



Wellbeing as Emergent from the Leveraging of Polarities: Harnessing Component Interdependencies

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Abstract

The starting premise of this article is that within existing approaches the nature of the inter-relationship between components of wellbeing is both under-conceptualized and under-measured. This paper contrasts three perspectives of wellbeing component interrelationship. The first and most common is a hierarchical approach, which prioritizes economic wellbeing and uses this to fund attainment of other components of wellbeing, such as social and environmental. A second perspective, which we call aggregation approaches, list dashboards of wellbeing components and average them. Both of these approaches emphasize the *dependence* and *independence* of the underlying components respectively. In this paper we develop a conceptualization of wellbeing based on the *interdependence* of eight components: economic, environmental, social, cultural, psychological, physical, spiritual and cultural. Our theory of interdependence is a multarity-based view of wellbeing which sees the latter as emerging from the integrated leveraging of at least four fundamental polarities: economic and environmental, physical and psychological, material and spiritual and social and cultural. Wellbeing costs increase and value creation opportunities lost when interdependence between components is ignored.

Keywords Wellbeing · Components · Interdependence · Polarities · Leveraging

1 Introduction

What is measured is a function of how a phenomenon is conceptualized. This is true for the concept of wellbeing, where measurement scales proliferate but their underlying theoretical assumptions have not received adequate conceptual critique. It is time, we feel, for such

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a critique to take stock of the direction we are heading, assess inadequacies and argue the case for an alternate view which overcomes present shortcomings. This is important work given that the concept of wellbeing increasingly guides national frameworks.¹

There appears consensus that wellbeing is a unity of different components (Bleys 2012). Although these components and their representations vary, we zero in on eight components in particular identified across disciplines including economic (OECD 2013), social (Keyes 1998), cultural (Torjman 2004), environmental (Callicott 1996), psychological (Ryff 2014), spiritual (Peterman et al. 2002), physical (WHOQOL Group 1998) and material (Perry 2009).²

Our critique of alternative ways of conceptualizing this unity and differentiation finds though that much work has focused on differentiation—what the different components are—but much less about how this differentiation integrates to form a unity called wellbeing. That is the concern of our paper here: how does wellbeing arise from both differentiation and integration of components? This question requires theories of wellbeing which explain both differentiation—what the different components are—as well as unity—how the different components come together. Measurement can then proceed on more robust conceptual grounds.

We compare and contrast the two current leading views of wellbeing—hierarchical and aggregation—and propose a third alternative—wellbeing-as-a-multarity. The dominant theory-in-use by most developed societies—hierarchical—follows a Maslowian (1954) logic which sees component interactions as hierarchically ordered with economic wellbeing serving as a necessary foundation for the creation and sustenance of other types of wellbeing such as social, environmental and psychological. The nature of the interrelationship between components is seen as one of *dependence*—other components depend on economic wellbeing. Much material and economic benefit has resulted from the hierarchical model and it continues to serve us well. However, whilst still useful, the dark side of the hierarchical view consists of major economic inequalities in distribution, agency and opportunity, environmental degradation, social injustice, existential meaninglessness, psychological anxiety and depression as well as ‘diseases of affluence’ (de Graaf Wann and Naylor 2014; McKeown 1988; Steffen et al. 2011; Stiglitz et al. 2010).

Wellbeing literature has served as an antidote to the hierarchical model calling for attention to a wider set of wellbeing components as well as highlighting the limitations of economic solutions to all wellbeing issues. These approaches, which we call aggregation, have resulted in the proliferation of multi-component wellbeing scales and research (Bandura, 2008; Ciommi et al. 2017; Cummins and Weinberg 2015), which essentially aggregate and average components. The view of interrelationship is one of *independence* of the underlying components as a list. The benefit of aggregation wellbeing models is that they incorporate many more components of wellbeing bringing them out of under-emphasis to a more explicit focus. The shadow side of aggregation models though is the lack of attention to component interactions and integrated wholeness.

¹ See, for example, the 2018 announcement by the New Zealand Prime Minister Jacinda Ardern <https://www.stuff.co.nz/national/politics/101066981/nz-government-to-lead-world-in-measuring-success-with-wellbeing-measures>. Also, the Canadian Index of Wellbeing (Smale and O’Rourke 2018).

² This list is theoretically robust enough to be used as a basis for testing and building alternative theories of component integration, which is our purpose here. The list though may not be exhaustive and other components may be discerned. However, we are interested in those components which integrate to form a unity and feel this list is comprehensive, widely recognized, as well as internally coherent, which we elaborate throughout the paper.

We note that both the hierarchical and aggregation conceptions carry key assumptions in common. In particular, both inadequately bring together the various components of wellbeing. The aggregation view does include many different components across different scales but these are more dashboards than a theory explaining how these components integrate to form a unity called wellbeing. In addition, both perspectives allow for the separation of the individual components of wellbeing as well as over-emphasize their specialization. That is, the belief is that specializing in individual wellbeing components and then bringing these specialists together can maximize overall wellbeing. Finally, both views allow for compensability/substitutability defined as the possibility of compensating a deficit in one component with a surplus of another (for a critique see Mazziotto and Pareto 2013). Such allows an over-focus on one component to the neglect of other complementary components and how increasing one component must be supported by the activation of other interdependent components.

The view we advance here as a third complementary alternative is that wellbeing is neither a differentiated phenomenon or a unity; it is both at the same time—a differentiated unity. This view sees wellbeing as a paradox and achieving wellbeing then is much about the leveraging of this paradox. Our conceptualization is rooted in the polarity leveraging work of Johnson (2014). Applying a polarity lens to wellbeing reveals that (1) wellbeing is comprised of the eight different individual components, but also (2) it is comprised of different polarities (interdependent pairs) of the eight components and (3) these polarities integrate to form a multarity, which is a unity of multiple polarities. In contrast to the theory of interrelationship in the hierarchical and aggregation views, the multarity view emphasizes the *interdependence* of components. Throughout our paper when we use the term polarity we are referring to one interdependent pair of wellbeing components. Although there are many potential interdependent pairs within the eight components³ we focus on four in particular: economic and environmental, social and cultural, psychological and physical and material and spiritual. The term multarity refers to multiple sets of polarities—how the sets of polarities integrate to form an overall unity called wellbeing.⁴

In contrast to both the current hierarchical and aggregation conceptualizations, the wellbeing-as-multarity view emphasizes the importance of leveraging the energy between interdependent pairs of wellbeing components. Interdependent pairs need each other in order to thrive maximally. Interdependence is thus a key unit of analysis for conceptualization and measurement. Actors, such as individuals, communities, nations or the globe, are unlikely to realize the potential of wellbeing if they treat each component as an individual independent phenomenon without also attending to inherent polarities and the overall multarity, a major oversight in present frameworks. This is a shift in thinking away from specialization and either/or logic to the embrace of paradox and both/and logic.

Our contribution is twofold. First, we take a conceptual approach to existing wellbeing measurement. This makes underlying theoretical assumptions more explicit and holds them up to critical light. Second, based on the identification of key weaknesses in existing theoretical assumptions, we advance a new view and measurement of wellbeing as a multarity.

³ Throughout our paper when we refer to the 'eight components' we are meaning: economic, environmental, social, cultural, psychological, spiritual, physical and material components of wellbeing. We are interested in how these eight form a unity.

⁴ Multarity can also mean more than two variables that are interdependent. This is in contrast to 'polarity' which is two interdependent variables. We use the term differently to refer to multiple polarities which integrate to form a unity.

Future research can proceed, in our view, along more robust conceptual and measurement grounds.

The paper next clarifies the eight components of wellbeing model before then critiquing the hierarchical and aggregation models in use. We then articulate our alternative multarity view including conceptualization and measurement before closing with implications for future research and practice.

