Sheffield Hallam University

Positive ageing: to what extent can current models of well-being categorize the life events perceived as positive by older adults?

KILLEN, Alison and MACASKILL, Ann <http://orcid.org/0000-0001-9972-8699>

Available from Sheffield Hallam University Research Archive (SHURA) at:

https://shura.shu.ac.uk/25746/

This document is the Published Version [VoR]

Citation:

RESEARCH PAPER

Positive Ageing: to What Extent can Current Models of Wellbeing Categorise the Life Events Perceived as Positive by Older Adults?

Alison Killen[1] · Ann Macaskill[2]

Abstract

Life expectancy is increasing globally, which makes understanding what contributes to well-being in older adults crucial for social and economic reasons. This is the first study to categorize positive life events in community dwelling older adults, to explore their fit with psychological well-being models. Volunteers self-defined as well ($N = 88$), completed diaries identifying three positive events daily for 14 days. Diary entries combated negative stereotypes of ageing by describing older adults with active lives contributing to society. Of nine themes identified through thematic analysis of over 3500 events; seven supported existing well-being models, being activities delivering positive affect and life satisfaction (hedonic model) and demonstrating competence, autonomy, relatedness, self-acceptance, purpose in life, and personal growth (eudemonic models). However, two well-supported new dimensions were also identified within the themes 'interaction with the physical environment' and 'personal well-being'. These new dimensions were labelled 'life-affirmation and 'mindfulness'. This suggests the existence of additional considerations related to well-being specifically for older populations, which may indicate a need to broaden the existing models.

Keywords Subjective well-being · Hedonic well-being · Eudemonic well-being · Mindfulness · Life-affirmation · Age-related models

✉ Alison Killen
alison.killen@ncl.ac.uk

Ann Macaskill
a.macaskill@shu.ac.uk

[1] Translational and Clinical Research Institute, Newcastle University, Campus for Ageing & Vitality, Newcastle upon Tyne NE4 5PL, UK

[2] Centre for Behavioural Science and Applied Psychology, Sheffield Hallam University, Unit 8 Science Park, Sheffield S1 2WB, UK

1 Introduction

Life expectancy has increased globally; with the result that population ageing is a global phenomenon with challenges for the future provision of health and social care (Bone et al. 2018). While currently, one-in-six of the population in the United Kingdom are older than 65 years, it is estimated that by 2040, this figure will be one-in-four (UK Office of National Statistics 2019). Similar patterns are evident in much of Europe, Australia and North America with many governments increasing retirement age in response and expressing concerns about growing health care costs. Understanding what contributes to well-being in the older population is becoming a priority, particularly as older adults are being encouraged or expected to work for longer.

Most predominant models of ageing present old age as a time of loss, with multiple declines in functional abilities and independence (Stirling 2010). Low self-esteem commonly arises, (Stessman et al. 2014), and there is an increase in levels of depression (Corcoran et al. 2013), and a decline in beneficial physical activity reported (HM Government 2011). Globally, levels of life satisfaction and well-being in old age are low (Baird et al. 2010) and people across the lifespan report anxiety about aging (Sargent-Cox et al. 2014). In contemporary society, to be "old" is to lose power, authority and autonomy (Calasanti et al. 2006). This negative view of ageing is at the core of ageism in western culture (Abrams et al. 2011) with implicit attitudes toward older adults even more negative than those held about race and gender, and displayed by both younger and older adults (Nosek et al. 2002).

1.1 Positive Ageing

In response to the challenges to health and social care systems posed by the growing population of older adults, psychogerentologists have researched successful ageing. One approach considers how the deficits associated with ageing can be combatted, and often focuses on exceptional individuals who are fighting the ageing process (Andrews 2009). Stirling (2010) however, suggests that older adults should be re-conceptualised in the cultural and clinical literature to focus on the potential for growth and compensatory strengths that may be associated with ageing rather than solely on trying to keep people 'young'. The advent of positive psychology which defines well-being as not the absence of a mental disorder, but rather the presence of well-being, has increased the interest in understanding the nature of positive experiences in older adults (Isaacowitz 2005). Positive or successful ageing may refer to the attainment of life satisfactions, coping behaviours and physical ability. It may include the retention of social support networks that have been associated with well-being over preceding years. It is defined as an adaptive process where biological, lifestyle, and environmental factors interact over time to produce long-term positive outcomes in older age (Strawbridge et al. 2002). This perspective seeks to reorient thinking towards the possible benefits aging may confer on both the individual and society (Bloom 2011). Such information can then be used to inform the development of appropriate support services.

1.2 Models of Well-Being

1.2.1 Hedonic or Subjective Well-Being (SWB)

Kahneman et al. (1999) claim to have introduced hedonic psychology as a new area of study that examines the constituents that contribute to making life pleasant. They suggest that well-being results from the presence of pleasure and the absence of pain (Diener et al. 1998). Subjective well-being (SWB) is the most widely adopted term to label hedonism (Diener 2000). Based on an empirical study, Diener (2000) produced a model of subjective well-being (SWB), consisting of both cognitive and affective components. The cognitive component, termed life satisfaction involves individuals appraising their level of satisfaction and sense of fulfilment with their life so far, while the affective components assess their typical reactions to events in terms of positive affect and negative affect. SWB is defined as the presence of high life satisfaction and more positive affect than negative affect. A considerable body of over thirty years of empirical research exists demonstrating that high levels of SWB are associated with optimal human functioning (Busseri and Sadava 2011) including reduced mortality Martín-María et al. 2017). Positive affect and life satisfaction were therefore the criteria used to categorize the contribution to hedonic well-being made by the daily experiences reported by participants in the current study.

1.2.2 Eudemonic Well-Being

The alternative view suggests that activities which produce SWB are insufficient to promote well-being in the longer term, rather participation in meaningful activities which promote personal growth is required (Waterman 2008). The resulting eudemonic perspective describes well-being as the feeling of personal expressiveness, arising when a person feels that he/she is using their best potentials in the pursuit of goals that are consistent with their true self and life purposes (Waterman et al. 2010).

