Socioeconomic Status and Cumulative Disadvantage Processes across the Life Course: Implications for Health Outcomes

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Étant donné la complexité qui entoure les différentes interactions entre les déterminants de la santé et le défi que présente la description adequate des processus dynamiques par lesquels les déterminants de la santé ont leurs effets, l’objectif de cet article est de fournir un aperçu conceptuel qui démontrera les effets de la condition socio-économique et du désavantage cumulatif pour produire des disparités de santé à travers le parcours de vie. L’idée sous-jacente à la notion de désavantage cumulatif est que les inégalités de santé d’origine socio-économique augmenteront à travers le parcours de vie principalement en raison d’une exposition différentielle aux facteurs de risque et un accès différentiel aux ressources de protection. L’avantage d’une sociologie parcours de vie est sa considération des premières expériences de la vie dans leur contexte social et historique comme des contingences importantes qui produisent ces différences systématiques de nature socio-économique dans les gradients de la santé.

Given the complexity surrounding various interactions among health determinants and the challenge of being able to adequately describe the dynamic processes through which health determinants have their effects, the purpose of this paper is to provide a conceptual overview demonstrating the effects of socioeconomic status and cumulative disadvantage on producing health disparities across the life course. The idea underlying cumulative disadvantage is that socioeconomic-based health inequalities will increase across the life course, mostly because of differential exposure to risk factors and access to protective resources. The advantage of life course sociology is its consideration of early life experiences, and the social and historical context of their occurrences, as

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important contingencies in producing these systematic socioeconomic differences in health gradients.

SOCIOECONOMIC STATUS IS one of the most reliable predictors of health disparities, with people from low socioeconomic status usually experiencing poorer health than their high socioeconomic status counterparts (Godley and McLaren 2010; Haas 2008; O’Rand and Hamil-Luker 2005; Wickrama et al. 2003). In Canada, for example, almost 25 percent of excess premature years of life lost (mortality prior to age 75) are the result of income differences (Wilkins et al. 2002). Yet, despite clear evidence demonstrating the association between socioeconomic status and health outcomes, Canadian public discourse continues to focus its primary attention on lifestyle approaches, such as better diet, more exercise, and decreased tobacco use as solutions to improving health (Raphael 2008).

There are two common explanations for the persistent association between socioeconomic status and health. First, individuals in lower socioeconomic groups usually experience more kinds and greater exposures to stress, including stress that is related to poor living conditions, low job security, and financial difficulties (Horwitz 2005). These types of stressors can be chronic in nature, which are more apt to have detrimental effects on health (Pearlin et al. 1981). Second, people of lower socioeconomic position tend to engage in more risky health behaviors. Evidence exists that people occupying lower positions in the socioeconomic hierarchy are more likely to smoke, to be overweight, and to engage in less physical activity (Lynch et al. 1997).

Although studies of stressful experience and health behaviors give researchers the opportunity to assess the extent to which these factors mediate the relationship between socioeconomic status and health outcomes, the problem with such an approach is that it can divert attention away from the more fundamental issue by, in essence, “blaming the victim.” The conclusion that is often drawn from these studies is that, if people from low socioeconomic positions would simply exercise more, eat more healthy foods, stop smoking or drinking alcohol, and would learn to cope with stress better, health disparities between people from low and high socioeconomic status could be reduced. This conclusion underestimates the strong effect of socioeconomic status compared to these mediators, which themselves are largely related to socioeconomic status (Gallo and Matthews 2003; Restrepo 2000). In fact, what is needed is policy interventions aimed less at behavioral change among people lower in the socioeconomic hierarchy and more at socioeconomic status itself.

