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The Baltes' model of successful aging and its considerations for Aging Life Care™ / geriatric care management

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Foreword by Jennifer E. Voorlas MSG CMC

I originally became aware of the Baltes theory of successful aging – usually referred to as the SOC (selection, optimization, compensation) model — in my Master’s program studying the psychology of aging. A particular interest of mine was why some people age “successfully” and some don’t. When I learned about this theory I was immediately struck by the concrete way it explained how the inner resources of an individual can be utilized to transform a negative situation into something positive. This model seemed to say that the old school of thought – disengagement – could be replaced by actively pursuing the means to make any specific situation better.

Dr. Donnellan’s article discusses in depth the SOC theory of selection, optimization, and compensation, and she suggests that one of the main difficulties in implementing SOC in practice is that this theory has remained rooted in adult development psychology. She proposes that studies have shown the beneficial impact of this model in the health care setting, particularly in rehabilitation, and she suggests that its potential in Aging Life Care™ / geriatric care management remains largely unexplored.

As Aging Life Care Professionals™ we consciously assist the elderly and their family members to cope with loss: disability, death of loved ones, and weathering the aches and pains of the aging process. Care managers already intuitively help their clients select, optimize, and compensate for losses, but can we do this in a more organized and systematic way through using this model?

Our clients are often unable to appreciate their own resources due to personality issues, depression, physical and / or mental impairment. The care manager can play a key role in assessing their resources (financial, emotional, physical) and understanding how they have weathered previous losses. It can be helpful to remind the client that their losses are legitimate and must be validated, but asserting the importance of focusing on their unique abilities and inner resources may be helpful.

Donnellan’s article may bring forth less concrete ways we can explore this but upon closer examination, the SOC model theory provides a way to understand what appears to be an intuitive approach in the Aging Life Care / care management and we as care managers are in a unique position to use the core insights of this model and put them to practice.

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Care managers can use the SOC model as an assessment tool to understand:

- What are the client's strengths?
- What resources do they have?
- What strategies/insights do they need to access their strengths and resources?
- How can that assessment lead to setting achievable goals?
- How to use positive reinforcement and investigate alternative strategies when one is not working
- Focus on action based problem solving, setting the context for change
- Working with the family systems to build a "culture of resiliency"
- Working with staff / caregivers to foster resiliency (using creative modalities, outings, thinking "outside the box")
- Training caregivers/facility staff to foster adaptive strategies

The Baltes' model of successful aging and its considerations for geriatric care management

Abstract

This article aims to present the description and explanation regarding the application of the Baltes successful aging model of selection, optimization, and compensation (SOC) in the context of Aging Life Care / geriatric care. The SOC model is reviewed in terms of its theoretical aim and efforts to explain successful aging and also its application within healthcare research and practical settings. A brief overview of its theoretical background i.e. the concepts of successful aging and life span developmental psychology, are described including how healthy aging individuals adapt to everyday life situations using SOC strategies. The model is then discussed further in relation to any potential declines and losses imposed by illness or disease e.g. the consequences of health-related conditions.

Introduction

The substantial increases in life expectancy at birth achieved over the previous century, combined with medical advances, escalating health and social care costs, and higher expectations for older age, have led to international interest in how to promote a healthier old age and how to age "successfully" (Bowling & Dieppe, 2005). The concept of successful aging dates back to the 1960s (Havighurst, 1963) and included the elements life satisfaction and active engagement with life. The goal of successful aging is now more realistic in today's aging society as a result of more effective interventions to control and reduce disability and health risks. It has recently been proposed as a field of interest in gerontological research and as a challenge for the design of social policy (P. B. Baltes & Baltes, 1990). According to Rowe and Kahn (1997)(Rowe & Kahn, 1997), successful aging is multidimensional encompassing the avoidance of disease and disability, the maintenance of high physical and cognitive function, and sustained engagement in social and productive activities. Bowling and Dieppe (2005)(Bowling & Dieppe, 2005) outline the main theoretical approaches that define successful aging: psychosocial and biomedical and also include additional lay definitions.

The biomedical model focuses on the absence of disease and the maintenance of physical and mental functioning, whereas psychosocial models focus on life satisfaction, social participation, functioning, and psychological resources, including personal growth. Psychological resources are required for successful aging and according to Bowling (2005), these include a positive outlook and self-worth, self-efficacy or sense of control over life, autonomy and independence, and effective coping and adaptive strategies in the face of changing circumstances. Psychosocial researchers generally agree on defining successful aging as subjective well-being, life satisfaction, and longevity (Freund & Riediger, 2003; Jopp & Smith, 2006). As a result of

longevity, people are now living longer with physical impairments whether acquired for the first time in old age or at a younger stage in life.