2 An Eight-Component Model of Wellbeing

2.1 Definition

As a concept, wellbeing is both complex and diverse with a long history of conceptualization and measurement (Gasper 2004, 2005). As used in this paper, wellbeing refers to the capacity of an entity (individual, community, society, nation, globe) to flourish both sustainably and resiliently. This definition emphasizes that wellbeing is about maximizing potential not just meeting basic needs (flourishing) (Sen 1999). But further, such flourishing needs to be sustainable by not exhausting or depriving key underlying components. Further, flourishing resiliently means being able to read the early warning signs of disequilibrium and restore flourishing in the right time.

2.2 Disciplinary Contributions

The various multi-item scales reveal lists of things deemed important to wellbeing. The OECD Better Life Index includes housing, income, jobs, community, education, environment, civic engagement, health, life satisfaction, safety and work-life balance (OECD 2013). The World Health Organization Quality of Life Index measures physical health, psychological health, social relationships, environment and spirituality (WHOQOL 1998). The personal wellbeing index includes the domains of standard of living, health, achieving in life, relationships, safety, community-connectedness and future security (International Wellbeing Group 2013). These lists are also complemented by literature on wellbeing that is disciplinary-specific, as displayed in Table 1.

Table 1 reveals both the breadth and systemic interconnections of different types of components of wellbeing in forming a holistic, mutually supportive, emergent process. From an economic perspective, Gasper has noted that many have regarded wellbeing as being equated with being well-off (2004). That is, as shown in Table 1, economic wellbeing refers specifically to income and the availability of financial wealth. Similar, yet distinct, is material wellbeing which refers to the physical, material assets that people come to buy, possess and/or have access to like a car, house, furniture, comforts and luxuries. In contrast to the tangibles of economic and material wellbeing, and as per Huppert's (2009) definition in Table 1, psychological literature can see wellbeing as an intangible, internal feeling and functioning state. Psychological literature distinguishes these intangibles as between hedonic and eudaimonic aspects of wellbeing (Delle Fave et al. 2011), including feeling states like happiness, pleasure and utility along with meaning and engagement.

Psychological wellbeing refers to the individual's mental health whereas social wellbeing is interpersonal and relates to how we are able to live together as one through our functioning, integration, contribution to and participation in society and/or with groups of others. The work of Keyes (1998) is here seminal. Cultural wellbeing links wellbeing to

Table 1 Components of Wellbeing by Discipline

Component	Example definition	Dimensions	Purpose	Example references
Economic	The stock and flow of economic resources that an individual or household receives over time.	Stocks = accumulated assets and flows = income, wages, salaries	Provide income to purchase necessities and luxuries of life	OECD (2013)
Social	'Social wellbeing is the appraisal of one's circumstance and functioning in society' (Keyes, 1998, p. 122)	Social integration, social contribution, social coherence, social actualization, social acceptance	Recognizes the importance of interpersonal relationships to get on in the world	Keyes (1998)
Cultural	The extent to which people can actively engage with their ethnic culture, customs, traditions and values inherent to their cultural heritage.	Cultural activity, participation, satisfaction, preservation, role	To preserve and respect ethnic diversity	Torjman (2004)
Environmental	Refers to the health of the natural environment and whether it provides the conditions to support life goals in a location.	Example components could include pure and safe air and water, low pollution, fertile agricultural soil, biodiversity, sanitation, efficient waste removal, protection from sun exposure, food and water security	To cultivate healthy and hospitable natural contexts in which to live	Callicott (1996) Pepper (1996)
Psychological	"is about lives going well. It is the combination of feeling good and functioning effectively" (Huppert, 2009, p. 137)	Life satisfaction Hedonic: absence/presence of positive/negative feelings Eudaimonic: Self-acceptance, purpose in life, environmental mastery, positive relationships, personal growth, autonomy Flourishing	Mental health	OECD (2013) Ryff (2014) Huppert and So (2013)
Spiritual	'...personal search for meaning and purpose in life, connection with a transcendent dimension of existence and the experiences and feelings associated with that search' (Peterman et al., 2002, p. 49)	Peace, meaning, self-transcendence, connection with ultimate reality, enlightenment, self-actualization, authenticity	To cultivate transpersonal dimensions	Peterman et al. (2002) Sawatzky et al. (2005) Pargament and Sweeney (2011)

Table 1 (continued)

Component	Example definition	Dimensions	Purpose	Example references
Physical	Quality of physical health	Nutrition, pure water, sleep, medical care, health knowledge and exercise	Physical health	WHOQOL Group (1998)
Material	Whether an individual has the material assets that allow them to do and be what they seek in life. Extrinsic motivators	Shelter, transport, furniture, technology, tools, hardware, creature comforts	To provide basics, conveniences and comforts	Perry (2009)

ethnic identity and the individual's connection with ethnicity, culture and tradition, all of which can form a subset of the larger 'one society' focus of social wellbeing. Table 1 also shows that environmental wellbeing draws on ecological literature and the needs of the natural environment, including the quality of air and water, fertility of agricultural soils, biodiversity and preservation of ecosystems. Such draws attention to the interdependence of other components of wellbeing, such as economic, with ecological systems.

Physical wellbeing includes the medical health of the body, which is an important underpinning and pre-requisite for flourishing sustainably and resiliently. Finally, all of the above components of wellbeing focus on the needs of living within time and space while research into spiritual wellbeing (Pargament 2007)⁵ looks at the contributions of transcendence, higher purpose, and non-material sources of wellbeing which may or may not be accessed through religions, myths and various forms of spirituality.

2.3 Distinctions

In order to gain deeper insight into how these eight components form an integrated and counter-balancing whole, it is worth further elaborating distinctions between components. Indeed, some components form natural pairs and recognizing this gives insight into the counter-balancing nature of their relationship. Economic wellbeing refers specifically to income and employment while material wellbeing is about the things money can buy like houses, cars, furniture and clothes. The distinction between the two becomes apparent when considering the risks each is prone to when overinflated. Too much accumulated cash is wasted opportunity to enrich living standards while too much material wellbeing without maintaining economic flow will threaten the durability of material living standards. Too much expenditure into material wellbeing can jeopardize future economic wellbeing by limiting savings. Excess material wellbeing can also promote too much comfort in living standards risking physical wellbeing through inactivity or environmental wellbeing by basing economic and material growth on the depletion of environmental resources without renewal and waste dumping.

Social wellbeing captures how well we get on with other people interpersonally but also at larger scales as one entity, be it community, nation or globe (Keyes 1998), while cultural wellbeing refers more specifically to belonging to a specific ethnic identity. When fully expanded, social wellbeing can extend to feeling part of the globe and being a global actor. While this is good it also loses connection with cultural differences. So, cultural wellbeing

⁵ In defining spiritual wellbeing we follow the work of Pargament (2007) and mean development of the human spirit. This is spirituality in the human rather than theological sense and so is not based on any particular stance regarding ontological truth or religious claims. Some may choose to forgo this component of wellbeing (eg. atheists) in which case they seek to make up for its wellbeing purpose by inflating other components, eg. materialism, psychological inner work, environmental homage. The view taken here though is that human spirit is a legitimate dimension of human experience requiring distinct practices for development. When the human spirit is developed it offers the individual resources for dealing with life's toughest challenges and search for meaning different from more secular methods (Pargament and Sweeney 2011). Spiritual wellbeing guards against particular types of inflation which disturb wellbeing when spirituality is absent. Spiritual wellbeing is also not synonymous with religion. Religion is seen as an institutional expression of spirituality (King et al. 2001). One can then be spiritual but not religious by seeking other avenues for spiritual development. Spiritual wellbeing allows many paths to its fulfilment. Some multi-item scales, such as the Personal Wellbeing Index (2013) though make spirituality and religion an optional domain in their scales due to many respondents claiming it as not applicable to them (International Wellbeing Group 2013).

helps to stop social wellbeing from making us too homogeneous by preserving some sense of diversity. Social wellbeing is about integration and being as one while cultural wellbeing is about things which make us different and unique.