According to the theory of “fundamental social causes,” socioeconomic status shapes individuals’ exposure to and experience of psychosocial and many biomedical health risk factors, and this differential exposure persists even when risk factors and diseases change over time (Link and Phelan 2010). This is important because it means that even if all of the
mediators of the socioeconomic status-health relationship were eliminated, socioeconomic status would continue to predict health disparities. Fundamental social causes involve resources such as knowledge, money, power, prestige, and beneficial social connections that determine the extent to which people are able to avoid risks and adopt protective strategies so as to decrease morbidity and mortality. Hence, high socioeconomic status groups disproportionately utilize new knowledge that emerges about health-risk and protective factors, which in turn contributes to morbidity and mortality gradients that benefit those of higher socioeconomic status (Link and Phelan 2010; Willson 2010). Such was the case with respect to information regarding both diet and smoking. As knowledge about the health benefits of a low-fat diet or the risks of smoking emerged in the mid-twentieth century, people of higher socioeconomic status were more likely to alter their diets and to stop or not start smoking than were people of lower socioeconomic status (Lynch et al. 1997).

A common tenet among researchers studying the relationship between socioeconomic status and health outcomes is that health inequalities are influenced by circumstances in early life. Evidence from neuroscience, for example, has shown how brain development and subsequent health outcomes are most influenced from conception to age six in the life cycle (McCain and Mustard 1999). Poor children also tend to experience higher rates of depression and antisocial behavior than do economically advantaged children, and these mental health consequences for poor children increase the longer their families live in poverty (McLeod and Shanahan 1996). Wickrama et al. (2003) found that low parental education and having only one parent in the home increase the likelihood that adolescents will experience school failures, truncated educational attainment, conduct problems, early and significant stresses in employment, and early acquisition of family responsibility. Taken together, these studies suggest that poor social circumstances in early life have the potential to have lifelong influences on health outcomes.

Clearly, social disadvantage in early life can cumulate throughout the life course, leading to exacerbations in health disparities between people of low and high socioeconomic status. The idea underlying cumulative disadvantage, therefore, is that socioeconomic-based health inequalities will increase across the life course, mostly because of differential exposure to risk factors (e.g., smoking, exercise, diet) as well as access to protective resources (e.g., health care) (O’Rand 2002). Cumulative disadvantage also allows for the possibility of exposure clustering. For instance, children from low socioeconomic backgrounds are more likely to be born of low birth weight, to have poorer diets, to be exposed to secondhand smoke and other infectious agents, and to have less opportunity to pursue postsecondary education (Galobardes et al. 2004).

Throughout this paper, we will show how the life course principles of long-term temporal patterns, the intersection of biography and history,
linked lives, and human agency can aid in our understanding of socioeconomic differences in health. We believe that this is an important contribution to the existing literature since very few life course studies focus on all four life course principles, with attention typically given to one or two of them (George 2007). We will provide evidence showing how adult physical health disparities, mental health disparities, and even mortality differences can be linked to early life exposures; how historical and geographical context matter for health outcomes; how health outcomes are affected by the social networks in which an individual's life is embedded; and how people from high socioeconomic status are more likely to be equipped with resources that enhance the exercise of agency. Given the complexity surrounding various interactions among health determinants and the challenge of being able to adequately describe the dynamic processes through which health determinants have their effects, the purpose of this paper is to provide a conceptual overview demonstrating the effects of socioeconomic status and cumulative disadvantage on producing health disparities across the life course.

PRINCIPLES OF LIFE COURSE THEORY

The aim of life course epidemiology is to study the biological, behavioral, and psychosocial pathways operating across an individual's life and across generations that influence chronic disease and mortality (George 2007; Haas 2008). In contrast to theories from other disciplines that deal with human lives, life course sociology is more of a conceptual tool focusing on such characteristics as length of exposure, sequencing, duration dependence, transitions, trajectories, and turning points (George 2007). Although lacking a formalized body of theory, the advantage of life course sociology is its emphasis on several mechanisms that underlie the social structure of human lives, mechanisms that can potentially operate at the individual, meso, and macro levels, and that can relate early social conditions to health outcomes in later life. Such mechanisms, we will show, may include processes of cumulative advantage and disadvantage as they relate to socioeconomic status across the life course.

Although no unified theory of the life course exists, life course perspectives share four key fundamental principles, all of which can aid in our understanding of socioeconomic differences in health: long-term temporal patterns, the intersection of biography and history, linked lives, and human agency (Cooke 2009; George 2007). It is to these four principles that we now turn.