There are two competing models which describe the constituent elements of Eudemonic well-being. Ryff's (1989) model of Psychological Well-being (PWB) consisting of six core dimensions: Self-Acceptance, Positive Relations with Others, Autonomy as it relates to self-determination and independence of thought, Environmental Mastery in the sense of having the capability to manage one's life effectively, Purpose in Life and Personal Growth throughout the lifespan to realise one's potential. Ryff argues that this conceptualisation of well-being, particularly the emphasis on personal growth and self-actualisation corresponds with Aristotle's definition of eudemonia (Aristotle et al. 1920).

The second model is self-determination theory (SDT) conceptualised by Ryan and Deci (2000) who used previous research to identify three basic innate human needs that are necessary for the optimal psychological functioning which results in well-being. These are the need for competence (Harter 1978), the need for autonomy (deCharms 1968; Deci 1975) and the need for relatedness (Baumeister and Leary 1995; Reis 1994). Their research suggests that when these innate needs are satisfied individuals have higher levels of self-motivation and better mental health than when they are not met. They claim meeting these needs is the aim of human life and gives meaning and purpose to human action (Deci and Ryan 2000).

There is commonality between PWB and SDT with competence, autonomy and relatedness, the basic psychological needs identified by Ryan and Deci (2001) included in the Ryff six dimensions. This simplifies data analysis in the current study with six criteria used to categorize activities contributing to eudemonic well-being that of demonstrating, competence, autonomy, relatedness, self-acceptance, purpose in life, and personal growth.

1.3 Study Aims

There is currently little understanding about what older adults perceive as positive, whether this differs from younger adults and how it fits with existing theoretical models of well-being. Developing this understanding is important in order to design appropriate well-being interventions for this age group.

The purpose of the current study was to gain insights into the lives of older adults and to enhance current understanding of what constitutes positive experiences in a sample of community dwelling elderly people. The interest lay in determining whether these positive activities of daily living could be analysed in terms of existing models of well-being. This then can provide new insights into how such well-being models are operationalised in the lives of the elderly.

The objectives were:

- To explore and categorize the types of daily activities older individuals living independently in the community conceptualise as being positive experiences by analysing diary data.
- To determine the frequency of these positive events.
- To investigate whether the positive events could be analysed against current models of SWB and Eudemonic well-being to judge how these models are operationalised in the lives of older adults.

2 Method

2.1 Participants

The participants were a sample of community dwelling, older adults who lived independently in the North-East of England. The sample comprised eighty-eight adults aged over 60 years (F = 65; M = 23). Their ages ranged from 60 to 91 years (Mean 70.84, SD 7.51), two declined to report their age. A greater percentage, (31.8%) were educated to degree level in comparison with the UK population in the same age range (11.5%).

Participants were respondents in a diary based positive psychology intervention (Killen and Macaskill 2015). They were recruited through local community organisations comprised of two branches of the University of the Third Age (U3A) and an Elder's Council newsletter. Membership of U3A was mainly retired professionals. Participants recruited via the newsletter, however, were more broadly representative with the publication widely and freely circulated, e.g. in GP surgeries and community outlets, to promote activities and address issues affecting older adults. Exclusion criteria

were provided in the study advertisement to aid participants' self-selection. These included lack of English as a first language, a current mental health diagnosis and a diagnosis of memory impairment due to the need for daily reflections.

2.2 Procedure

Ethical approval was obtained from the university Research Ethics Committee. Informed consent for the intervention study included an agreement to return the completed diaries for analysis. Anonymity was maintained by the use of identification codes.

Participants were sent a diary designed to accommodate up to three daily entries. They were asked to spend a few minutes each evening, thinking about anything, which they felt had gone well or seemed positive to them over that day. They were asked to record briefly three such events, stating what the event was and also what caused them to view it positively. Examples of model responses comprising two to three sentences were given to avoid participants feeling overburdened by a perceived need to provide longer contributions. The study duration was fourteen consecutive days with data collected between October and February. Participants were asked to return their completed diaries in a pre-paid envelope.

2.3 Data Analysis

A mixed methods approach to data analysis was used. Thematic analysis focussed on the content of the events perceived as positive, while a frequency count focussed on the number of such events. The rationale for including quantitative data was the large number of diary entries submitted and the need to determine the frequency of any new themes which sat outside the existing models in comparison with themes identified as fitting these models. An inductive, bottom up approach was taken to identifying themes. This involved building codes during the analysis, and aimed to prioritise meaning driven by what was in the data rather than to confirm the presence of any particular researcher driven themes or theory-based meaning. As there were not pre-determined concepts, ideas, or topics, an a priori qualitative framework was not required.

The methodology for the thematic analysis followed the six phases described by Braun and Clarke (2006), namely familiarisation, initial coding, searching for themes, defining and naming coded features, validating and producing the report with supporting quotes. Although these stages are described sequentially, they involved an iterative process of movement through the phases.

The first phase involved reading and re-reading the diaries to become familiar with the data. Following this, initial activities were identified. These were characterised semantically, based on the explicit or surface meaning of what the participant had written. Due to the volume of events, and to maintain the credibility of the analysis, this was undertaken using a sub-section of diaries with both researchers working independently. Diary entries were transcribed to enable cross-validation between the researchers. The agreed criteria for when no further sampling of the events diaries was necessary (e.g., sampling saturation) was when no new activities could be identified.

The initial activities were labelled as sub-themes. Once saturation was reached, each of the sub-themes was re-examined and they were then grouped into preliminary themes.

The next stage involved reviewing the preliminary themes and checking them against the participants' descriptions. After the initial semantic coding, latent coding was applied, frequently informed by the reasons the participants had given for the events being positive experiences in their lives. This was to identify underlying ideas and assumptions and allow the search for deeper meaning and the incorporation of theoretical knowledge. The themes were then clearly defined. Each theme/sub-theme was checked between the researchers to ensure both were supportive of the identification and terminology. The remaining diaries were analysed similarly using the agreed themes to facilitate the process, with constant checking for data that did not fit the existing categories. Any differences were discussed until consensus was reached.

The frequency of each categorized activity was then recorded and themes were ordered in terms of their frequency of occurrence. Where activities appeared to cover more than one theme the researchers were guided by the explanations provided by participants in allocating themes. If an event applied to several themes this was reflected in the occurrence data.