Psychological wellbeing is restricted to mental health while spiritual wellbeing deals with transpersonal aspects beyond space and time including relationship with issues of transpersonal reality, ultimate and true nature, unitive and transcendent states of consciousness (Delle Fave et al. 2013; Lajoie and Shapiro 1992; Pargament and Sweeney 2011). Again, the distinction is important when considering risks. Too much focus on psychological wellbeing can make an entity too focused on themselves without sufficient counter-balance through transpersonal loci of consciousness. The processing of past psychological trauma can help to liberate from lingering adverse effects but still retain the egoic-self as the center of one's operation in the world. By contrast, spiritual wellbeing redefines self to be beyond the bounds of ego (Wilber 2006). Conversely, people with psychological issues can retreat into spiritual recluse but the latter is ill-equipped to specifically deal with the psychological basis of their issues grounded in the reality of their human life.⁶

Another distinction between first-order and second-order levels of wellbeing components is useful. There is a plethora of wellbeing scales each listing different components. Some recognize the disciplines as we do here and list components as economic, social, psychological etc. But still others list things like energy, transport, accommodation, education, aged care and law and order as part of the measurement of wellbeing. We see the eight components we focus on here as first-order wellbeing components and the latter (education, transport, energy etc.) as second-order components of wellbeing. This distinction is important both conceptually and practically. Conceptually, in the interests of rigor, we focus here only on the first-order wellbeing categories. Practically, it is important to link second-order actions with first-order components as an integrated wellbeing strategy, otherwise, investments in second-order components may not coordinate in a synergistic way to achieve outcomes in the first-order components. This though is a topic for another paper.

So, inclusion within our eight-component model is on the basis of each component bringing unique value to the entity in terms of flourishing and where pathological consequences ensue from omission of any one component. Conceptualizing these components as a unity allows us to now compare and contrast different assumptions about component integration. How the literature implicitly or explicitly conceives of component integration is the inquiry of our next section.

3 Wellbeing as a Unity: Different Approaches

Table 2 lays out three alternative, but also complementary, perspectives of component integration and their summary comparison.

3.1 The Hierarchical View

The hierarchical approach to wellbeing is represented by those models which advocate that wellbeing emerges from the progressive satiation of human needs in a hierarchical order

⁶ The relationship between psychology and spirituality has become the domain of transpersonal psychology (Cortright 1997; Lajoie and Shapiro 1992).

Table 2 Alternative perspectives of wellbeing components inter-relationships

Perspective of Integration	Theoretical Base	Focus	Theory of Component Interaction	How achieved	Outcomes	Measurement	Limitations
Hierarchical	Utilitarian economic theories; trickle-down economics	Some components conscious, others not	Hierarchical, Dependent, stage-based (economic first, other components follow); prioritize and specialize	Prioritize and specialize; problem-solving	Overall wellbeing emerges from resource availability and symptom management	GNP	Fails to recognize unity among all components; no explicit theory of component integration
Aggregation	Existing wellbeing literature and multi-item scales	Lists/dashboards of various wellbeing components	Interdependence. Wellbeing within each component aggregates to an overall wellbeing index	Spread attention across different components of wellbeing	Wellbeing is a function of being well in multiple areas of life	Multi-item wellbeing scales, component aggregation, mean scores	Lack of attention to theory of the fundamental nature of component inter-relationships
Multarity	Polarity Management	All eight components	Interdependence. Components as polarities which combine to form a multarity	Manage and leverage polarities	Effectiveness on each polarity combines to form an aggregate multarity of overall wellbeing	Scores of each polarity for upside relative to downside, multarity assessments	Complexity may impede adoption

(Clarke 2005). Based on Maslow (1954), these needs and their progression typically proceed from (1) basic, (2) safety, (3) belonging, (4) self-esteem through to (5) self-actualization needs. As shown in Table 2, perhaps the most modern expression of this in advanced economies are those models which place economic wellbeing as the priority and believe that outcomes on all other components flow from that resourcing. A prosperous economy funds basic and safety needs and opens the capacity for attention to belonging and self-actualization needs (Welzel et al. 2003).

At the organizational level, shareholder wealth maximization has historically been seen as the primary corporate objective from which flows the capacity to supply other types of wellbeing such as material, psychological and social through employment of people, provision of goods and services and taxes for public goods (for a critique see Jones and Felps 2013). Similarly at the societal level, advanced economies prioritize gross national product as the wellspring from which flows other types of wellbeing (for a critique see Diener and Seligman 2004). An underlying logic is that surplus financial resources compensate for other areas of wellbeing. The amount that is redistributed varies across welfare state regimes ranging from modest redistribution in liberal schemes to more generous and universal cover within social democratic models (Esping-Andersen 1990). Overall though, the dominant logic is that the more financial wealth the better the quality of other components of wellbeing that can be funded.

3.1.1 Wellbeing Assumptions

As shown in Table 2, a hierarchical approach is often associated with Utilitarian economics, which equates wellbeing with utility gained from purchases via income which fulfils certain preferences; so-called being *well-off*. But more directly the underlying theory of component integration is rooted in assumptions related to Maslowian logic (Maslow 1954) where wellbeing component interrelationships are characterized as hierarchical and follow a stage progression. Key assumptions include the dependence of other components of wellbeing on economic wellbeing, prioritization of economic wellbeing, specialization and prioritization of components which allow for cognitive parsimony by focusing on one or a few components and less about holism, components can be separated from each other, prioritization is necessary to compensate for problems that arise in other components and finally, financial surplus drives wellbeing quality.

3.1.2 Critique

A key assumption within hierarchical systems is that all other wellbeing components are somewhat dependent on economic wellbeing for sustenance. However, the relationship between wealth and wellbeing is contested (Gasper 2005). This is particularly made evident by the extensive critiques of GDP and its shortcomings as a measure of human wellbeing (Bleys 2012; Van den Bergh 2009). The Hierarchical model tends to assume a linear relationship between economic and material wellbeing and all other types of wellbeing. Research shows a curvilinear relationship where financial wealth does contribute to happiness/life satisfaction but only to a point—the threshold hypothesis (Easterlin 1974; for more recent data see Ciommi et al.'s 2017 longitudinal study of Italian wellbeing; van Zanden et al. 2014 'How was life' study; Gasper 2005; Max-Neef 1995; Patrizii et al. 2017).

What we are interested in though is not just the relationship between financial wealth and a single quality of life measure like happiness or life satisfaction. We are interested in the relationship between economic wellbeing and all other types of wellbeing in Table 1. The experience of advanced economies shows that it is possible for this relationship to be inverse in some cases. That is, while economic and material wellbeing can increase it can be at the cost of environmental, social, physical, spiritual, cultural, and psychological wellbeing. The Utilitarian basis for some hierarchical thinking reduces wellbeing to hedonic outcomes such as pleasure and happiness (well-feeling) ignoring more eudaimonic meaning-making (Gasper 2004).

Compensation becomes necessary from prioritizing economic wellbeing because it does not treat all eight components as a unity. Instead, assumptions of hierarchy, prioritization and specialization mean that some components are in focus (e.g. economic, material) while others are overlooked (e.g. environmental) or pushed into the background (e.g. spiritual) or dealt with as problems arise. Assumptions of separating components, specializing and prioritization are ways of coping with the complexity of an eight-component unity by splitting off some components of wellbeing from consciousness.