Long-Term Temporal Patterns

The critical defining characteristic of life course research is the examination of temporality over extended periods of time, often including decades
or longer (Barker 2003; Haas 2008). The advantage of such an approach is that it assumes that our lives cannot be understood by examination of the present only; to understand the present, it is necessary to study the distant past.

Substantial gains have been made in understanding how adult physical health disparities, mental health disparities, and even mortality differences can be linked to early life exposures. For example, Haas (2008) found that childhood health and socioeconomic circumstances continue to influence functional health trajectories in old age, with poor childhood health and low socioeconomic status associated with higher rates of functional limitations over time. O’Rand and Hamil-Luker (2005) similarly reported that among respondents who were raised in childhood circumstances involving low educated mothers, unemployed fathers, poor families, or who never lived with their father, by the age of 60, these respondents were between 50 to 70 percent more likely to have low incomes, to be unemployed, and to have a higher risk for heart attack when compared to respondents who grew up in advantaged childhood conditions. Finally, a systematic review of childhood socioeconomic circumstances and cause-specific adult mortality demonstrated that both childhood circumstances and adult socioeconomic position contribute to mortality from coronary heart disease, lung cancer, and respiratory-related diseases (Galobardes et al. 2004). These studies demonstrate how childhood socioeconomic disadvantage can accentuate over time through a process of cumulative disadvantage, which may result in poorer health outcomes in later life.

Perhaps the most common explanation for socioeconomic disparities in mental and physical health is differential exposure and vulnerability to stress by people of different socioeconomic status (Pearlin 1989). In general, there have been two distinct areas of ambiguity surrounding the term “stress.” First, some researchers have used stress to refer to problems people face, others to the response to these problems, and still others to a mediating state in response to a given threat; second, the content of stressors themselves can vary considerably (Wheaton 1994). For example, stressors can mediate the relationship between social status and psychological distress such that low socioeconomic status increases exposure to stress, which in turn increases psychological distress. Likewise, psychosocial resources, such as social support or self-esteem, can mediate the relationship between a stressor and psychological distress. Thus, experiencing job loss (a stressor) could act to deplete social support, which would thereby increase the probability of psychological distress. A moderating or buffering effect is also possible, such that high psychosocial resources act as a buffer in the relationship between stressors and psychological distress, a pattern that is more common among people from high socioeconomic status since this group tends to have more beneficial psychosocial resources (Thoits 2006).
The differential exposure hypothesis posits that socioeconomic differences in health outcomes are due to variations in exposure to stressors, whereas the differential vulnerability hypothesis maintains that socioeconomic differences in health outcomes are the result of the differential impact of stressors for one socioeconomic group over another (Avison et al. 2007). When these two hypotheses have been tested empirically, most of the evidence has pointed to differential exposure to stressors as being the key mediator of the association between socioeconomic status and health outcomes. For example, Turner, Wheaton, and Lloyd (1995) show that people in low socioeconomic status, women, and the previously married experience greater exposure to stress than do people from high socioeconomic strata, men, and the currently married, and that the relationship between social status and depression reduces significantly once stress exposure is accounted for. Likewise, Turner and Avison (2003) found that stress exposure accounted for almost half of the observed difference in depressive symptoms across socioeconomic status, and greater than 83 percent of the elevation in depressive symptoms among African Americans compared to non-Hispanic whites.

When assessing the role of stress as an explanation for socioeconomic differences in health outcomes, it is important to have a broad concept of stress exposure. Sources of stress include stressful life events, chronic role strains, early adversities, traumatic experiences, ambient stressors, and daily hassles (Wheaton 1994). Pearlin (1989) argues that stressful experiences cannot be fully captured when chronic strains and life events are examined separately, and that acute and chronic stressors may be causally linked. Avison and Turner (1988) showed that the distinction between acute and chronic stressors can become blurred by the fact that people often report that the effects of life events persist for many years. The sudden onset of an illness or injury, for example, would be an example of an eventful stressor that may lead to both financial strains and/or depressive symptoms, thus contributing to more enduring hardships. Similarly, Thoits (1995) reported that life events can have persisting effects on health, particularly when individuals view life events as “unresolved.”