Finally both researchers reviewed the themes independently to see whether and where they fitted the criteria identified from the hedonic and eudemonic well-being models, and to determine whether they could be classified according to them. Regarding eudemonic well-being, events were analysed to assess whether participants appeared to demonstrate, competence, autonomy, relatedness, self-acceptance, purpose in life, and personal growth through their experiences. For hedonic well-being, the events were all automatically classified as demonstrating positive affect having been subjectively identified as positive. Events were then examined to see whether they could also be classified as contributing to an individual's life satisfaction. This is the cognitive aspect of hedonic well-being, which involves individuals appraising their level of satisfaction and sense of fulfilment with their life. For this dimension, the information the participants had provided on why they perceived particular events in a positive way was particularly pertinent e.g., making them feel wanted, cared for or in control.

3 Results

In total 88 diaries were returned of which 87 contained entries. Participants identified up to three positive experiences each day for fourteen days, with an accompanying explanation for why they experienced them as positive. Around 3500 experiences were documented, which resulted in 4385 occurrences coded, reflecting some events which applied to several themes. The initial categorization of positive events into themes was achieved by agreement following the independent analysis of 20 diaries (10 per researcher). At this point, no further new themes were identified, so it was agreed that sampling saturation had been reached.

The majority of people, 73.56% (64 out of 87), identified the full number of positive events (3 per day for 14 days). This suggests that older adults are getting pleasure from their daily activities and while many very commonly occurring experiences were referenced, the participants appeared to savour these events. In total nine themes were identified, eight of which contained a number of sub-themes. Many events covered

more than one theme as some of the quotes exemplify. The number of events attributable to each theme was calculated and is shown in Table 1.

For 23 participants less than three positive events for each day were recorded. Most commonly either a whole day or a single entry on 1–2 days was omitted and respondents subsequently continued to make entries. Most participants did not account for the missing entries but where an explanatory comment was given this usually related to physical illness. Two participants enclosed a note with their returned diaries for clarification. One had experienced a bereavement and described life during the study period consisting of, '*okay days, and just no special bright incidents.*' The other had a close friend who had been the victim of a brutal attack a couple of days in to their participation and described how the shock of this event was so overwhelming that she could find no positive dimension to anything.

The main findings, interpretations and inferences are described in relation to the themes (bold) and sub-themes (bold italics). The sex and age of participants follows the quote.

3.1 Social Interaction

Social interaction was the most frequently occurring theme with six sub-themes and 1324 of the 4385 events coded. While the sub-themes may seem disparate, the diary entries made clear that social interaction was the over-arching element that made the experience positive, e.g. 'Went to the local social with the mind set of deliberately connecting with people. I enjoyed myself more by making the effort to approach others' (F75).

The frequency of occurrence of the sub-theme, *enjoying company of / speaking to /contact from or with family and friends*, attests to its importance in the lives of older adults. Even attendances at funerals were perceived as positive events by several participants for the family interaction they provided. Friends were highly valued which may reflect long shared histories 'Spent the evening at my best friend's house and had a meal there. We spent 3 hours talking non-stop. She may have lots of family troubles but she always tries to keep cheerful and makes me laugh' (F65). In many instances, email and Skype were used to maintain contact, reflecting the geographical disparateness of many families. 'On Skype on my laptop! Talking to son, daughter-in-law and grandchildren. Lovely to be able to do that.' (F73). Age did not seem to be a barrier to using technology for the participants within this sample. It facilitated family contact despite geographical distance so was viewed positively by them. For older adults unfamiliar, unable or unwilling to engage with these newer forms of communication, resentment could be anticipated at family members being too far away to visit.

Interactions were not confirmed to people known to the respondents with *conversations/interactions with new acquaintances* accounting for nearly 200 events e.g. 'I made an effort to speak to a new person at the bus stop. It would have been easy not to bother as I am quite shy but making the effort made me feel good.' (65F). Interactions in larger groups were also identified as positive with *participating in community groups/events* noted on nearly 70 occasions. This may have reflected the availability of more events for the festive season during which the study was conducted.

These older adults also made real efforts to interact socially by *attending events theatre/concerts/classes*. This may reflect the above average educational level of many

Table 1 Categorization of diary themes and sub-themes in order of frequency

Theme	Sub- themes	Frequency	Eudemonic well-being	Hedonic well-being
1. Social interaction	Enjoying company of / speaking to /contact from or with family and friends	848	Relatedness	PA
	Conversations/interactions with new acquaintances	197	Relatedness	PA
	Attending events theatre/concerts/classes	123	Relatedness, personal growth	PA
	Interacting with pets/animals	80	Relatedness	PA
	Participating in community groups/events	68	Relatedness	PA
	Physical contact	8	Relatedness	PA
		Theme 1 total 1324		
2. Enjoyable activities	Eating/preparing food	264	Competence, purpose in life	PA
	Listening to music/TV/radio/craft/reading/-solitary relaxation	214	Personal growth, competence	PA
	Shopping/ Enjoying new purchases	150	Competence, autonomy	PA
	Positive financial event-bargain, windfall, prize, gift	85	Competence	PA
	Visits/days out	72	Personal growth, relatedness	PA
	Taking pride in appearance	50	Self-acceptance, competence, autonomy	PA
	Watching /listening to sport	35	Relatedness	PA
		Theme 2 total 870		
3. Interaction with the physical environment	Appreciation of nature	285	**Nothing fits**	PA
	Experiencing or observing weather events	145	**Nothing fits**	PA
	Taking exercise/being active/playing sport	101	Competence, relatedness, autonomy	PA
		Theme 3 total 531		
4. Capability	Competence in completing chores/achieving tasks	395	Competence, autonomy	PA
	Managing independently/being in control	73	Competence, autonomy	PA, LS

Table 1 (continued)

Theme	Sub- themes	Frequency	Eudemonic well-being	Hedonic well-being
		Theme 4 total 468		
5. Being of value	Helping friends/family members/-community	315	Purpose in life, relatedness, competence	PA, LS
	Signs of appreciation from others	97	Purpose in life, relatedness	PA, LS
		Theme 5 total 412		
6. Future-orientation	Expanding knowledge/skill	150	Personal growth, competence	PA, LS
	Anticipation/planning of future pleasure	89	Purpose in life, competence	PA. LS
		Theme 6 total 239		
7. Contemplation	Personal reflection/reminiscence	148	Purpose in life, self-acceptance	PA, LS
	Religious /spiritual experience	79	Purpose in life, relatedness, personal growth	PA, LS
		Theme 7 total 227		
8. Personal well-being	Positive health event	112	**Nothing fits**	PA, LS
	Benefits and appreciation of sleep	53	**Nothing fits**	PA, LS
		Theme 8 total 165		
9. Celebrating good outcomes for others	Celebrating good outcomes for others	149	Relatedness	PA

Positive affect (PA) Life Satisfaction (LS)

of the respondents although categorization in this theme reflected entries where the social, fun aspect of attendance was emphasised as positive, rather than the learning e.g., 'Reduced my philosophy class to hysterics.' (F71).