However, patterns of wellbeing symptoms suggest that all components need their adequate attention and those rendered unconscious will eventually assert themselves. Hierarchical systems typically then try to treat these symptoms from within the same system without questioning the very assumptions about wellbeing which are the cause of the problems being compensated. Hierarchical systems then are not fully conscious of all eight components of wellbeing but also are not fully conscious of their assumptions about wellbeing as a unity. As listed in Table 2, societies dominated by hierarchical systems thus display a conscious/unconscious/compensation dynamic. From a wellbeing unity perspective this is both inefficient and ineffective. Alternative systems then must be conscious of all eight components as a unity but also their underlying assumptions about component interactions that sustain that unity.

3.2 The Aggregation View

The shortcomings of hierarchical approaches have given rise to aggregation models. Informed by human needs (Doyal and Gough 1991) and/or capabilities (Sen 1999) approaches the aggregation model of integration is represented by the many composite indices of wellbeing (see Ciommi et al. 2017; Hák et al. 2012 for reviews), including the Human Development Index, the OECD Better Life Index and the Gallup-Sharecare Wellbeing Index. These indices are aggregates which result from weights assigned to individual components, their scores and some synthetic function (OECD 2008). Aggregation models are more conscious of wellbeing itself as a primary indicator as opposed to just economic indices such as GNP (gross national product) but also cover a wider, deemed universal, set of wellbeing components (Bleys 2012).

Mazziotta and Pareto (2016) critique those indices which allow compensation between the components, as where growth in one component can offset decline in another, thus giving a distorted picture of the dynamic equilibrium among components at the heart of wellbeing. Instead, Massoli et al. (2014) advise that in aggregating scores across different components such should be built on non-substitutable and non-compensatory indicators where all components have the same importance and compensation among them is not allowed. Ciommi et al. (2017) state that the only one that satisfies all the previous requirements is the Adjusted Mazziotta-Pareto Index introduced in Mazziotta and Pareto (2013)

and re-adapted in Mazziotta and Pareto (2016). The latter index calculates both the mean as well as a penalty for unbalance of the individual components.

Other innovations designed to improve composite indicators within the aggregation tradition include taking account of the costs involved to make wellbeing happen (Patrizii et al. 2017). Also, the OECD Better Life Index allows for subjective weighting of dimensions by respondents thus avoiding the imposition of a given meaning of wellbeing. Segre et al. (2011) also note that wellbeing measures suffer from legitimacy issues relative to GDP. Wellbeing measures, it is argued, aim to be implemented in civil society contexts and so require the participation of the latter for legitimation.

3.2.1 Wellbeing Assumptions

Compared with the hierarchical approach, Table 2 shows that Aggregation models are conscious of wellbeing as the primary goal and identify and aggregate multiple components and domains. Aggregation models tend towards dashboards and lists of components and domains and seek a single composite index. Such an approach emphasizes the independence of each component and its unique value-add to an overall composite.

3.2.2 Critique

Whilst drawing attention to a fuller range of wellbeing components than the hierarchical view, the aggregation view tends to treat components as independent paying little regard to interdependencies.⁷ This leads to heterogeneous lists (e.g. 178 composite indices compiled by Bandura 2008) and syntheses of lists (e.g. Alkire 2002; Gasper 2004). The assumption is that so long as an actor includes and attends to each component then wellbeing follows. However, this ignores interaction effects between components (Table 2). Some components are in conflict with one another where the more of one can mean less of another. How does an actor deal with such conflicts and protect against bias and over-/under-emphasis? How does an actor consciously combine different components of wellbeing for larger synergistic effects—for example economic growth and sustainable resource renewal? Being unconscious of an explicit theory of wellbeing unity through component interaction can mean problems go undetected for long periods or make a system reactive and slow to respond. Indeed, the system may fail to comprehend that it is caught in a reactive dynamic of fixing problems in one component caused by efforts in another. Instead, an explicit theory of component interaction informs a more systematic approach to wellbeing as a differentiated unity.

Neither the hierarchical or aggregation views directly include an explicit theory of unity through component interaction. We next explore an alternative model with different assumptions about how such unity is achieved through component interrelationships.

3.3 The Multarity View

The hierarchical approach prioritizes one component (e.g. economic) and sees this as the source for fulfilling other components as they become chosen or made conscious. The

⁷ A criticism of the aggregation approach that we don't explore further here concerns whether a universal list of wellbeing components is possible or valid.

aggregation view lists and aggregates multiple components and/or domains. The multarity view, grounded in the work of Johnson (2014; forthcoming), sees overall wellbeing emerge through the conscious dynamic balancing flow between all eight components. Here, the fundamental relationship between the components is one of polarities—interdependent pairs which are co-dependent to achieve necessary dynamic equilibrium as a unity. When functioning well, this system builds synergy between interdependent pairs being conscious of their need for each other to thrive. This is a dynamic moment-to-moment effort at dynamic equilibrium requiring awareness of the status of each component within any action and adjustments made to allow continuous free flow between the needs of each component and the context in which these needs are being addressed.

The inspiration for the multarity view arises from observing interdependencies between components. We want to grow an economy but this involves ongoing consumption of natural resources (environmental wellbeing) (MacNeill 1988). Economic growth increases material wellbeing but at the same time can lessen an actor's development of inner intrinsic sources of life-meaning (eudaimonic psychological wellbeing and spiritual wellbeing) (Bartolini and Sarracino 2017). We strive for united societies (social wellbeing)—one nation, one community—but also have to respect plurality and diversity (cultural wellbeing). We need law and order (social wellbeing) but this costs (economic wellbeing). We can live in the lap of luxury (material wellbeing) but this can lead to diseases of affluence (physical and psychological wellbeing) (McKeown 1988). When counter-balance is ignored, entities (individuals, organizations, societies) become lop-sided and experience downsides arising from over-focus on one component to the neglect of interdependent others.

As used here, multarity means multiple polarities that merge to form a transcendent synthesis of the parts. A polarity is an interdependent pair that works together as an energy system (Johnson 2014; forthcoming). The aim therefore is to leverage the energy between the pair components creating a virtuous cycle to exceed the limits of the energy of individual components. Complex decisions often involve multiple wellbeing components which may be in conflict. Treating wellbeing components not as a unity leads to specialization which is experienced as conflictual either/or choices. “*We prioritize economic wellbeing over all others*” is an example. Not-for-profit organizations may favour social missions over economic objectives whereas commercial organizations may be the reverse. In each case the actor sees the relationship between wellbeing components as a choice. From a multarity view though wellbeing components are polarities to be leveraged not an either/or problem to be solved (Johnson 2014). When viewing any two components as a polarity the underlying logic is both/and not either/or. That is, there is no choice to be made (except how to create synergies)—both components need to be attended to in ways that avoid the excessive downsides of neglecting one of them.

In the polarity leveraging approach, each component of wellbeing is seen as bringing an essential contribution to the interdependency. If that contribution is neglected or underutilized, it will undermine all the other components. Material wellbeing without the benefit of environmental wellbeing leads to excessive resource consumption. Environmental wellbeing without the benefits of material wellbeing leads to material scarcity.⁸ Spiritual wellbeing turns attention to inner sources of contentment when the extrinsic motivators

⁸ Reflected in measures of material intensity per unit of economic welfare (GDP per capita) (Bithas and Kalimeris 2017).