An important temporal characteristic in life course research is how time in a specific state affects health outcomes. Evidence suggests, for example, that children with histories of persistent poverty have higher rates of increase in antisocial behavior than do children who are transiently poor or nonpoor (McLeod and Shanahan 1996). The accumulation of environmental insults, as well as unfavorable psychological and behavioral factors, may also increase the risk for mortality. In a prospective cohort study with 21 years of follow-up, Smith et al. (1997) determined the social class of men at three stages of their lives: the social class of their father's occupation, the social class of their first occupation, and the social class of their occupation when the study was first conducted. Compared to the age-adjusted relative death rates of men of nonmanual socioeconomic position
at all three life stages, men of two nonmanual and one manual socioeconomic position had a relative death rate during the follow-up period of 1.29 (95 percent confidence interval: 1.08–1.56); men with two manual and one nonmanual socioeconomic position had a relative death rate of 1.45 (confidence interval: 1.21–1.73); and men with a manual social class at all three life stages had a relative death rate of 1.71 (confidence interval: 1.46–2.01). Taken together, these studies demonstrate how poor and persistent social circumstances throughout the life course can have lasting influences on health outcomes, and how cross-sectional research examining the impact of socioeconomic status on morbidity and mortality may be inadequate for fully capturing the influence of socioeconomic status on health outcomes.

An issue that we believe receives too little attention in research studying the relationships between socioeconomic status and health across the life course is social selection, with most research focusing on causation processes documenting links between early socioeconomic status and health outcomes later in life. Social selection, by contrast, is typically conceptualized as reverse causation, or the “influence of physical and mental health on the statuses and attainments of individuals” (McLeod and Pavalko 2008:77). Failure to examine social selection processes, by way of excluding physical and mental health as independent variables in causing social outcomes, could mean that the conclusions drawn by health researchers are wrong. According to McLeod and Pavalko (2008), there are two frequently made assumptions about causation and selection processes: first, causation and selection are conceptualized as opposing forces; second, there is a single answer to whether causation or selection is stronger. George (2003) maintains, however, that researchers can learn more about the reciprocal effects of socioeconomic status and health by monitoring and measuring the dynamics of this relationship early in the life course, thus making the distinction between selection and causation irrelevant.

It should be evident, however, that not all longitudinal studies will be able to capture the reciprocal effects of causation and selection when studying the relationships between socioeconomic status and health. Depending on where a researcher “enters” the life course, it is possible that a given analysis may find stronger evidence for either causation or selection. Thus, while conceptualizing and analyzing the relationships between socioeconomic status and health as reciprocal may be an important goal, it may be easier to study these effects the earlier in the life course that they are measured. For example, although social disadvantage has a major effect on the mental health of children (Avison 1999), research has also shown that children with mental health problems are far less apt to graduate from high school (Needham et al. 2004). Early school leaving, in turn, will often result in poor occupational and income trajectories, thus setting into motion further processes of cumulative disadvantage.

Up to this point, we have seen how cumulative disadvantage processes can operate throughout the life course. As a note of caution, however, we
need to be careful not to assume that early socioeconomic disadvantage inevitably leads to poorer health in later life. Consequently, it is important to assess how low socioeconomic status in early life interacts with institutional processes over time that may increase or decrease the pace of inequality. O'Rand (2002) suggests that when early socioeconomic status is highly correlated with institutional biases, inequality will increase more rapidly. We argue that, in addition to early socioeconomic disadvantage and the contribution of institutional biases, health outcomes in later life are also products of complex interactions of cultural, historical, demographic, and genetic influences, a consideration we will discuss throughout this paper.