Interactions were not confined to humans, with ***interacting with pets/animals*** recorded in 80 events. Many participants derived great pleasure from wildlife. 'Watched the birds at the golf club and in the back garden…Long tailed tits, starlings, sparrow-hawk and others, just a joy to see' (M64). Others reported enjoying walks with their dogs and described the additional benefits of exercise and fresh air. For some having a dependent animal made them feel needed at a time when they may not have

felt particularly needed by other people, 'My anti-social cat sat on my lap. She made me feel wanted.' (F72). A number of respondents also exemplified the joy of physical contact with pets. 'As I got out of bed my very furry dog jumped into the warm sheets and snuggled down. I joined him for 10 minutes.' (F64). The presence of their pets may have combated feelings of loneliness for some participants who live alone or who have lost family members.

The number of times *physical contact* with other people was stated was low, with only 8 such entries. These usually involved grandchildren 'Went to babysit for grandchildren. They were both happy to be with me and both gave me a cuddle, very nice.' (F70) Only one participant (F age not given) identified sexual contact as a positive experience, 'In bed with husband. Intimacy, physical closeness and warmth.' This low rate may reflect social embarrassment rather than a lack of sexual relations.

3.2 Enjoyable Activities

Enjoyable activities was the second most commonly occurring theme, with seven sub-themes. The most frequent was *eating/preparing food,* and it was clear that some individuals spent a lot of time eating out, having coffee or meals with friends and family. Such events invariably had multiple positive experiences associated with them, 'Evening meal out with seven tennis friends at a posh restaurant. Apart from the lively and humorous chatting, the food was excellent and I had to dress up … I feel good when I occasionally make the effort.' (F65). However, taking pleasure from routine, food related activities of daily living such as cooking an ordinary meal was also noted frequently 'Making Bolognese and listening to the radio. It felt relaxing and productive' (F63).

A similar number of events involved *listening to music/TV/radio/ reading/solitary relaxation.* Participants rarely described any companion while experiencing these positively perceived activities. 'Knitting and listening to the radio. I discovered I could put my earphones in and listen to Radio 4 on the iPlayer with my iPod'. (F 61). This enjoyment of solitary pursuits may reflect participants who have become accustomed to their own company due to being widowed or perhaps who enjoy periods of solitude in between social engagements to recuperate.

Shopping/enjoying new purchases was only noted in 150 events out of 870 in this theme. Some participants evidenced significant purchases for personal benefit 'Bought a new pair of winter trousers and winter boots, very pleased with my purchase. Spending on myself.' (F73). However, others described more everyday shopping experiences. 'Bought three books in Oxfam shop. Found books I'd been looking for, for ages.' (M77). Likewise, a *positive financial event* often involved a small bargain or saving, with events reflecting the disparate interests of the sample: 'Free access to the 1911 census. Took advantage of offer to add a few details to family history.' (F63). A sense of humour relating to ageing was also apparent in some entries, 'Had some money off coupons that I used when shopping (and remembered to take them).' (F65).

Undertaking activities which demonstrated *taking pride in appearance* were the focus of many events in the enjoyable activities theme, including visits to the hairdresser, dressing smartly and self-care. Such events were not gender specific: 'Went to the barber, also treated myself to a shave. Looked good.' (M81). On some occasions, activities related to not wanting to fit the stereotype of an old person: 'Streaked hair,

dyed it last week. Not ready to go grey yet. Got to keep up appearances even if it is only for me' (F64).

The sub-theme *watching /listening to sport* had fewest responses with 35 events, although the time of year may have influenced this. Here one respondent demonstrated a feature, noted in many instances, of turning what had started out as a negative experience into a positive one, 'Newcastle lost at home again and I returned home despondent; the radio football phone-in restored my good humour. Some of the comments were quite funny.' (F65). For other participants the sporting event was identified as having positive associations due to memories of their own participation in earlier years.

3.3 Interaction with the Physical Environment

Interaction with the physical environment encompassed activities such as *taking exercise/being active/playing sport* as well as more passive, mindful events through *appreciation of nature* and *experiencing or observing weather events*. Sub-themes frequently overlapped as often both the exercise taken and a weather related observation which accompanied it were identified positively.

Exercise and outdoor activities such as gardening were not confined to the younger members of the sample as an 81-year-old male participant illustrated, 'A walk around the neighbourhood which has a lot of mature trees, seeing the autumn colours.' Many events were poetically described; 'Beautiful light - feel good factor! The sun came out suddenly onto clusters of hawthorn berries - they shone like rubies against the brown/green of their own leaves.' (F64).

Positive events did not always comprise appreciating beautiful weather and sunsets but often involved finding a positive dimension to an activity despite the weather or not allowing bad weather to interfere with planned activities, 'Excellent swim. It was pouring rain but I made the effort. I felt pleased that I had braved the downpour and the exercise was peaceful and gave me the opportunity to think about my [recently deceased] sister' (F65). Participants also described weather which was better than predicted as positive events 'Rain was forecast today but I was greeted by sunshine today. The still bright weather made me feel happy and energetic' (M85).

3.4 Capability

Capability was evidenced by a wide range of activities where participants demonstrated *competence in completing chores/achieving tasks.* Invariably these were fairly minor household activities such as changing bulbs or putting away winter clothes. Even in retirement and without time pressures, older adults frequently described setting themselves a task for the day and their subsequent satisfaction when the task was 'ticked off'. 'I succeeded in filling our garden refuse bin in time for tomorrow's collection. The sense of achievement when I had completed the self-imposed task,' (M85).