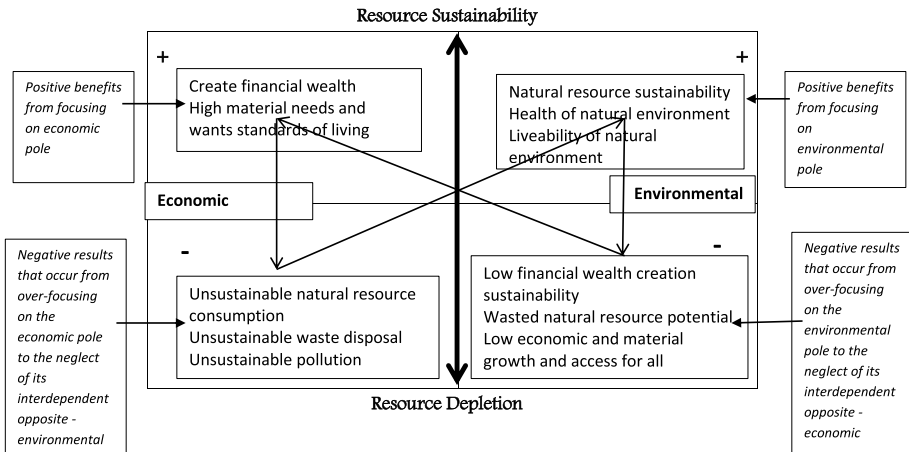


Fig. 1 Resource sustainability

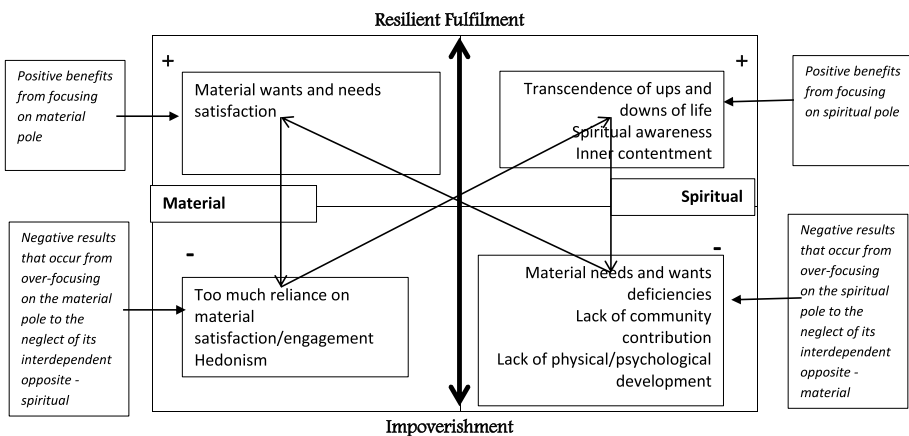


Fig. 2 Resilient fulfilment

of material wellbeing threaten to over-dominate.⁹ Physical wellbeing encourages a focus on the health of the body as opposed to the purely psychological wellbeing of the mind. Cultural wellbeing preserves ethnic diversity and difference amidst the homogenizing integrativeness of social wellbeing. In each instance, the correction is a counter-intuitive paradoxical approach to supporting a pole through the other.

When a decision maker is not conscious that the component interrelationships are polarities to be managed the result is a constant alternation between the poles as being in one for too long (economic growth) produces its downsides (environmental waste) and a crusade to shift to the upside of its opposite pole (environmental sustainability). Figures 1, 2, 3 and

⁹ For a discussion of the wellbeing effects of materialism and extrinsic motivation see Bartolini and Sarracino (2017).

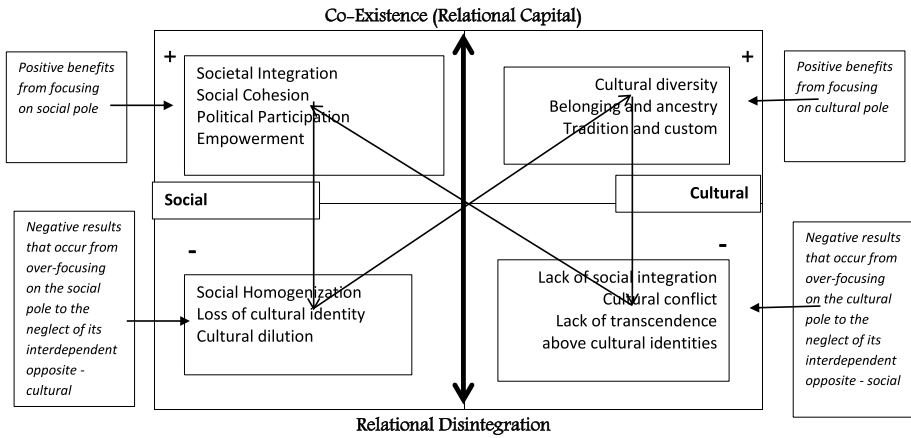


Fig. 3 Co-existence (relational capital)

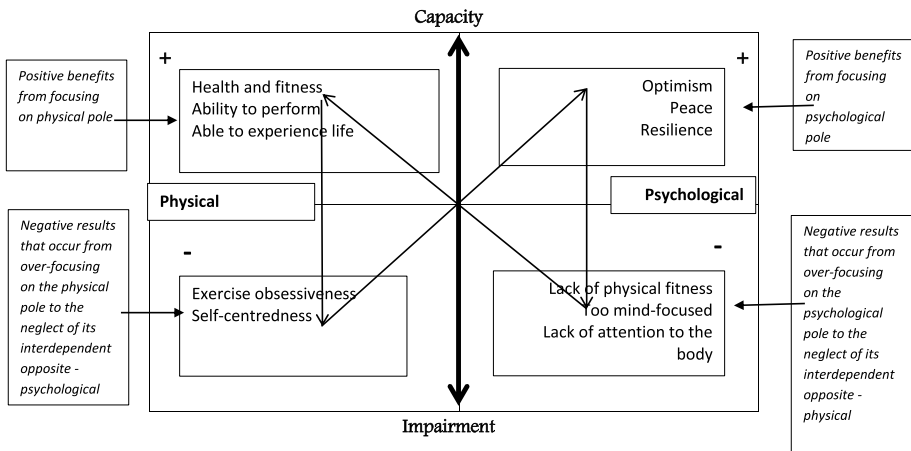


Fig. 4 Capacity

4 illustrate this pattern as an infinity loop for each of the main polarities (seen as the criss-crossing arrows across the quadrants).

The content of the upper quadrants in Figs. 1, 2, 3 and 4 are the positive results experienced from investing in that pole. In practice, the contents are determined by stakeholders but are merely illustrative here. The content of the lower quadrants are the negative results experienced from an over-emphasis on that pole to the neglect of its interdependent partner. Figures 1, 2, 3 and 4 illustrate the energy patterns between interdependent poles. In Fig. 1 for example, if all you focus on is the protection and health of the natural environment to the neglect of economic development then long-term financial wealth generation and security is threatened.

Similarly, in Fig. 2, if one over-focuses on the spiritual pole to the neglect of the material then one can become deficient in being able to meet basic or aspirational needs and wants. The two poles counter-balance each other through the positive benefits each brings.

The trick though is to leverage their interdependence which means being alert as to when you are over-focusing on one pole to the neglect of its interdependent opposite. Again, in Fig. 3, too much social wellbeing, which means living as one society, to the neglect of cultural wellbeing can lead to social homogenization and neglect of cultural differences and uniqueness. Too much focus on physical health (Fig. 4) can be driven by a lack of psychological wellbeing, another example of how wellbeing emerges at the nexus of the interdependence between components.

3.3.1 Transcendent Goals and Costs

A transcendent goal sits above the two upper quadrants which expresses the desired aim of leveraging the polarity. Correspondingly, there is a transcendent loss below the two lower quadrants representing the loss incurred when not achieving the transcendent goal. This loss, or cost, refers to the negative results from over-emphasis on a particular pole to the neglect of its interdependent pole.