**The Intersection of Biography and History**

The second principle of life course research is the intersection of biography and history. The idea behind this principle is that the historical period and context in which individuals live their lives matter. For example, MacIntyre and colleagues (2002) assert that although compositional factors such as age, education, and income influence health disparities for people living in specific geographic areas, both contextual and collective factors must also be considered. Contextual factors include features such as health services, affordable and safe housing, good job opportunities, and recreational facilities; collective factors concern the historical and sociocultural features of places and also highlight the role of shared values and norms (MacIntyre et al. 2002). Thus, neighborhood quality of life is shaped by the socioeconomic status composition of its residents, the availability of quality health services, and the level of commitment that residents have for providing for one another and improving the overall conditions of their neighborhood.

Closely related to the notion of collective factors is the conceptualization of social capital and how the socioeconomic status of social networks contributes to disparities in health outcomes. To date, most health research has relied heavily on the work of Robert Putnam (2000) and his conceptualization of social capital. For Putnam, social capital is about social cohesion within specific geographic communities, and includes such factors as norms of reciprocity, shared values, and interpersonal trust. Putnam maintains that social capital has been declining consistently in the United States, as indexed by such factors as declining participation in local associations, voting, and political participation, all of which Putnam argues constitute a major threat to health.

From a sociological perspective, we also know that people from higher socioeconomic groups tend to have more forms of capital, be it social capital, economic capital, or cultural capital. Bourdieu (1986) has argued that although social capital and economical capital do not necessarily coincide, both are attributes of elites that allow them to maintain their privilege and power through beneficial social connections. In a sample of Canadians,
Veenstra (2007) shows how activities and practices associated with well-being are predominantly clustered within various forms of social, cultural, and economic capital. For instance, excellent self-rated health and various sports and physical activity were found to be clustered among people with high economic and educational capital.

Also central to life course research and its emphasis on historical context is the importance of differentiating age-related health outcomes from cohort effects. People born in the late twentieth or early twenty-first century, for example, will age differently than those who lived through the Great Depression and the two World Wars. Children growing up during the Great Depression experienced more productive roles in labor-intensive household operations, and had high risks of living in families with discord, demoralization, and disorganization (Elder 1994). As well, strong and consistent evidence has linked combat exposure from World War II to posttraumatic stress disorder, substance abuse disorders, anxiety disorders, and the increased probability of mental health problems as many as 60 years later (George 2007). On the other hand, after World War II, American veterans were able to take advantage of free university education provided by the GI Bill that subsequently led to more advantageous occupational and income trajectories (Berkman and Glymour 2006). The GI Bill thus exemplifies how social policy, implemented during a specific historical period, can impact one’s standard of living, which in turn influences health and well-being.

People born in the late twentieth or early twenty-first century, by contrast, have lived through a unique part of historical time. For example, as a result of Canadian military activity in Afghanistan, Canadian soldiers have had more fatalities than in any other single Canadian military operation since the Korean War between 1950 and 1953. The short- and long-term mental health outcomes of families who have lost family members in Afghanistan will undoubtedly be costly for many people.

People born during this period of time will also grow up with a greater risk of exposure to divorce than was the case in the past. In Canada, there were less than 200 divorces each year per 100,000 married couples over the period 1951 to 1966 compared to 1,080 divorces per 100,000 married couples in 2003 (Beaujot and Ravanera 2008). The change in divorce rates has coincided with a shift in people’s attitudes toward marriage and divorce. Compared to the 1950s, when society placed a strong emphasis on marriage and the family, when there were strong legal constraints to getting a divorce, and when individuals who chose to remain single were considered deviant, not only is there less stigma associated with divorce today, but divorce has replaced death as an endpoint to marriage, in part because no-fault divorce allows for easier access to divorce (Knox and Schacht 2009). Still, despite the lower stigma associated with divorce today, its consequences can be harmful to both men and women. Divorced people have lower life expectancies than do the married (Joung et al. 1994), and have
worse mental health for at least one year subsequent to the divorce (Wade and Pevalin 2004). Women, in particular, experience more economic hardship following divorce than men. Divorced women are more likely than divorced men or married women to be poor, to have a lower standard of living, and to receive public assistance (Richardson 1989). When children are involved, not only does parental divorce increase the risk of poor adult health outcomes, it has also shown to have stronger and more negative effects on children's health than parental death (George 1993).