In the context of Aging Life Care / care management, the use of theories or theoretical frameworks for guidance or to establish guidelines on how to care for older people and how to support them in adapting to aging processes remains limited. Wadensten (2006) has described and considered how psychosocial theories of aging e.g. Activity Theory, Disengagement Theory of Aging, Continuity Theory, Erikson's Psychodynamic Theory, and the Theory of Gero-transcendence are applicable and/or relevant to practical gerontological nursing and concludes that there is a need to translate the aging theories into guidelines (Wadensten, 2006). She argues that the use of theories explaining aging do not provide guidance on how to care for older people and how to support them in the aging process. It is of significant interest that the developmental lifespan theories of aging including the Baltes SOC model (P. B. Baltes & Baltes, 1990) were not considered and included as part of the psychosocial theories of aging.

Out of the vast amount of articles conducted on theories used to inform Aging Life Care management, one article does describe integrating behavior change theory into geriatric care management practice (Enguidanos, 2001). Overall, this work attempted to describe the theory and practice gap in geriatric care management emphasizing the limited empirical evidence of theoretical or conceptual models in terms of their efficacy and effectiveness. Given the limited evidence available in the literature to support Aging Life Care Management programs using theoretical frameworks and models, the adaptational challenges for older people should be taking into consideration through these programs. For example, health-related events such as chronic illness and disability are key challenges that have been reported to account for increased distress in older people (Ensel, 1991; Murrell & Norris, 1984; Pearlin & Skaff, 1996). However, the specific type and severity of the health-related event must be taken into account (e.g. a stroke vs angina). A life course framework may serve as a background for observing and making sense of the kinds of stressors to which people are likely to be exposed, particularly a major life event such as an abrupt onset of an illness that is considered an extreme stressor during middle to later life.

Another consideration for application to Aging Life Care Management are developmental changes that occur across the lifespan in that ontogenetic development is a life-long process where no age period holds supremacy in regulating the nature of development. During development, and at all stages of the lifespan, both continuous and discontinuous processes are at work. Developmental change involves gains and losses in different functional and life domains, and efforts to keep this balance favorable represent an essential aspect of human action and the momentum of personal development over the life span (Brandtstadter & Renner, 1990). The developmental dynamic of positive (gains) and negative (losses) change led to Baltes and colleagues' life span work on specifying a general process of adaptation that would represent the life-long nature of development as a gain/loss relation. This dynamic relation between gain and loss in development has been outlined in a theoretical framework describing successful aging known as the Selection, Optimization and Compensation (SOC) model (P. B. Baltes & Baltes, 1990).

Baltes SOC model of Successful Aging

The selection, optimization and compensation (SOC) model, first presented by Baltes and Baltes (1990), provides a general theory for conceptualizing processes of successful development generally and in aging in particular (S.-C. Li & Freund, 2005). The meta-model of SOC evaluates cognitive-motivational processes regulating human development across the life span and was originally designed and developed as an explanatory framework for adaptation to aging.

The key concept of SOC describes a general process of adaptation that individuals are likely to engage in throughout life and is essential for the achievement of higher levels of functioning (P. B. Baltes & Baltes, 1990). The model takes the global view that at all stages of human development individuals manage their lives

successfully through the developmental regulation processes of selection, optimization, and compensation. Successful development involves the orchestration of these three processes (selection, optimization, and compensation) which in turn, regulate the maximization of gains and minimization of losses over time. Selection, optimization, and compensation can be conceived of as one single “integrative” process of adaptive mastery and also on a lower or more micro level of aggregation, the facets of SOC can be viewed as separate processes, each contributing to successful development (Freund & Baltes, 1998b).

Selection refers to an individual focusing attention on fewer, more important goals e.g. rescaling/reconstructing goals. Optimization involves engaging in goal-directed actions and means; examples include investing time and energy into the acquisition, refinement and application of goal-relevant means, seizing the right moment, persistence, acquisition of new skills/resources, and practice of skills.

Compensation maintains a given level of functioning in the face of loss and decline in goal-relevant means by individuals investing in compensatory means.

These strategies acknowledge and address the declines and losses which occur; examples include modifying behaviors, the use of external aids (zimmer frame, tripod), and activating unused resources (e.g. help from others). Selection, optimization, and compensation can occur at various levels of analysis or integration ranging from the macro-level (e.g. societies) to the micro-level (e.g. biological cells) (P. B. Baltes & Freund, 2002). Overall, the theory posits that across the life span, individuals further their development adaptively by maximizing their potential gains and minimizing losses.