Figure 1 displays a polarity between economic and environmental wellbeing. Leveraging these as an interdependent pair is aided by the transcendent goal that sits above these two—e.g. resource sustainability. Economic wellbeing is trying to build financial resources both now and into the future while environmental wellbeing focuses on the preservation and sustainable growth of natural resources. Measuring this polarity seeks to know how we are preserving and building the resource needs of present and future generations.

A transcendent goal that leverages both material and spiritual wellbeing as an interdependent pair is resilient fulfilment, as shown in Fig. 2. Both material and spiritual wellbeing are seeking to offer meaningful experience in life but both are necessary for that meaningful experience to be sustained. Resilient fulfilment means that neither material or spiritual fulfilment are enough on their own. For example, the loss of one's material possessions can be cushioned by the fulfilment that comes from attention to spiritual wellbeing. Measuring the transcendent goal of resilient fulfilment is informing how a population is leveraging both material and non-material sources of fulfilment in their lives.

Social wellbeing emphasizes bringing a population together as one while cultural wellbeing respects differences. This is a classic polarity between differentiation (cultural) and integration (social). Leveraging them as an interdependency is much about co-existing (Fig. 3) with others where there are times to emphasize oneness and yet other times where diversity and plurality are to be respected. Figure 3 displays that a negative result of over-focusing on social wellbeing to the neglect of cultural wellbeing is that societies over-emphasize unity at the expense of differences. The social-cultural polarity captures the unresolvable tension between integration and differentiation at the societal level. Both differentiation and integration have a role to play and it is their counter-balance that is key to wellbeing. Measurement of the achievement of the transcendent goal then is telling us how well both differentiation and integration are being accomplished within a population. Finally, leveraging physical and psychological wellbeing as an interdependent pair serves the transcendent goal of having the capacity to act and function in ways that support acquiring needs and achieving aspirations, including the other transcendent goals.

But it is important to recognize that these transcendent goals are to be measured via a polarity leveraging approach and not seen as independent variables to be measured. That is, the transcendent goal emerges at the intersection of leveraging an interdependent pair of wellbeing polarities and should be measured accordingly. Transcendent goals and costs are ways of assessing how well (or not) an entity is leveraging polarities.

3.3.2 Energy System

In Figs. 1, 2, 3 and 4, the conflict/tension between the two poles shows up as the energy crosses between them. The attraction between the two poles shows up as the energy system wraps around the two poles. It is important to appreciate that there is both attraction/integration energy and conflict/differentiation energy within the interdependent pair. Seeing only conflict or opposites between components is missing the full picture of a polarity (Johnson forthcoming).

Johnson says “when in the downside of one pole it is easy to see that downside as a “problem” and the self-correcting upside of the other pole as the “solution”. Though the upside of the other pole is the necessary self-correction, it is not a sustainable “solution” because it is only part of an energy system (forthcoming: 10). Uni-pole advocates (hierarchical view) tend to be blind to the downside of their pole preference because they cherish so much the upside value and the fear of losing that value. This builds a tolerance towards excessive downside of the preferred pole. An example here is the tolerance for gross inequality in cultures that favour individualism, freedom and liberty over collective outcomes and values. Conversely, nations emphasizing equality and the collective can suffer from a loss of individual initiative, motivation and creativity. The longer and more painfully the downside of one pole is experienced, the more idealized as a ‘solution’ is perceived the upside value of the opposite pole.

Hierarchical approaches are not conscious of the polarity interrelationship between wellbeing components and so become stuck in this infinity loop of excessive downsides and big swings between poles. But the costs are high because too much time is spent in the downsides of each pole. In contrast, a polarity leveraging approach is conscious of the need to spend enough time and energy in the upside of each pole to minimize the limits of the other pole. This makes the whole polarity system more sustainable and resilient, as per our definition of wellbeing.

The important insight is that wellbeing is here seen as a differentiated unity of interdependent pairs that have no resolution. Johnson (2014) argues that we have exacerbated the costs of downsides of polarities through our failure to draw a distinction between problems to be solved and polarities that need leveraging. Two criteria guide the distinction of whether a decision is a problem to be solved or a polarity to be leveraged. First, is the problem ongoing? Polarities are chronic as they have no final resolution but represent an ongoing dance between poles. Second, are the two poles interdependent such that one requires the other over time?

Johnson (2014) shows how many contemporary ‘problems’ are instead unsolvable polarities designed for leveraging interdependencies (e.g. centralization and decentralization; individual and team; differentiation and integration; freedom and equality). Our failure to recognize these polarities and leverage them accordingly results in an extended infinity loop pattern of deep and wide swings manifesting as wasted energy in many areas of society—oscillations between left and right politics, globalization versus localization and ethnic uniqueness versus collective integration.

3.3.3 Measuring Component Polarities and Wellbeing as a Multarity

In terms of measurement, polarity leveraging differs from existing composite indicator approaches within the aggregation view by placing emphasis on polarities as the centre

of measurement not single components. The aim is to understand how well an entity is leveraging wellbeing as a set of polarities. For each polarity measured within wellbeing we would expect to see three patterns: (1) high scores on both poles (indicating strength of wellbeing on individual poles), (2) a large distance between scores between each upside and downside of each pole (indicating a shallow infinity loop pattern) and (3) low breadth between the two poles (indicating high synergy). The first pattern is so because an actor that is managing the polarity well would be seeking to maximize the upside of each pole at the same time (high scores) rather than just one. The second pattern follows because the optimal pattern is for a high score on the upside of a pole and a low score on the downside of that pole. That then is telling us the extent to which an actor is vulnerable to a shallow (preferred) or deep infinity loop pattern. A deep infinity loop pattern is a sign that the actor is not managing the two poles as a polarity but instead attending to each somewhat independently of each other. The third calculation is a direct measure of interdependence between the two components telling whether an actor is deliberately leveraging synergies.

Combining these three patterns could result in a single measure of polarity leveraging based on (1) high upsides, (2) large distance between the upside and downside scores and (3) low breadth between the two poles. Such measures could be ascertained for each key polarity within the set of eight wellbeing components and aggregated for an overall wellbeing polarity management indicator. Such a measure would complement aggregation indicators by indicating how well an entity achieves a conscious counter-balancing flow between the eight components and is minimizing patterns characteristic of ill-being.¹⁰ The latter patterns present as large downside scores on each pole. So, an entity could score well on an aggregation composite index but we would expect this to be not sustainable if the underlying wellbeing approach is not based on efficient and effective management of wellbeing polarities. Eventually, under these circumstances, we would expect to see evidence of deep, but avoidable, infinity loop patterns. This is due to the actor being unconscious of the polarity dynamic driving relationships between the wellbeing components.

To see this imagine a society scores themselves 9/10 on economic wellbeing and 8.5/10 on environmental wellbeing. On an aggregation model, one could conclude that the society then has high economic and environmental wellbeing. But a polarity measurement approach probes further. On a polarity approach these two scores would correspond with the upside quadrants on a polarity map. Say the same society also scores high on each downside quadrant as well. These downside scores are not included in standard aggregation models but tells us at what price the upside scores are being achieved. If the downside scores are also high the economic and environmental wellbeing is coming at a high downside cost. That is, the society is also experiencing strong downside swings as well. This tells us that the society is not managing its economic and environmental wellbeing as a polarity and not leveraging the counter-balancing nature of the two components of wellbeing. Indeed, it is possible that the society is treating each component as independent of the other and with low consciousness of how it is caught in a reactive infinity loop between the two.