Another consequence of rising divorce rates has been an increase in the number of single-parent families. The proportion of single-parent families in Canada increased from 11 percent in 1961 to 25 percent in 2001 (Beaujot and Ravanera 2008). Like divorce, single parenthood has become less stigmatized than in the past (Knox and Schacht 2009), but these family households often have negative implications for health outcomes. For example, as a result of single mothers’ great exposure to stress than married mothers (particularly, financial strain, work strain, and care-giving strain), the former tend to have higher levels of psychological distress (Avison et al. 2007). The higher rates of distress among single mothers, moreover, may be partially explained by their greater exposure to early childhood adversities, which then increases the probability for early onset of disorder (Davies et al. 1997). This is consistent with the concept of cumulative disadvantage, where childhood disadvantage is compounded across the life course with a chain of further life course adversities.

Finally, it should be noted that although a cohort lives through a unique segment of historical time, we need to be careful not to assume homogeneity or inevitability of life course stages. Intracohort variability can result from the interaction between the socioeconomic status of people in a particular cohort and the historical conditions that exist at the time. For instance, the Great Depression did not have the same detrimental impact on everyone. Instead, those who already had low incomes, low educational attainment, and who were working in less prestigious occupations were affected much more than those with high socioeconomic status (Pearlin and Skaff 1996).

Linked Lives

The third principle of life course perspectives is that of linked lives, which posits that outcomes of health interest are affected by the social networks in which an individual's life is embedded. For example, McLanahan (2004) shows that divorce and single motherhood are more prevalent among lower socioeconomic status families and that mothers with higher economic independence and better education are more apt to establish stable marital unions. Given the evidence that parental divorce during childhood is associated with general distress, anxiety disorders, and depressive disorder, and that these mental health outcomes can persist into middle and later
adulthood (Ross and Mirowsky 1999), what we see again is a process of cumulative health disadvantage beginning in childhood as a result of divorce or single motherhood and that is more likely to occur among children from lower socioeconomic backgrounds.

Other childhood advantages and disadvantages associated with parental educational attainment are noteworthy. For instance, older mothers with high education are more likely to bear and raise their children within stable unions and to provide their children with more cognitive stimulation such as reading and homework assistance, whereas children residing with single mothers tend to live in more stressful environments and have lower educational attainment, poorer mental health outcomes, and greater family instability when they are adults (McLanahan 2004).

Severe stress exposures, such as childhood or adolescent violence, are also not random events. Macmillan and Hagan (2004) found that people growing up in poverty are at an elevated risk of experiencing violence, and that reductions in educational attainment are mediated through the impact of adolescent violence on perceptions of efficacy. Foster, Hagan, and Brooks-Gunn (2008) found that (1) childhood abuse is associated with early menarche; (2) early menarche and child abuse are associated with intimate partner violence during adolescence; and (3) early menarche and intimate partner violence increases the likelihood of early parenthood and decreases the likelihood of completing high school. This chain of negative events that tends to occur more frequently among people from low socioeconomic backgrounds can be particularly damaging to health considering that a clear relationship exists between accumulated lifetime trauma and both psychiatric disorder and psychological distress (Turner and Lloyd 1995). Finally, Horwitz et al. (2001) found that childhood sexual abuse, physical abuse and neglect have stronger indirect than direct effects on adult mental health, and that stressful life events mediate the relationship between childhood victimization and adult mental health. These examples show how childhood disadvantage, such as growing up in poverty and experiencing trauma, can lead to subsequent disadvantages throughout the life course, as well as an increasingly compromised capacity to manage new adversities.