SOC strategies have been measured experimentally in studies that involved dual-task performance (patterns of task priority) (K. Z. H. Li, Lindenberger, Freund, & Baltes, 2001), qualitatively using content analysis (behavioral adaptation interview responses categorized as selection, optimization and compensation (Gignac, Cott, & Badley, 2002) and quantitatively using SOC measures: the SOC-12 (P. B. Baltes, Baltes, Freund, & Lang, 1995) and the SOC-48 (P. B. Baltes, Baltes, Freund, & Lang, 1999). Other quantitative versions of SOC measures also exist within the literature e.g. SOC-15 (Donnellan, Hevey, Hickey, & O’Neill, 2012), SOC-36 (Chou & Chi, 2001) and SOC-9 (Gestsdottir & Lerner, 2007).

Operationalization of SOC

The empirical evidence for the use of the SOC model has mainly been applied in life-span developmental psychology, e.g., life management strategies in a general aging context (Freund & Baltes, 1998a, 2002) and in industrial-organizational psychology, e.g., life management strategies and human performance in a work place setting (Abraham & Hansson, 1995; Bajor & Baltes, 2003; Wiese, Freund, & Baltes, 2000, 2002). There is currently less empirical evidence of the use of SOC within the context of health-related conditions although the use of SOC as a theoretical framework has been applied in some instances (Collins & Smyer, 2006; Donnellan & O’Neill, 2014; Ireland & Arthur, 2006; Volicer & Simard, 2006).

SOC and age-related differences

Age-related decline in resources may place a constraint on engaging in SOC-related behaviors. The execution of SOC-related behaviors require resources such as effort, skills, organizational meta-strategies and these resources can be more limited in advancing old age. Theoretically the argument has been that because of aging-related adaptive pressures and reduced plasticity there should be more involvement of SOC-related behaviors (P. B. Baltes, 1997). However, the empirical evidence has shown that decline in resources is associated with reduced endorsement of SOC-related behaviors.

There are two different hypotheses regarding the age trajectory of SOC beyond adulthood into old age (Freund & Baltes, 2002). The first of these is that adults, as they age, become better at the use of SOC because of accumulated life experiences (P. B. Baltes & Baltes, 1990). The other argument is that the use of SOC itself is

resource dependent and because of age-related losses in resources and plasticity, the physical, social, and cognitive resources available to individuals in old age may not be sufficient for them to engage in SOC resulting in a decline in SOC-related behaviors. Despite this decline in the frequency of use of self-reported SOC, it is expected that older people continue to use SOC and that if they succeed in doing so, they display better states of functioning (M. M. Baltes & Lang, 1997).

SOC and wellbeing

Freund and Baltes (1998) reported that those who used SOC-related behaviors had higher scores on subjective well-being, positive emotions, and absence of feelings of loneliness (Freund & Baltes, 1998a). In a later study (Freund & Baltes, 2002) (Freund & Baltes, 2002), they also found similar associations in that SOC-related behaviors were associated with subjective wellbeing and positive emotions. Each of the SOC components was significantly and positively related to these subjective indicators of successful management even after other rival constructs such as assimilative and accommodative coping, action versus state orientation, personality variables, social desirability, intellectual functioning, and cognitive style were statistically controlled separately. However, elective selection had the lowest correlations with outcomes of wellbeing. The rationale given for this is that elective selection focuses on the most important goals and domains of functioning thereby implying some loss aspect. This would exclude alternative options and pathways that would be more associated with subjective feelings of wellbeing.

Wiese, Freund, and Baltes (2000) investigated if the use of SOC related positively to satisfaction with function in the two domains of partnership and work as well as to satisfaction with life in general (Wiese et al., 2000). They found that individuals who reported using SOC behaviors scored higher on multiple subjective indicators of global and domain-specific success. There were significant positive associations between overall SOC scores and the three categories of well-being (general, work, and partnership). The SOC construct optimization had the greater association compared to the other SOC constructs with general and work-related wellbeing whereas compensation had greater association regarding well-being in the partnership domain. In their follow-up longitudinal study (Wiese et al., 2002), they investigated whether the use of SOC predicted general well-being as well as satisfaction and subjective attainment in the work domain over an interval of three years. Results were consistent with the previous cross-sectional findings in that SOC behaviors did predict global and work-specific subjective well-being.