¹⁰ That periods of ill-being could be constructive to long-term wellbeing is an issue we leave aside for now. Indeed, wellbeing itself can be seen as part of a polarity where its opposite pole involves constructive periods of dissolution of wellbeing or disequilibrium. The examination of wellbeing as a polarity with disequilibrium is an area for future conceptualization and research. Such work more fully embraces the range of human polarity experience than wellbeing alone.

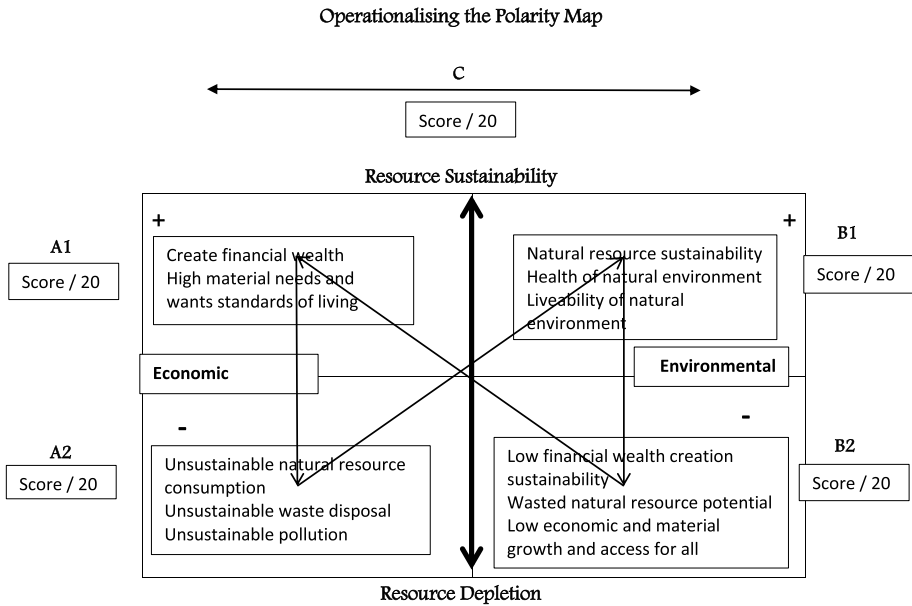


Fig. 5 Operationalising the polarity map

3.3.4 Wellbeing Multarity Index

Figure 5 below shows how polarity leveraging is operationalised for polarities between wellbeing components using the example of the economic-environmental polarity. First, respondents answer a series of questions designed to measure each quadrant. Further, they answer a group of questions that measure the perception on the distance between each construct, in Fig. 5 this is called C. These questions specifically test the extent to which respondents consciously seek to leverage synergies and interdependencies on both components at the same time. Then, we can measure the depth of each construct—in this case *Economic* (A) or *Environmental* (B), and we can measure the breadth of the relationship between these two constructs—measured by C. Finally, we can measure the polarity score of each of the pair of constructs (Figs. 1, 2, 3 and 4) and sum them up to arrive to the final wellbeing multarity score.

To measure the depth of each construct the formula is quite simple and based on an average score since A1 and A2 are complementary measurements:

$$\text{Economic depth} - \#1 = (\text{Score on A1} + \text{Score on A2})/2$$

$$\text{Environmental depth} - \#1 = (\text{Score on B1} + \text{Score on B2})/2$$

The measure of breadth between the constructs, in this case, *Economic* and *Environmental*, is represented by C where high values represent a low relationship between the constructs.

3.3.4.1 Single Polarity The polarity score, in this case, will represent the interdependence between *Economic* and *Environmental* with lower scores representing an interdependent relationship between the two constructs and a higher score representing the opposite. The formula to measure it is:

$$\#1 = \left(\left(\frac{\text{Score on A1} + \text{Score on A2}}{2} + \frac{\text{Score on B1} + \text{Score on B2}}{2} \right) / 2 \right)^2 + C^2 \Big)^{1/2}$$

The equation uses the average scores calculated for each component depth and the breadth between them. By squaring the sum between both depth and breadth and then taking the square root, we are measuring the diagonal between depth and breadth and in a simple way measuring how both components are related.

Within any one polarity, what we are measuring is how well an entity is leveraging the polarity and not the two poles as independent goals. To measure the interdependence of the polarity and not independence we build two criteria into the calculation: synergy (interdependence) between the components (C) and depth of the infinity loop. Competence at leveraging interdependence as opposed to independence of the poles (as occurs in many aggregation scales) sees entities doing well on both poles but also with small downsides. The small downside depth tells us that there is a good regular flow between the two poles. When there is a large downside depth, as measured by large downside scores, the entity is spending too long on either pole alone and neglecting the need for a regular flow between them. This regular flow and high upside scores across the various polarities across the eight components is a missing link in understanding wellbeing, how it emerges and how it breaks down. Polarity leveraging then offers additional criteria (interdependence, synergies) that must be attended to by an entity in an effort to build wellbeing that is missed in existing approaches.

What is important to realize is that the goal is not about balance between the two poles. Quantities of the two poles do not need to be equal to be a healthy leveraging of the interdependence. Rather, the issue is about how much of one pole is needed to support the other in a given context. In some circumstances it may be appropriate to have uneven scores between the two poles so long as each is carrying enough to support the other. For example, perhaps an entity spends a lot of time working on economic wellbeing and much less on spiritual. However, the interdependence may still be being leveraged well if the spiritual quantity is sufficient to avoid the excessive downsides of an over-focus on economic wellbeing.

3.3.4.2 Wellbeing Multarity The Wellbeing Multarity will then be the sum of the five polarity scores, with high values representing low wellbeing and low scores representing high wellbeing. Wellbeing itself then is known as a multarity, that is, it is a phenomenon that consists of multiple polarities. Calculating wellbeing as a multarity—the wellbeing multarity index—is a function of:

$$\text{Scores on \#1 for each polarity} / \# \text{ of polarities scored}$$

3.3.5 Wellbeing Assumptions

In the multarity view, wellbeing component interactions are seen as an energy system—shifting energies between the two poles of a polarity as a given context demands. When unconscious, energies can become blocked and access to remedies is not apparent and so actors are at the mercy of an infinity loop consisting of the excess downsides of poles that have been emphasized to the neglect of their partners. When conscious, actors are able to see more of what is necessary and available to effectively and sustainably address the downsides. Here we link back to our definition of wellbeing at the beginning: flourishing both sustainably and resiliently. Maintaining energy flow between the components, particularly opposites, helps preserve underlying components from either exhaustion or

deprivation. Further, understanding the need for leveraging polarities helps to learn to read the early warning signs of disequilibrium and the counter-balancing remedy needed.

Key assumptions therefore of a multarity approach to wellbeing include an emphasis on the conflictual but complementary nature of the relationship between components, overall wellbeing emerges through the conscious management and leveraging of sets of polarities between components, and energy needs to flow consciously and freely between all eight components.

3.3.6 Critique

A critique of the multarity view is that measurement may be perceived as too complex and violating the principle of parsimony in measurement and increasing cognitive load. Complexity, information gathering and cognitive load all increase depending on the number of polarities under consideration. However, a counter to this is that the information systems of contemporary societies do not make the proposed wellbeing multarity index a problematic task. In addition, the benefits to wellbeing insights far outweigh the costs of additional cognitive and data collection load.

There is also the risk that at the end of the analysis policy-makers will revert to an economically-dominant decision.¹¹ We appeal to stages of consciousness theory (Cook-Greuter 2004; Gidley 2007; Kegan 1982; McCauley et al. 2006) to make sense of this. The latter asserts that decision-makers interpret phenomena through a paradigm, a worldview, a lens and these form an ordered sequence. If decision-makers interpret wellbeing multarity outcomes through a predominantly economic lens they would be regarded as operating from a conventional stage of consciousness. The latter formed the required psychological infrastructure for the industrial revolution but is insufficient to deal with the many problems which such a paradigm has now ensued. Instead, research shows that contemporary problems require postconventional consciousness which is marked by increased systems thinking, holism and the ability to comfortably hold and deal with paradox and polarity (Vincent et al. 2015).