Another common way that life course researchers have examined the principle of linked lives is through the impact that poor health has on other members of the family. For example, children of depressed parents tend to exhibit more internalizing and externalizing problem behaviors, to have more problems with defiance and cognitive ability, and are often indistinguishable from children of schizophrenia parents (Avison 1999). The relationship between children’s behavioral and emotional problems and parental mental illness may be partially explained by the fact that mentally ill parents tend to be emotionally unavailable to their children, are often overemotional, and are more apt to use authoritarian parenting practices (Avison 1999).
Finally, although it is evident that the family environment can play a critical role in the development of mental health problems among children, it is also important to consider the role of genetic influences. Although research on children’s health and the concept of linked lives from a life course perspective have focused largely on how children’s health outcomes are affected by such factors as shared family environments, shared exposure to stressors, and similar access to resources (Avison 2010), research on children’s social environments can be incorporated into models of genetic vulnerability as sociologists become more familiar with genotype-environment research (Avison 2010; Seabrook and Avison 2010). Using a typology of genotype-social context interactions, Shanahan and Hofer (2005) show how environmental stressors can interact with personal genetic vulnerabilities to produce differences in health outcomes. For example, there is evidence that severely childhood maltreated males who have low levels of monoamine oxidase-A (MAOA) expression are more likely to develop conduct disorder, a disposition toward violence, convictions for violent offenses, and antisocial personality disorder symptoms in young adulthood than are severely maltreated males with a genotype demonstrating high levels of MAOA activity (Caspi et. al. 2002). Similarly, a recent study by Pescosolido and colleagues (2008) examining the impact of childhood deprivation (as measured by not having enough food to eat) has also demonstrated how stressful social contexts can activate a genetic diathesis. The authors found that among men having the high-risk GABRA2 genotype for alcohol dependence, the predicted probability of being diagnosed with alcohol abuse was much higher for individuals who experienced childhood deprivation compared to those who did not. Further studies on genotype-environment interactions will likely continue to be important in research on health outcomes, including a more extensive range of multifactorial conditions.

**Human Agency**

The last life course principle emphasizes the long-term consequences of human agency, and how health outcomes can vary depending upon the combination of individual choices and contextual opportunities and constraints (George 2007; O’Rand and Hamil-Luker 2005; Thoits 2006). The idea behind human agency is that individuals have the ability to make their own decisions and control their actions, but sociocultural factors such as cultural norms and/or socioeconomic status may limit the extent to which agency is activated. In general, people from high socioeconomic status and those who have good mental health are more likely to be equipped with resources that enhance the exercise of agency (Thoits 2006).

The relevance of social psychological constructs such as self-esteem, mastery, perceived social support, and mattering is that these self-constructs act as mediators in the association between stressful
experiences and mental and physical health. Further, it is not only stress exposure that varies by an individual’s location in the social structure, but also the dynamics of interpersonal relations and self. In other words, not only are people with high socioeconomic status typically exposed to less stress relative to those in the low socioeconomic strata, but the former are also more apt to have increased social psychological resources such as a sense of personal control and social support (Ross and Wu 1996; Thoits 1995). Taking the stress process paradigm into perspective, the increased psychosocial resources from people of higher socioeconomic status can act as a buffer for the impact of stressors on psychological distress. Thus, people with a high sense of personal mastery and self-esteem tend to have significantly lower levels of depression and anxiety when chronic strains or negative events occur (Thoits 2006). This may be due to the greater confidence that these individuals have in being able to cope with the stressors of which they are exposed.

When making decisions, it is important to consider that some stress can actually have positive effects. An individual may choose, for example, to bring about a negative event such as a divorce or getting fired to solve what seems like an intractable problem (Thoits 1995). Although role transitions are typically thought of as stressors that create a need for individual adjustment, Wheaton (1990) argues that preexisting chronic role stress reduces the mental health impact of life transitions. The meaning of a divorce that was preceded by years of persistent conflict will likely differ from a divorce that was characterized by very little conflict. In the case of the former, the choice to leave an unstable marriage may actually feel like an escape or opportunity to find happiness again. Thus, the stress of a transition is neither inherent of the transition itself nor a result of how well one has learned to cope with various transitions, but rather a product of the social environment and the level of chronic role stress prior to the transition (Wheaton 1990).

