical activity, sedentary and dietary behaviour among European adolescents: the HELENA study. *BMC Public Health* 2011;11:328.
167. Ferrar K, Chang C, Li M, Olds T. Adolescent time use clusters: A systematic review. *J Adolesc Health* 2013;52:259-270.
168. Anderson C, Eklund M, Sundh V, Thundal K-L, Fredrik Spak. Women's patterns of everyday occupations and alcohol consumption. *Scand J Occup Ther* 2012;19:225-238.
169. Pierce D. Untangling occupation and activity. *Am J Occup Ther* 2001; 55:138-146.

Table I. Selected outputs that illustrate the central and enduring importance of time use in occupational therapy and occupational science

Selected Output	
Conceptual models relating to time use	Temporal Adaptation [3] Value and Meaning in Occupations (ValMO) Model [10] Synthesis of Child, Occupational Performance and Environment in Time (SCOPE-IT) Model [11]
Selected keynote lectures on time use and everyday occupations	Law [12] Farnworth [9] Christiansen [13] Zemke [14] Erlandsson [15]
Literature reviews on aspects of time use	Desha & Ziviani [16] Eklund, Leufstadius, & Bejerholm [17] Barclay et al. [18] Pemberton & Cox [19]
Overviews of time use methodologies	Farnworth et al. [20] Holsti & Barr [21] Ziviani et al. [23] Daunhauer & Bundy-Fazioli [23] Hunt & McKay [24]
Journal of Occupational Science Dialogue on Terminology	Farnworth & Fossey [25]
Online international discussion 'Occupational Patterns in Time and Space'	International Society for Occupational Science [26]
Selected books and book chapters	Pentland, Harvey, Lawton, & McColl [27] Farnworth [28] Ziviani, Desha, & Rodger [29] Harvey & Singleton [30] Harvey & Pentland [31]
Instruments	Activity Configuration [32] Activity in Context and Time [33] Caregiver's Activity and Recording of Events Inventory [34] Profiles of Occupational Engagement in Schizophrenia [35] Modified Occupational Questionnaire [36] Mother's Time Use Questionnaire [37] Occupational Questionnaire [38] Time geography [39] Time and Space Use Inventory [40]
Time use interventions	Action Over Inertia Programme [41] Redesigning Daily Occupations (ReDO) Programme [42] Lighter Living (LiLi) Programme [43]

Table II. Scoping review study inclusion and exclusion criteria

Inclusion Criteria	Exclusion Criteria
1990 – 2014	Not tempo or temporality
Data collected on a broad range of daily activities, not discrete activities in isolation	Not studies of meaning of time use
Human time use	Not time use relating to service delivery, student supervision or the development of assessment tools
English	Not theoretical or methodological papers
Published in peer reviewed occupational therapy and occupational science journals	Not book chapters / theses

Table III. Geographical location of studies

Geographical Location	Study Reference Number	n (%)
Scandinavia	[43, 56-70]	16 (26)
United States of America (USA)	[40, 71-80]	11 (18)
Canada	[41, 81-90]	11 (18)
Australia	[91-100]	10 (16)
United Kingdom (UK)	[101-104]	4 (6)
Ireland	[105-107]	3 (5)
Middle East	[37, 108, 109]	3 (5)
Asia	[110-112]	3 (5)

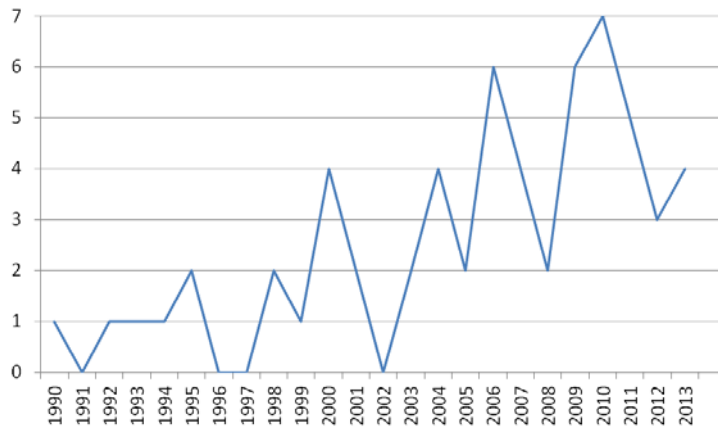
Table IV. Study Populations

			n (%)
Clinical Population	Clinical Diagnosis – Enduring Mental Illness	e.g., schizophrenia	17 (28)
	Clinical Diagnosis - Other	e.g., rheumatoid arthritis, cancer, CVA, traumatic brain injury, spinal cord injury, pain, HIV, binge eating disorder, diabetes, cerebral palsy, obesity, Alzheimer’s Disease, environmental sensitivity, low vision, obese children	16 (26)
Defined population sub-groups	Adults	e.g., unemployed people, survivors of terrorist attacks, survivors of domestic abuse, mothers of children with/without disabilities, older adults attending community OT, parents of obese children, working married mothers, employed adults, OT/PT students	11 (18)
	Children / Adolescents	e.g., gifted students, young offenders, children in orphanages, teen mothers, children at risk of conduct problems,	5 (8)
Well Population	‘Well’ older adults		8 (13)
	‘Well’ general adult population		2 (3)
	‘Well’ adolescents		1 (2)
	‘Well’ typically developing children		1 (2)

Table V. Data collection instruments

Instrument	n (%)
Time diaries	30 (49%)
Activity Configuration/Occupational Questionnaire/Modified Occupational Questionnaire	11 (18)
Time geographic method	7 (11)
Experience Sampling Method	3 (5)
Mother's Time Use Questionnaire	2 (3)
Caregiver's Activity and Recording of Events Inventory	2 (3)
Spot observations/Behavioural mapping	2 (3)
Profile of Occupational Engagement in People with Schizophrenia [POES]	2 (3)
Time and Space Use Inventory	1 (2)
Activity in Context and Time [ACT]	1 (2)

Figure I. Number of publications in the review period 1990 – 2013.



Note. 2014 is not included in this chart as the review period extended only to the first three months of the year.