

**TITLE**

Capital interplays and social inequalities in health

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## **ABSTRACT**

We explore ramifications of applying Pierre Bourdieu's theory of capitals to epidemiological research on socioeconomic health inequalities. Capitals are resources used by individuals and groups to maintain and enhance their positions in the social order. The notion of capital interplay refers to the interconnectedness of multiple forms of capital in the production of good health. We provide definitions of economic, cultural and social capitals and describe a variety of causally distal processes, namely, capital acquisition, multiplier and transmission interplays, from which new hypotheses can be developed to guide future study of socioeconomic health inequalities in modern societies.

## **KEYWORDS**

Pierre Bourdieu; socioeconomic resources; capitals; capital interplays; health inequalities

The existence of strong associations between indicators of socioeconomic status (education, income, occupation) and health has been well established by health researchers [1, 2]. Important work has been done to establish the causal nature of the associations [3-7], identify mediating factors [8, 9] and clarify the degree to which the associations are contextually specific [10-12]. Much of this research adopts the assumption that educational credentials, monetary assets and occupational prestige serve as resources for engaging in activities that promote good health and mitigate the deleterious effects of illness or disease. In this commentary we attempt to further develop the resource-based approach to socioeconomic health inequalities by bringing sociological theory to bear on socioeconomic resources and how they are utilized by people to produce good health. In particular, we draw upon Pierre Bourdieu's theory of capitals [13-15] to provide a theoretical account of resources and inspire new hypotheses pertaining to ways in which socioeconomic resources are interconnected with one another in their effects on health.

Broadly speaking, Bourdieu's theory of capitals is fundamentally concerned with power relations between individuals and groups which are manifested in struggles for social distinction that permeate all aspects of social life [16]. In these struggles individuals and groups draw upon a variety of economic, cultural and social resources – capitals – in order to maintain and enhance their positions in the social order. In other words, capitals are resources for engaging in strategic actions that are intended to position their holders advantageously relative to the other members of social systems. But it is primarily the possession of valued capitals that distinguishes actors from one another in fields of struggle [15]. This means that capitals have dual functionality in the theory: capitals are resources for engaging in strategic actions that are fundamentally intended to secure the acquisition and retention of capitals.

According to Bourdieu, the most important forms of capital in modern societies are economic capital, cultural capital and social capital [14]. *Economic capital* refers to money and other assets such as property that can be directly converted into money. *Cultural capital* refers to resources founded in dominant symbolic/cultural systems. For example, an educational credential from a prestigious institution is an *institutionalized* form of cultural capital that represents an efficient way of providing assurance that a person possesses respectable cultural qualities [13, 14]. *Objectified* cultural capital refers to the possession of valued cultural objects such as works of art or literature that require specialized cultural knowledge or skills which signal that the owner is cultivated [13, 14]. Socially valued cultural tastes and inclinations, lasting dispositions of mind and body which include cultural knowledge and skills, are *embodied* forms of cultural capital that also serve to establish societal worth [13, 14]. Finally, *social capital* refers to access to the capitals of other members of a network of social ties that can be mobilized for personal ends [14].

These broadly defined forms of capital encompass standard measures of socioeconomic status, namely, educational attainment (a form of cultural capital), income or wealth (the predominant facet of economic capital) and occupational prestige (another form of cultural capital) as well as the social connections that constitute social capital. Together they provide a way of incorporating different kinds of resources into a single coherent theoretical scheme. However, a capital-based conceptualization of resources obliges researchers to examine forms of power that have not yet been systematically investigated by health researchers [17, 18, 19]. For example, the generic categories used in standard measures of educational attainment (high school diploma, university degree, etc.) do not fully represent institutionalized cultural capital; an educational credential from a prestigious institution may be more useful than a credential attained elsewhere, and a degree in economics may be more useful than a degree in sociology. Certain kinds of

objectified cultural capital, such as expensive road bikes or running gear, may be germane to health by way of the healthy practices that stem from their application. And measuring social capital might involve much more than assessing volume of social ties or whether a suite of ties contains a lawyer or plumber; the capital portfolios of every member of a network of ties should be assessed in a thorough measure of social capital. This means that a capital-based approach to socioeconomic status has the potential to illuminate hitherto unknown health inequalities.

Adopting a capital-based conceptualization of resources also obliges researchers to consider the health effects of clusters or portfolios of resources rather than singular resources [20]. This follows in part from the idea that any given form of capital can be converted or transformed into another form of capital in the right circumstances and with enough time and labor [14]. *Capital acquisition interplays* are processes wherein the application of one form of capital facilitates the successful acquisition of another form of capital and accordingly the production of good health. Capital acquisition interplays can be conscious, strategic choices made by people intent on acquiring more capital (e.g., money spent on tuition). On other occasions, however, they can be habitual and taken for granted, what are typically done by people in similar positions (e.g., money applied to the maintenance of social ties). Applying institutionalized cultural capital in the form of a valued educational credential, such as a degree from a prestigious university, can facilitate the procuring of employment which generates high levels of economic capital [21]. Procuring a prestigious occupation in the labor market can also provide access to social capital [22, 23]. Conversely, social capital can be useful in acquiring a desirable job that generates economic capital [24]. Embodied cultural capital can be usefully applied in interviews for entrance to prestigious schools and the eventual acquisition of institutionalized cultural capital [25]. In all of these interplays, the acquired capital (prestigious degree, powerful ties, high salary) has more or less

direct consequences for health, perhaps by facilitating the acquisition of healthy but expensive food or a health literacy that leads to health-promoting practices. In these interplays the capital that is applied towards the acquisition of another capital is not diminished in the process, which means that these capital acquisition interplays are relatively low risk strategies, at least insofar as the composition of a person's capital portfolio and subsequent standing in social systems is concerned.