Application of SOC in health-related conditions

The SOC model was developed by Baltes and colleagues in search for a general process of systemic functioning (use of selection, optimization and compensation) that would serve as an effective strategy for the basic life span architectural frame. The model formulated is considered highly general, hence it has been described as a meta-theory of development. Because it does not designate the specific content and mechanisms of developmental processes and outcomes, it is applicable to a large range of variations in goals and means (Baltes, 1997). Therefore it may well be applicable within the context of adaptation to health-related conditions although the empirical evidence in relation to SOC use in health-related conditions is limited to date. SOC has been theorized to explain changes over time and this may explain why the model has not been operationalized in many acute conditions or illness to date. However, SOC may be applicable to measure changes in an acute condition that becomes chronic over a period of time i.e. in studies that use longitudinal methodologies.

One study has examined whether SOC may be of value in measuring adaptation after stroke quantitatively (Donnellan & O'Neill, 2014). There were clearly no age or disability related differences regarding the endorsement of SOC strategies by stroke patients. This study also informs the theory from the perspective that a generic self-rated tool does not measure physical (functional ability) or psychosocial adaptation (HRQOL, depression levels) after stroke. A self-report SOC measure may be too generic to deal with the onset of acute disability.

SOC has been applied as a framework in some studies that have aimed to explain adaptive behaviors qualitatively in certain health-related conditions (Gignac et al., 2002; Ryan, Anas, Beamer, & Bajorek, 2003; Wilhite, Keller, Hodges, & Caldwell, 2004). The use of SOC in a health-related condition was first applied by Gignac et al. (2002) to investigate the adaptation of individuals with osteoarthritis to disability (Gignac et al., 2002). Their findings were that compensation adaptive behaviors were the most frequently reported by older adults to manage disability followed by optimization adaptive behaviors[1]. Hamilton and colleagues found that activity-modifying behaviors (representative of SOC strategies) mediated the relationship knee pain and physical function in participants with no diagnosis of knee osteoarthritis (Hamilton et al., 2013). Janke and colleagues (2012) explored how adults with arthritis use self-care strategies in their valued leisure activities and themes of self-management that emerged were based on the SOC processes (Janke, Jones, Payne, & Son, 2012). They concluded that SOC processes may be useful to help individuals maintain their valued leisure activities when faced with functional limitations. Hutchinson and Warner (2014) investigated the SOC theory from the perspective of examining ways rural community dwelling older adults were able to continue valued activities after an acute health event (Hutchinson & Warner, 2014). In the same vein, they concluded that helping people learn SOC strategies may help those individuals who lack knowledge, skills, or confidence to participate independently.

Ryan, Anas, Beamer and Bajorek (2003) aimed to analyze the specific strategies that older adults with macular degeneration used to cope with reading-related barriers in terms of the SOC framework (Ryan et al., 2003). In fact the results reported the use of the SOC framework when describing the adaptive behaviors this sample used for coping with instrumental activities of daily living. Selection was referred to when participants were faced with continuing decisions about when to maintain goals and when to modify them and appropriate goal selection was evident in that most participants aimed for challenging and potentially achievable goals. Optimization was referred to when participants relied more on new learning and memory and for compensation there was effective use of devices and reliance on others to be as independent as possible. Wilhite et al. (2004) used the SOC framework to explain the adaptive processes individuals with multiple sclerosis use to achieve optimal health and well-being (Wilhite et al., 2004). The sample size involved in the study was small (n=13) but the translation of adaptive behaviors into the SOC framework were described for each individual participant and no summarized or consistent explanations of selection, optimization or compensation were reported.

Rapp, Krampe, and Baltes (2006) conducted the only experimental study investigating the SOC model that has included a patient population (Rapp, Krampe, & Baltes, 2006). Young and older adults and patients with Alzheimer's disease were assessed for their performance on a dual-task paradigm that combined working memory with a postural control task. The older adults, especially those with Alzheimer's disease, maintained a higher level of functioning in postural control i.e. allocate resources towards the task of higher immediate value, as compared to working memory. The SOC model posits that older adults will allocate resources towards tasks of higher immediate value and the findings from this study extends one of the assumptions of the theory to pathological aging (Rapp et al., 2006).

The SOC model has been suggested as a framework for the delivery of care in patients with advanced dementia (Volicer & Simard, 2006) and to implement behavioral risk-reduction programs for patients in secondary stroke prevention clinics (Ireland & Arthur, 2006). Volicer and Simard (2006) describe how dementia care can be improved by the appropriate use of the SOC constructs. For example, the selection of appropriate strategies for management of medical issues is necessary for maintaining quality of life of individuals with dementia. The care should be optimized according to the remaining functional abilities of the individual with dementia. Compensation is required in two areas: functional deficit and executive dysfunction. Ireland and Arthur (2006) state that an understanding of the SOC process at the collective (for a client group assessment) and individual (for an individual assessment) level has potential to create an age-sensitive environment for effective and supportive behavioral risk-reduction care within current resources (Ireland & Arthur, 2006). However, there is

no evidence in the literature to support the integration of SOC and self-efficacy models to inform the development of behavioral risk-reduction intervention programs.