Some tasks involved skills which people clearly wanted to maintain through continuing to undertake them, such as painting or sewing. Age was not a barrier; although at times ingenuity was require to overcome physical impairment: 'I vented a radiator that had an airlock. I knew exactly what to do but I hadn't got the strength in my fingers

to turn it. However, with a pair of pliers I applied leverage on the key and turned it-Triumph!' (M91).

Participants also identified ***managing independently/being in control*** as positive experiences. This repeatedly involved finding a way to achieve quite small tasks which others would have been willing to perform for them but enabled the individual to maintain their independence. 'I put my wheelie bin out and brought it back in after the refuse men had been. One of my sons has been doing this since I fractured my femur. I felt more independent being able to do it myself' (F75). Some tasks seemed daunting, with for example, a financial visit described as an 'encounter.' This may have increased the satisfaction and thus the positive perception of achieving the desired result independently. 'Encounter with building society. Successfully proved that they had lost account details and sorted it out myself.' (F62). The positive sense of achievement gained through working out a plan and successfully carrying out a task may have been, in part, due to a contrast with the actual or perceived expectations others had of them.

3.5 Being of Value

Events which were perceived as positive as a result of being of value, were focussed on ***helping friends/ family members/community.*** Exemplars included, reading lessons in church, providing childcare and care for older relatives. 'Reading the news on to tape for the numerous visually impaired who would not otherwise get to hear about the little news bits. It's good to know that one is doing something useful.' (M77) Another reported, 'Read the epistle at church and also was responsible for the coffee serving afterwards. I came away from the service with a renewed feeling as if have some purpose in life other than just self-gratification' (F65). It was clearly important for some participants to be engaged in a worthwhile activity, however small. It may be that retired participants lacked the sense of making a positive contribution previously experienced during their career and found value through replacing this with a voluntary activity. 'Helping M. to read and write makes me feel that I am not totally useless' (M91). Some participants, may have felt increasingly supported themselves by family or others in the community and needed to feel they could still contribute in return.

Receiving ***signs of appreciation from others*** also helped increase these older adults' sense of self-worth. None of the events reported involved major individual recognition; rather they were everyday examples that made respondents feel they had enriched the lives of others. 'I received a text from a former work colleague. It made me feel more worthwhile as a person because she remembered me and valued my opinion.' (F65). People described as positive events such as, being valued for skills, such as a granddaughter taking a sewing project to grandma as she 'knows more about sewing' rather than going to her mother, and receiving a gift as appreciation for a favour done or a gesture valuing them as a person. 'Husband coming downstairs after going to bed specifically to give me a hug and kiss goodnight, what could be better to confirm that one matters!' (F70).

3.6 Future-Orientation

Active learning was at the core of the sub-theme ***expanding knowledge/skill***, with the participants choosing to spend their time in a variety of learning environments. This

was sometimes at home, 'Learning about icebergs. Watching on TV the second of 2 documentaries of the scientific investigation of the largest iceberg that is currently in the ocean.' (M81). Other participants attended classes, 'Went to a good lecture on the city walls, decided to learn more about our city and its' history' (F75). This age group also engaged with new technology, 'Experimenting with fibre broadband, feel as though I am more with it now with i-phone and super broadband, still learning every day.' (M76).

Participants' entries also demonstrated ***anticipation/planning of future pleasure.*** 'Being alive. Waking up well and looking forward to the weekend's events.' (M81) For others events involved anticipating future outings, 'Friend asked if I would like him to get tickets for us to My Fair lady. Looking forward to social gathering and a good play with people I haven't seen for a while.' (F63). The image conveyed is one of active individuals enjoying life and far from the categorization of older age as a time when there is no longer anything to look forward to.

3.7 Contemplation

The theme of **contemplation** focussed on internal reflective processes, either spiritual or which evoked memories. Stereotypical views of ageing suggest that older adults are pre-occupied with the past, but this was not the case in the current sample, with a relatively small 148 instances, of reminiscences reported. On many occasions it was ***personal reflection/reminiscence*** in the form of reminders of childhood, 'First snow of the winter stirs some primitive remembrance of the need to check sheep. Many happy memories of long snowy winters of childhood and adolescence.' (M74). For other participants reflections of deceased family members proved positive, perhaps as indications of the continuity of their family characteristics, 'Looked at pictures of parents on wall in study. Part of my roots that influenced who I am. Fortunate to have such parents who still exist in memory and mood' (M 63). The time of year may have provoked reflections of family and friends with whom previous festive events had been shared, 'Continued making Xmas phone calls and sending ecards, reminders of some of the people who have been important in my life and feeling of thankfulness' (M76).

For others contemplation involved a ***religious/spiritual experience.*** For example, 'Woke up feeling depressed so started the day listening to a spiritual CD. While I was listening, I felt better. … just accepted that states come and go.' (F61). Where identifiable, the religious events reported all related to Christianity, which may reflect the less diverse range of religious affiliation in this age group. 'Woke at 4.55am and got up at 5.00am. Kitchen lit up by a full moon… All is quiet. Great to have quiet time, pray and read my bible.' (M74). There were 79 events within this category, about half the number of personal contemplative events. This may be higher than would be found in a younger group. It could reflect the higher value placed on religious practices by older adults, or perhaps a greater awareness of and willingness to participate in spiritual forms of contemplation 'I lit a candle in the church. Although I am not a Christian this gives me comfort. It is a private but shared ritual' (F65).

3.8 Personal Well-Being

Positive health events were identified with greater frequency (112 events) than *positive financial events* (85 events). This may have reflected the socio-economic status of the sample. However, the diaries showed that many were dealing with chronic health problems, including diabetes, pain, blood pressure and heart problems. While perhaps seeing these conditions as part of getting older, people did not define themselves as ill because of them and seemed to take pleasure in coping, 'Learnt technique to cope with pain. Coped with pain without tablets.' (F65). They were also trying to mitigate further health problems 'Doctor's appointment. Blood tests clear. Good news therefore I will increase exercise.' (M66). As people this age are more likely to have peers with serious diagnoses and health concerns, positive health events may take on greater significance among older adults 'Feeling happy at a diagnosis at the breast clinic, feelings of relief I haven't got cancer.' (F67). The *benefits and appreciation of sleep* were evidenced by the presence of a number of positive events relating to sleep which suggested that insomnia was an issue for many. 'Had a good night's sleep always a relief when I have my '8 hours' sleep' (F65).