One of the most effective ways than an individual can exercise agency is in his/her choice to obtain higher levels of education. Ross and Wu (1996) found that among people with high and low educational attainment, the gap in physical functioning, physical well-being, and self-reported health increased with age, and that the health advantage is larger in older age groups than in younger age groups among the highly educated. More recent research from the Americans’ Changing Lives Study has shown that educational disparities in functional limitations increases dramatically in early to middle old age, and that education may be more important than income in preventing the onset of health problems (House et al. 2005). Finally, Dupre (2008) has found that the pathway from low education to risk for hypertension is mediated by the greater likelihood of people with low education to smoke, drink alcohol, and to be overweight across the life course compared to the those people with high levels of education. Although cumulative disadvantage is clearly at work in these studies, in that
low education sets in motion a trajectory of poor health outcomes in later life, the choice to obtain higher levels of education can attenuate early childhood adversity by more advantageous health outcomes. Ross and Wu (1995) argue that educational attainment is the key to many cumulative pathways throughout the life course and that ultimately affects health in old age.

SUMMARY AND CONCLUSIONS

This paper has argued for the need to study the relationships among socioeconomic status, cumulative disadvantage processes and health outcomes from a life course perspective. We have shown, for example, how childhood socioeconomic status can have persistent effects on health disparities later in life. The earlier that the dynamics between socioeconomic status and health are measured in the life course, the more we can also learn about their reciprocal effects.

Of course, life course research need not be limited to the effects of childhood socioeconomic status and cumulative disadvantage processes. Less is known, for instance, about how socioeconomic changes in adulthood, such as transitions into or out of poverty, can predict changes in health. The latter, we believe, is an important area for future life course research.

Moreover, the vast majority of life course research examining the relationship between socioeconomic status and health outcomes has been conducted in the United States. We know, however, that compared to the United States, Canada has a smaller gap between the rich and the poor, a lower percentage of low-income people, and that it spends more money on public infrastructure (Ross et al. 2000). In addition, Canada’s universal health-care system may be beneficial in reducing socioeconomic disparities in health, especially when contrasted with people living in the United States (Willson 2010). A recent study found that although socioeconomic status played no role in adults’ similar patterns of hospital utilization in Canada and the United States, there were stark disparities in doctor contacts when compared to Canadian adults, with high income U.S. adults and those with health insurance being much more likely to visit to their doctor than those without (Blackwell et al. 2009). Hence, public policy decisions can play a major role in the social determinants of health.

We contend that the four life course principles provide important insights into the persistent association between socioeconomic status and health. The advantage of life course sociology is its consideration of early life experiences, and the social and historical context of their occurrences, as important contingencies in producing these systematic socioeconomic differences in health gradients. In addition, that low socioeconomic status groups engage in more risky health behaviors than people from higher socioeconomic status is best viewed from a life course perspective. For instance, Lynch and colleagues (1997) show that physical activity, diet, and
psychosocial orientations in adulthood were strongly related to childhood socioeconomic status. This suggests that although individuals can make decisions to control their actions, socioeconomic status may limit the extent to which agency is utilized in adulthood since adult health behavior is related to early childhood conditions.

Clearly, any significant progress in understanding the significance of socioeconomic status for health will require longitudinal data, ideally spanning decades. Although this paper focused specifically on socioeconomic status and cumulative disadvantage processes across the life course, retrospective personal histories including marital histories, medical histories, occupational histories, religious and organizational involvement, and information about early traumas and adversities are also vital components.

It also seems clear that although both genetic and environmental factors play key roles in the causality of human disease, the interaction between genotype and environment ought to be a significant concern if we are to fully comprehend the link between socioeconomic status and health. Although genes can be expressed at specific times in development, Seabrook and Avison (2010) argue that a cross-sectional conceptualization and measurement of social context does not capture the dynamic properties of environment that determine the meaning of social experiences. Thus, a careful consideration of life course sociology may ensure that the dynamic nature of the environment in genotype-environment interaction is incorporated into explanations of social disparities in health. We believe that the interplay of genetic profiles into models of health and socioeconomic status are an important area for future life course research.

By incorporating principles of the life course perspective and ideas generated from the fundamental cause hypothesis, it seems more likely that sociologists will be successful in better understanding how social inequalities are associated with disparities in health. These perspectives provide both a theoretical and methodological framework for addressing this association in a more systematic manner than has been the case to date.

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