A key implication then is that our wellbeing-as-multarity model may need to be accompanied by policy-makers at postconventional stages of consciousness. The latter have appropriate guards against economic reductionism and instead have wellbeing-as-a-system as their central organizing principle. Moreover, such leaders are better poised to appreciate how to take different segments of the population on a change journey, offering further safeguards against pulls to economic reductionism and corresponding status quo power bases.

4 Discussion and Conclusion

To be clear, we are not arguing for the cessation of hierarchical or aggregation models. Recall that we have argued that the theories of component interrelationship underlying these models are of dependence and independence respectively. From a polarity perspective, dependence, independence and interdependence are not either/or choices; we need all of them at some point and in certain contexts. However, the greatest wellbeing of the greatest number remains elusive and we expect it to be so while wellbeing is not also treated as

¹¹ We thank an anonymous reviewer for this suggestion.

a unity of components with practice and policy guided by a robust underlying theory of component integration. Policy-makers and leaders should be trained in wellbeing and an important part of this is understanding how components interact. Moreover, a wellbeing-as-multarity perspective and underlying theories of component integration offer a basis for strategizing for community wellbeing.

4.1 Future Research

Future research could use our measurement to assess how well societies treat wellbeing as a differentiated unity through the leveraging of fundamental polarities. Such research can explore how component over-focusing, blocking and lack of access is reinforced by either/or approaches that neglect to incorporate more of the whole reality. Actors would need to identify key polarities and their transcendent goals and costs. Then they need to undertake polarity map assessments scoring themselves on the upsides and downsides of each polarity. For international comparisons, the polarities under study, transcendent goals and costs as well as upside and downside assessments of each pole can all be standardized. All of the latter can also be modified for local customization.

Future research could also explore what it is like to supplement hierarchical and aggregation approaches with our multarity model among leaders and the societal barriers, organizational constraints, institutional contexts, coordinating architectures and reinforcing mechanisms that help and hinder this process at different levels of analysis from organization to society to nation to globe. We hypothesize that an entity's preparedness to adopt a multarity wellbeing model is dependent on its senior leadership being at a postconventional stage of consciousness (Vincent et al. 2015). Constructive developmental theory argues that consciousness develops in stages that progress from dependence to independence to interdependence in perception and understanding of phenomena. Research indicates that most leaders still adopt an independence consciousness thus explaining the popularity of hierarchical and aggregation models. Working with logics of interdependence may aid the adoption of the multarity view.

4.2 Boundary Conditions, Universality and Locality

The derivation of the wellbeing multarity model is based on observing and analysing the problems of post-industrial societies. These include those who have implemented extended periods of economic-centric social development policies. A systems view of post-industrial societies reveals the interconnected nature of their contemporary problems from excess materialism, environmental unsustainability, social fragmentation and loss of spiritual identity (Capra and Luisi 2014). Our framework of polarity leveraging moves us beyond reductionism and econo-centrism to see wellbeing as a system, an approach which meets the needs of contemporary post-industrial societies.

We are not able to speak with the same confidence regarding the appropriateness of our model for pre-industrial or even industrial societies. This is not to say that our model is not appropriate there as we contend the universality of the eight components and their systemic unity regardless of context. However, the lack of appropriateness is more to do with population readiness and stage of cultural evolution. Our systems view of wellbeing as a unity is also an evolutionary one. Here we connect with adult and cultural development literature which sees the evolution of societies as occurring in stages (Cook-Greuter 2004; Gidley 2007; Kegan 1982; McCauley et al. 2006). A logical implication of stage models of

societal evolution is that the models of wellbeing we reviewed earlier, hierarchical, aggregation and multarity, may each be appropriate to different stages of cultural evolution.

Societies transitioning from pre-industrial to industrial have societal needs which may best be served by the hierarchical approach which places economic development at the centre of wellbeing. Post-Industrial societies may then first shift to the many aggregation types of wellbeing models that exist. Societies may then be ready to handle the wellbeing-as-multarity view posed here. The theoretical justification for a staged approach is based in the logic of complex systems and consciousness—societies evolve from systems of lower to higher complexity and consciousness likewise evolves in a progressive capacity to handle more and more complexity (Capra and Luisi 2014).

An exception to the above maybe various indigenous societies throughout the world which tend to systemic thinking and emphasize the interconnection of living systems from the ecological, biological, economic, cultural and spiritual. Systems like *buen vivir* in Latin American countries (Gudynas 2011; Villalba 2013) exemplify this approach in indigenous societies which are also pre-industrial. Future research could explore how a polarity approach is consistent with the philosophy of these societies and how it may complement efforts to bridge the gap between indigenous and non-indigenous communities within the one society. Perhaps the wellbeing multarity model may represent a common language and goal system.

Our evolutionary systems rationale for the sequential relationship between the models presented in this paper—hierarchical, aggregation and multarity—is speculative but also fits the historic pattern. A key implication is that imposing our wellbeing-as-multarity view on pre-industrial societies may be too far a stretch and not meet the population's consciousness where it is at. The viability and legitimacy of the model may thus be threatened. We think that studying the interrelationship between different approaches to wellbeing and stages of consciousness literature may serve a powerful way to understand the adoption of wellbeing governance in societies and their paths to social change.

Polarities pervade the natural order of things and the trick is to spot them. For example, we also see the debate about universality versus localism of wellbeing measures (Deneulin and McGregor 2010; Gough 2017) as a polarity to be managed rather than an either/or choice. When treated as an either/or choice researchers fail to leverage the gains from interdependencies. Universal measures are broadly applicable but can have less local relevance and vice versa. We believe that our assumptions of the eight components and their systemic unity are universal in their relevance to the human condition. Our framework though also has the advantage of being flexible to the needs of researchers and policy-makers. Researchers wanting to make comparisons of wellbeing can standardise the measurement of upside and downside manifestations of the poles. This can be based on common, universal values for each thus allowing for standardized comparisons across societies. Alternatively, the multarity approach can also accommodate local expression and variation if that is desired. The particular polarities which are key at any time and the ways that societies wish to measure the upsides and downside manifestation of the different poles can be different and allow for local customisation.

We have theorized a particular type of interaction—that of the polarity—believing it to be at the heart of the difference with the aggregation approach most commonly used in wellbeing measurement. Studying interdependence as polarities taps into why wellbeing as a system is more than the sum of the parts but includes synergies. This requires going through the process of polarity mapping and studying the infinity loop pattern among component interdependencies. This notion of the infinity loop is a critical part of Johnson's (2014) conceptual apparatus and helps us to pinpoint if components are being

treated independently or interdependently. Furthermore, we have prioritized the polarities under consideration. This is not to suggest that other polarities aren't possible or important. Rather, we have prioritized those which seem most salient now in post-industrial societies. Our formula though is adaptable for whatever polarities between the components are of interest. The starting point is to do the polarity maps for each polarity being careful to complete all quadrants. Questions can then be designed to measure the three relationships within our formula and scores inputted into the calculation.

Central to creating wellbeing is an explicit understanding of the nature of the inter-relationship between underlying components. Hierarchical and aggregation models have predominated but they are based on logics of dependence and independence between components respectively. These models may represent stepping stones to a polarity/multarity-based view of wellbeing. This calls for an emphasis on leveraging and measuring the interdependence between components in order to achieve transcendent goals and create virtuous cycles between components.

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