3.9 Celebrating Good Outcomes for Others

This final theme involved valuing the achievements, good fortune or pleasure of other people. The events celebrated varied widely. Many involved family or close friends and included completing tasks, recovery from illness and receiving gifts. 'Received an email from my husband's nephew, who had a brain haemorrhage some weeks ago but all is now going very well with him. (F72). Achievements on the wider stage were also noted and included political, economic and environmental events. One participant reported, 'I was glad to see Greece being bailed out again financially. It may improve life for them' (M83).

4 Discussion

This study connects the fundamental positive psychological concept of well-being with the perceptions of older adults, an under-researched population in this area. It presents a picture of what lives that include both hedonic and eudemonic well-being, look like in this age group. This can be used to challenge the predominant negative stereotypes of old age. It raises an important theoretical question about the accuracy of existing models of wellbeing in describing the experiences of older adults and identifies life-affirmation and mindfulness as two additional constituents of eudemonic well-being.

4.1 Daily Positive Experiences

This study analysed over 3500 positive experiences to offer new insights into the experiences that older adults conceptualise as being positive and which are thereby contributing to their well-being. Table 1 gives a sense of how frequently these events occur. From the data collected these community dwelling older adults present as having busy, meaningful and enjoyable lives. This does much to counter the negative

stereotypes of old age that are repeatedly presented in the clinical literature (Abrams et al. 2011; Baird et al. 2010; Corcoran et al. 2013; HM Government 2011; Stirling 2010).

Social interaction was the most frequently noted theme, predominantly with friends and family. Even passing conversations or interactions with acquaintances were valued and were memorable enough to record at the end of the day. Given that the recognition of the social nature of the human species started with the ancient Greek philosopher Aristotle, this result is unsurprising (Aristotle et al. 1920). However, lack of social interaction is a serious health issue with loneliness increasing the risk of premature death by up to 25% (Holt-Lunstad et al. 2010). This reinforces the importance of encouraging opportunities for even minimal social interaction with casual acquaintances, shop staff, or strangers on buses.

In terms of frequency of occurrence, the category of *enjoyable activities* was second highest and was dominated by 264 experiences related to eating and preparing food. The reason for these experiences being positive was also in some cases categorized as involving social interaction but participants' explanations made clear that the planning, preparation and execution of the cooking, and savouring of the food was itself pleasurable, regardless of the social aspect. Some participants described costly meals out, an experience which would not generalise to those with less financial means. However, many more identified cooking a simple, everyday meal as positive. Identifying tasks required for daily living as pleasurable seems a very adaptive response, especially in lives that may be less eventful. It may be related to having more time to cook in retirement or an appreciation of still functioning independently enough to cook. This was also reflected in the high number of instances of chore completions in the 'capability' category being seen as positive events, and the focus on maintaining *independence*.

Positive financial events were noted only 85 times, just 10% of the frequency of the sub-theme '*enjoying company of / speaking to /contact from or with family and friends'*. While it is possible that this was due to a perceived social undesirability of seeming materialistic, or because this was largely a financially secure cohort of respondents, the relative absence of monetary gain as a positive event may indicate that for older adults' money assumes less importance than for younger respondents. Some participants were retired professionals so likely to have private work-related pensions and may have had fewer financial concerns than those reliant on the pension provided by the State. However, although some events involved an outlay which would not be applicable to the more financially constrained, others such as sourcing a second-hand book or a minimal premium bond win were also noted, suggesting the positive experience may relate more to the achievement than the degree of outlay or reward involved.

Other peoples' good outcomes were identified as positive events with the same frequency (149) as personal acquisitions from shopping and new purchases. Although these commonly involved family members, this was not exclusively the case, and demonstrates outward looking and socially focussed perspectives among many older people.

Health assumed greater importance than financial gain did. This may suggest that older adults experience a greater number of tests and procedures for which they could receive a favourable result due to the multiple co-morbidities of ageing. They may have

a heightened awareness of the potential for adverse outcomes compared to younger people. About one third of personal well-being events related to sleep. This demonstrated the notable contribution of a perceived good night's sleep but also perhaps expectations about sleep patterns being less reliable in old age so sleeping well is more appreciated.

The theme of future-orientation particularly contradicted stereotypes of ageing. The sub-theme *expanding knowledge/skill* may not be generalizable to all old people given the higher than average educational level of many of the participants. However, the desire to go on learning was not just academic but included natural and local history as well as keeping up with new technology. Such activities reject a commonly held view of older adults as incapable of retaining new information and more likely to be losing their memory than adding to it. Similarly, *anticipation of future pleasure* demonstrated a positive forward-looking orientation which challenges the view of older adulthood as a time when there is nothing left to look forward to.

Finally, at times a single event evoked several positive meanings not all of which were immediately identifiable from the nature of the event itself, but became clear from the meaning attributed to the experience. Often seemingly negative experiences (e.g. funerals, lost football matches) were attributed positively. It is therefore essential when designing well-being interventions to consider how they are perceived from an older person's perspective.

4.2 Contribution of Themes to Well-Being Models

The themes identified from the positive events provide evidence for both the hedonic and eudemonic well-being models. The frequency of occurrence of the themes and their relationship to each well-being model are summarised in Table 2.

In terms of hedonic well-being, for this sample of older adults, largely routine daily activities are associated with positive affect. The large majority (74%) of participants reported experiencing at least three events associated with positive emotion every day (see final two columns Table 1) and only one participant did not return any positive

Table 2 Summary of frequency of occurrence of daily activities related to the fulfilment of human needs hypothesised to be components of hedonic or eudemonic well-being

Health Model	Human need	Number of diary entries
Hedonic	Positive affect	4385
	Life satisfaction	862
Eudemonic	Relatedness	2172
	Competence	1886
	Personal growth	1276
	Purpose in life	992
	Autonomy	769
	Self-acceptance	396
New	*Mindfulness*	*430*
New	*Life-affirmation*	*165*

events. Life satisfaction, the second component of hedonic well-being, was not automatically attributed to each event in the same way as positive affect, but was identified from further examination of the statements. This included consideration of the nature of the positive event, and in particular, the aspect of the event which caused the participant to rate it as positive. This was in keeping with the nature of this component of the hedonic model, involving identifying a cognitive aspect of well-being which involves individuals appraising their level of satisfaction and sense of fulfilment. Life satisfaction was identified in five themes, *capability, being of value, future-orientation, contemplation and personal well-being.* This provides further qualitative support for the hedonic or SWB model of Diener (2000) to add to the extensive quantitative evidence previously published.