In a more recent paper, the SOC model has been suggested as a rehabilitation framework especially in the context of neurological conditions such as acquired brain injury e.g. post stroke (Donnellan & O'Neill, 2014). Because there is a scarcity of theoretical frameworks that can facilitate and be inclusive for all the necessary complexities of adjustment, required in stroke rehabilitation and that rehabilitation intervention frameworks should be goal orientated; address self-regulatory processes; be person-centered and use a common language for goal planning, setting, and attainment. Donnellan and O'Neill (2014) recommend that the Baltes' SOC model is one such framework that may address some of the considerations for stroke rehabilitation, including motor recovery and other life management aspects.

Another recent inclusion in the literature regarding the use of the SOC framework is for an intervention to make respite care and services more effective for family caregivers (Lund et al., 2014). This family caregiver intervention called Time for Living and Caring (TLC) was developed according to the theoretical principles of SOC – selective optimization with compensation. The TLC intervention will aim to address what caregivers do during their respite time, thereby getting caregivers to spend time focusing on their own personal lives as well as their caregiving responsibilities.

In an overview by Collins and Smyer (2006), they describe the ecology of disability and long-term care as being consistent with the SOC model in that the ecological approach removes the full burden of responsibility of successful aging from the individual while illuminating the tools that individuals and their social structures can use to manage and optimize opportunities for successful aging (Collins & Smyer, 2006). They reviewed the individual aspects and differences for older Americans aged 50 years and older at risk for disability and consequent need for long-term care. Examining the tools that individuals and their social structure can use helps to manage and optimize opportunities for successful aging.

The empirical evidence and other additional interpretations regarding the use of the SOC model in health-related conditions provides some support regarding SOC's potential to serve as an explanatory model for understanding adaptation in relation to illness.

Summary

This article has attempted to describe the SOC model in some detail and has outlined its uses in the context of successful aging in terms of managing everyday life stressors and in circumstances when resources are limited. However, there has been limited use of the SOC model and its individual components in Aging Life Care / care management generally and for specific health-related conditions, although its potential use has been widely emphasized. While the theoretical model remains, the uncertainty in how to apply it may still exist. Here is where the creativity of the Aging Life Care Professional™ / care manager to apply the core principles is needed for better patient outcomes and quality of life measures.

In summary, the endorsement of SOC processes in general aging populations have been associated with better physical functioning (Baltes & Lang, 1997), subjective wellbeing and positive emotions (Freund & Baltes, 1998, 2002), and aging satisfaction (Jopp & Smith, 2006). In health-related conditions, behavioral adaptations of individuals with osteoarthritis, visual impairments and multiple sclerosis have been demonstrated to be conceptually integrated in the SOC theoretical framework (Gignac et al., 2002; Ryan et al., 2003; Wilhite et al., 2004). Other researchers are stressing the potential use of SOC for example in terms of a framework of care (Collins & Smyer, 2006; Ireland & Arthur, 2006; Volicer & Simard, 2006) however its potential use has yet to be assessed empirically in health-related conditions. Some potential uses of SOC may be to examine its association with depression as the evidence to date supports that SOC is associated with improving well-being and has correlated negatively with depression in one study (Chou & Chi, 2001). Another potential use of SOC

may be in relation to age-related rehabilitation as rehabilitation is a process of retraining and education, where older people must have the capacity to learn new ways of doing things (Kelly-Hayes & Paige, 1995). The use of SOC strategies would be of an imperative value in a rehabilitation setting where goal pursuit and attainment are of primary importance.

The potential validation as to why use the SOC model to explain adaptation outcomes in older people may be in line with the core assumptions of the model. The SOC model has major emphasis on the notion of development in that development evolves when individuals with their specific abilities and temperaments, proactively and reactively respond and interact with whatever given contexts come their way. The SOC model has been shown to be a framework used for explaining the challenges to successful aging (Baltes & Lang, 1997; Freund & Baltes, 1998, 2002). However, whether SOC is a useful framework in predicting successful adaptation to the challenges of health-related conditions in older people remains inconclusive.

References and Tables

[1] In Gignac et al's (2001) study, 85% of the study sample were women

Article references and tables

Topics: Baltes' SOC-Model, Goal Attainment, Resilience, Successful Aging

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