It can be the case in a capital acquisition interplay, however, that the invested capital diminishes in magnitude. In this kind of acquisition interplay one form of capital is effectively *transformed* into another. For example, spending economic capital to earn a higher educational degree can lead to employment in healthier workplace environments. Economic capital can also be instrumental in the acquisition of health-relevant embodied cultural capital, such as learning how to ski or play the piano [26]. These capital acquisition strategies are riskier than those described above given that economic capital is irretrievably spent in the process and thus is not available to affect health via other mechanisms. Transformative capital acquisition processes also involve a risk of the conversion eventually proving to be unproductive, such as when economic capital is spent to obtain an educational credential but the credential does not eventually facilitate success on the job market. In practice, additional capital resources may be needed to compensate for future losses or to bridge between the investment of one form of capital and the (expected) later return in the form of another kind of capital. Consequently, transformative capital acquisitions are comparatively less risky and potentially more feasible strategies for people with relatively well endowed capital portfolios.

Another reason for investigating the health effects of portfolios of capitals stems from the fact that capitals often depend upon other forms of capital for their utility and application [14]. In a *capital multiplier interplay* the application of one form of capital towards producing good health

is facilitated by possession of another form of capital. This includes processes where one form of capital is *amplified* by the presence of another form of capital. For example, an amplifier interplay is at play when health-related tastes and dispositions (e.g., preferences for healthy living) actively promote good health only when money is available to put them into practice – the application of cultural capital is more efficacious the more economic capital is available. Studies which find that low status factors held in tandem indicate a cumulative risk for poor health that transcends the summative total of the specific risks accruing to each individual factor [27-29] implicitly invoke the notion of capital multiplier interplay. Multiplier interplays also include processes where the effectiveness of a form of capital is *catalyzed* by possession of another form of capital. For example, a catalytic interplay exists when a person with enough money to buy a particular home in a neighborhood with low levels of crime, health promoting school environments and access to healthy foods in groceries utilizes her network ties to move to the top of a list of applicants – the application of economic capital is only possible in the presence of social capital. In *compensatory* interplays, by contrast, one form of capital is especially effective in the absence of other forms of capital [30]. For example, educational credentials can have an especially profound impact on the health of people from poorer backgrounds [31] – the credentials compensate for the lack of other kinds of resources that would otherwise have been utilized to achieve personal goals.

Finally, a capital-based perspective requires that researchers address the health-related consequences of the intergenerational transmission of capitals [32]. In a *capital transmission interplay* the capitals of parents are transmitted to their children with positive consequences for the latter's health. For example, parents can transmit economic capital to their children directly via monetary inheritance, shaping their adult children's material living conditions and, accordingly, their health. Parents can also expend capitals to develop embodied cultural capital in their children.

Learning to play a musical instrument can serve as a marker of social distinction but also produce a kind of personal discipline that facilitates the development of a disciplined healthy lifestyle. More circuitously, parents can draw upon the capitals at their disposal to strategically cultivate valued cultural skills and talents in children that facilitate their achievement in the educational system, the acquisition of valued and valuable educational credentials and, ultimately, monetary success in the labor market that facilitates good health [33]. To ensure that a transmitted capital can be effectively applied by the children the concurrent transmission of another form of capital may be required. This occurs when parents, through processes of family socialization and selection of extracurricular activities, transmit skills to their children which ensure that the economic capital they also transmit to them will be used properly. Conversely, transmitted embodied cultural capital may be more effective in producing healthy practices among adult children when accompanied by a sufficient amount of transmitted financial resources. In the latter situations the transmission of capitals from parents to children facilitates the application of multiplier interplays by the children.

To conclude, there is wide-ranging agreement that the indicators of socioeconomic status are all relevant for health but little consensus on how to make sense of this multidimensionality. A common approach has been to designate the socioeconomic resources as entirely distinct factors, focusing on one to the exclusion of the others or statistically controlling for one another. Another strategy has been to combine multiple indicators into singular scale measures of socioeconomic status. These kinds of analytical strategies are in danger of overlooking multifactorial processes that link socioeconomic resources to one another and to health. Instead, researchers should explicitly focus on dynamics between capitals in the production of health inequalities, some of which have received attention from health researchers but many of which have not. For example, research into the health effects of social ties might investigate the role of income in the

development and maintenance of the ties (a capital acquisition process). Methodologically this would entail standard mediation analyses but also longitudinal analyses that track the expenditure of money to develop social connections over time. Studies of the health effects of education or income might investigate the degree to which the effects are conditioned by social connections (capital multiplier processes). Methodologically this would entail standard moderation analyses but with particular attention paid to the distinction between catalyzing versus amplifying interplays by way of examining cut-points in continuous measures. Research might also be conducted on the ways in which parents utilize their capitals to develop cultural talents in their children that subsequently facilitate the accumulation of health promoting capitals later in the life course (capital transmission processes). Methodologically this would entail standard longitudinal analyses that attend to different kinds of capital than are typically included in longitudinal studies designed for such purposes. In conclusion, attending to a wide variety of capital interplays in epidemiological research could lead to a more fulsome and theoretically coherent understanding of socioeconomic health inequalities in modern societies.

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