Within eudemonic well-being, as summarised in Table 2, relatedness and competence were the most frequently occurring needs. Both these variables appear in Ryff's (1989) model of PWB and Ryan and Deci's (2000) SDT. *The dimensions in the SDT (*Ryan and Deci 2000) were too limited to account for all the activities reported by this sample of older adults. All of the variables in Ryff's model were identified in the data, which adds new qualitative support for this model. While there was also some evidence to support autonomy, the third need in SDT, it was only the fifth most frequently occurring variable in the current study.

4.3 New Additions to Well-Being Models

The study was inductive and no pre-designated criteria were established in order to claim the existence of a new well-being dimension. However, a substantial number of events reported by the participants seemed to sit outside the existing classifications. This is important as it suggests support for the current models needs to be qualified. Two new dimensions were identified *life-affirmation and mindfulness,* are suggested as additions to eudemonic models. The frequency of occurrence of these novel themes is summarised in Table 2.

'Life-affirmation' is the first addition proposed. This encompasses experiences grouped within the theme of **personal well-being**, which result in individuals feeling good to be alive and valuing life. The reports on sleeping well within the sub-theme *benefits and appreciation of sleep,* ($n = 53$) involved more than just positive affect, but seemed to result in a renewal of energy for life. 'Woke up smiling I thought this is nice to wake up feeling good' (F66*)*). Similarly, we classified a *positive health event* ($n = 112$), as a life-affirming activity that reduced anxieties about potential illness and ultimately death. Initially it was considered that these might be age related activities but as individuals of all ages experience both insomnia and tests for health related issues, this dimension could apply more widely.

Mindfulness, is the second suggested addition to eudemonic models. This indicates appreciation of the present as a result of taking the time to savour the natural world and one's current engagement with it. Participants appeared to be reporting such instances within the category, *interaction with the physical environment,* where a large number ($n = 430$) of events related to the sub-themes *appreciation of nature* and *experiencing or observing weather events* did not fit within the existing dimensions of the eudemonic models. Observing, then appreciating every day and often taken for granted activities and situations was apparent in many of the descriptions. It may be that older adults have

more time to do this without the demands of daily work. There was also an element of mindfulness in practice in the sleep observations and the positive health messages. These activities were not taken for granted but time was taken to reflect on them. It may be that being mindful opens up more opportunities to recognise and celebrate what are life-affirming experiences and future research could examine this further.

4.4 Implications for Well-Being Interventions for Older Adults

Being more mindful is positively associated with well-being (Davis and Hayes 2011). The findings of this study indicate that some older adults already choose to reflect mindfully on their everyday experiences. Providing evidence that their peers who adopt such practises find them positive supports the provision of opportunities for older adults to learn mindfulness for example through the mindful observation of everyday weather events. Having to identify daily positive events in the diary exercise may actually have encouraged the practice of mindfulness. Some participants reported that completing the diary or reflecting on their diaries were positive events making them evaluate their lives more positively.

The findings also support other studies regarding the benefits of activities within the natural environment for enhancing health and well-being (Husk et al. 2016). While the focus here was on community dwelling older adults, this study has confirmed the benefit of activities, which could also be incorporated more widely into care home settings. For example, making staff aware of the importance of encouraging clients to appreciate life-affirming events such as beneficial sleep or positive test results and encouraging appreciation of the achievement of commonplace daily living tasks as exemplified here. Greater consideration could also be given to engaging with the natural world such as bird tables, raising hens, garden activities or keeping pets to enrich the lives and well-being of residents.

4.5 Limitations

The inclusion of older adults enrolled at a volunteer-led University as one strand of the recruitment strategy resulted in a relatively well-educated sample, who may also have had above average levels of affluence. This may limit generalisability, as their relative affluence will have contributed towards their ability to undertake some of the activities identified as positive (purchases, eating out, and expanding knowledge). Further work could seek to establish generalisability through a more representative sample including less well-educated groups and those who live with more financial pressures. In addition, as the data was gathered as part of a well-being intervention, participants may be atypical in how they identify aspects of their life as positive due to their interest in this topic.

In common with many studies, 'older adults' were defined as 60 years and over. Future work could examine differences in events identified as positive within this group, for example between 'younger', older adults (60–70) who may have work commitments and even still have parents requiring support and the oldest old (80+) who are likely to have less demands on their time but be less able to access opportunities and experiences independently.

5 Conclusions

This is the first study to analyse large amounts of qualitative data in a community dwelling sample of older adults to understand the nature of the life events perceived as positive. That hedonic and eudemonic well-being are both constituents of overall well-being is clearly evidenced by this data. However, comparison of the study material with existing models of well-being suggests that while there is abundant evidence for SWB, the existing models of eudemonic well-being are not comprehensive enough to account for all the data. *While the data collected provided evidence for all the current dimensions of well-being in* Ryff's *(1989) model, two new additional dimensions, life-affirmation and mindfulness were also identified.* The question of whether these dimensions are unique to this age group and a feature of ageing and whether the model should be configured differently across the life span requires further investigation.

Individual differences variables do not commonly figure in health models other than as personality variables. While mindfulness is generally perceived as a state, there are individual differences in naturally occurring levels of mindfulness and these may impact on well-being. The links between mindfulness and life-affirmation require further research to establish whether they are separate entities or whether mindfulness may facilitate life-affirming experiences.

Compliance with Ethical Standards

Conflict of Interest   The authors declare that they have no conflict of interest.

Ethical Approval   This article contains studies with human participants. Ethical approval was obtained from the Research Ethics Committee Sheffield Hallam University, UK.

Informed Consent   Informed consent was obtained from all individual participants included in the study.

References

Abrams, D. C. M., Vauclair, C. M., & Swift, H. (2011). *Predictors of attitude to age across Europe.* Department for Work and Pensions research report no 735. https://kar.kent.ac.uk/29734/1/rrep735.pdf accessed 15th September 2017.

Andrews, M. (2009). The narrative complexity of successful ageing. *Int J Sociol Soc Policy, 29*, 73–83.

Aristotle, Jowett, B., & Davis, H. W. C. (1920). Aristotle's Politics. Oxford: At the Clarendon Press.

Baird, B. M., Lucas, R. E., & Donnellan, M. B. (2010). Life satisfaction across the lifespan: Findings from two nationally representative panel studies. *Soc Indic Res, 99*, 183–203. https://doi.org/10.1007/s11205-010-9584-9.

Baumeister, R., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychol Bull, 117*, 497–529.

Bloom, D. E. (2011). 7 billion and counting. *Science, 333*(6042), 562–569. https://doi.org/10.1126/science.1209290.

Bone, A. E., Gomes, B., Etkind, S. N., Verne, J., Murtagh, F. E., Evans, C. J., & Higginson, I. J. (2018). What is the impact of population ageing on the future provision of end-of-life care? Population-based projections of place of death. *Palliat Med, 32*(2), 329–336. https://doi.org/10.1177/0269216317734435.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qual Res Psychol, 3*(2), 77–101.

Busseri, M. A., & Sadava, S. W. (2011). A review of the tripartite structure of subjective well-being: Implications for conceptualization, operationalization, and synthesis. *Personal Soc Psychol Rev, 15*, 290–314.

Calasanti, T., Slevin, K. F., & King, N. (2006). Ageism and feminism: From "et cetera" to center. *NWSA J, 18*(1), 13–10.

Corcoran, J., Brown, E., Davis, M., Pineda, M., Kadolph, J., & Bell, H. (2013). Depression in older adults: A meta-synthesis. *J Gerontol Soc Work, 56*(6), 509–534.

Davis, D. M., & Hayes, J. A. (2011). What are the benefits of mindfulness? A practice review of psychotherapyrelated research. *Psychotherapy, 48*(2), 198–208.

DeCharms, R. (1968). *Personal causation*. New York: Academic Press.

Deci, E. L. (1975). *Intrinsic motivation*. New York: Plenum.

Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behavior. *Psychol Inq, 11*, 227–268.

Diener, E. (2000). Subjective well-being: The science of happiness and a proposal for a national index. *Am Psychol, 55*, 34–43.

Diener, E., Sapyta, J. J., & Suh, E. (1998). Subjective well-being is essential to well-being. *Psychol Inq, 9*, 33–37.

Harter, S. (1978). Effectance motivation reconsidered: Toward a developmental model. *Hum Dev, 1*, 661–669.

HM Government. (2011). *Healthy lives, healthy people*. London: UK Stationery Office Limited.

Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: A meta-analytic review. *PLoS Med, 7*(7), e1000316. https://doi.org/10.1371/journal.pmed.1000316.

Husk, K., Lovell, R., Cooper, C., Stahl-Timmins, W., & Garside, R. (2016). Participation in environmental enhancement and conservation activities for health and wellbeing in adults: A review of quantitative and qualitative evidence. *Cochrane Database of Systematic Reviews, 5. Art.* No.: CD010351, doi:10.1002/14651858.CD010351.pub2.

Isaacowitz, D. M. (2005). Correlates of wellbeing in adulthood and old age: A tale of two optimisms. *J Res Pers, 39*, 224–244.

Kahneman, D., Diener, E., & Schwarz, N. (1999). *Wellbeing: The foundations of hedonic psychology*. New York: Russell Sage Foundation.

Killen, A., & Macaskill, A. (2015). Using a gratitude intervention to enhance wellbeing in older adults. *J Happiness Stud, 16*(4), 947–964.

Martín-María, N., Miret, M., Caballero, F. F., et al. (2017). The impact of subjective well-being on mortality: A meta-analysis of longitudinal studies in the general population. *Psychosom Med, 79*(5), 565–575. https://doi.org/10.1097/PSY.0000000000000444.

Nosek, B. A., Banaji, M. R., & Greenwald, A. G. (2002). Harvesting implicit group attitudes and beliefs from a demonstration web site. *Group Dyn Theory Res Pract, 6*, 101–115. https://doi.org/10.1037/1089-2699.6.1.101.

Population Reference Bureau. (2014). *2014 World population data sheet*, http://www.prb.org/pdf14/2014-world-population-data-sheet_eng.pdf Accessed 15th September 2017.

Reis, H. T. (1994). Domains of experience: Investigating relationship processes from three perspectives. In R. Erber & R. Gilmour (Eds.), *Theoretical frameworks for personal relationships* (pp. 87–110). Hillsdale: Erlbaum.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and wellbeing. *Am Psychol, 55*, 68–78.

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic wellbeing. *Annu Rev Psychol, 52*, 141–166.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *J Pers Soc Psychol, 57*, 1069–1081.

Sargent-Cox, K. A., Rippon, M., & Burns, R. A. (2014). Measuring anxiety about aging across the adult lifespan. *Int Psychogeriatr, 26*, 135–145. https://doi.org/10.1017/S1041610213001798.

Strawbridge, W. J., Wallhagen, M. I., & Cohen, R. D. (2002). Successful aging and well-being: Self-rated compared with Rowe and Kahn. *The Gerontologist, 42*(6), 727–733. https://doi.org/10.1093/geront/42.6.727.

Stessman, J., Rottenberg, Y., Shimshilashvili, I., Ein-Mor, E., & Jacobs, J. M. (2014). Loneliness, health and longevity. *J Gerontol A Biol Sci Med Sci, 69*(6), 744–750.

Stirling, E. (2010). *Valuing older people: The positive psychology of ageing*. West Sussex: Wiley Blackwell.

UK Office for National Statistics, (2016). *Mid-2015 Population Estimate,* https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest Accessed 15th September 2017.

UK Office for National Statistics, (2019). Mid-2018 Population Estimates. https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/latest Accessed 11th August 2019. Waterman, A. S. (2008). Reconsidering happiness: A eudaemonist's perspective. *J Posit Psychol, 3*, 234–252.

Waterman, A. S., Schwartz, S. J., Zamboanga, B. L., Ravert, R. D., Williams, M. K., Bede Agocha, V., et al. (2010). The questionnaire for eudaimonic well-being: Psychometric properties, demographic comparisons, and evidence of validity. *J Posit Psychol, 5*, 41–61.

Publisher's Note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.