



The interplay of structure and agency in health promotion: Integrating a concept of structural change and the policy dimension into a multi-level model and applying it to health promotion principles and practice

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ABSTRACT

The recent debate in public health about the “inequality paradox” mirrors a long-standing dispute between proponents of structuralist approaches and advocates of action theory. Both views are genuine perspectives of health promotion, but so far they have not been adequately linked by health promotion theory. Using Anthony Giddens’s concepts of structure and agency seems promising, but his theory has a number of shortcomings that need to be amended if it is to be applied successfully to health promotion. After briefly assessing Giddens’s theory of structuration, this paper proposes to add to it both the concept of structural change as proposed by William Sewell and the policy dimension as described by Elinor Ostrom in her distinction between “operational” and “collective choice” level. On this basis, a multi-level model of the interaction of structure and agency in health promotion is proposed. This model is then connected to central claims of the Ottawa Charter, i.e. “build healthy public policy”, “create supportive environments”, “strengthen community actions”, and “develop personal skills”. A case study from a local-level health promotion project in Germany is used to illustrate the explanatory power of the model, showing how interaction between structure and agency on the operational and on the collective choice level led to the establishment of women-only hours at the municipal indoor swimming pool as well as to increased physical activity levels and improved general self-efficacy among members of the target group.

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Introduction

In the social sciences, there has been a long-standing dispute between proponents of structuralist approaches and advocates of action theory. In public health, this controversy has recently resurfaced in the discourse concerning the “inequality paradox” presumably created by certain kinds of health promotion interventions (Allebeck, 2008; Frohlich & Potvin, 2008; 2010; McLaren, McIntyre, & Kirkpatrick, 2010). The debate also draws attention back to the most famous theoretical endeavor to link the concepts of “structure” and “agency”, Anthony Giddens’s theory of structuration (1984).

Giddens attempts to overcome the fundamental shortcomings of two opposed approaches in social sciences: the structuralist approach, which tends to neglect the efficacy of human action in shaping structures, and the individualistic approach, which is

prone to underestimate the efficacy of structures in shaping human action (e.g. Giddens, 1984, 207ff). Instead of taking sides, Giddens defines “structure” as sets of rules and resources that are produced and reproduced by “human agency”, i.e. the capabilities of individuals to act. Thus, both sides are conceptualized as interdependent and mutually reinforcing.

Other social science theories on structure and agency have further elaborated Giddens’s critique of the dualism of structural and individualistic approaches. For example, for Sewell (1992, p. 2), structural approaches are struggling with the fundamental problem of “causal determinism”. Structures appear “to exist apart from, but nevertheless to determine the essential shape” of human action, thus, reducing “actors to cleverly programmed automatons”. In another comprehensive theoretical contribution to the structure–agency debate, Archer (1995, p. 6ff) suggests to recognize the importance of “the interplay” of structure and agency in order to overcome one-dimensional theorizing, be it either a reduction to structural conditioning of human action or to the elaboration of structures by human actors. At the same time, Sewell (1992) and Archer (1995) also criticized certain elements of Giddens’s structuration theory and provided promising approaches to

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reformulating the interplay of structure and agency, particularly with respect to the integration of a concept of structural change.

As a matter of fact, both structural and agentic approaches are genuine perspectives of health promotion. On the one hand, the very concept of health promotion is originally based on a fundamental critique of approaches focusing on individual lifestyles and health education. Instead, health promotion approaches emphasize the importance of the “structure” of lifestyle, i.e. the social conditions for individuals’ daily life conduct (Anderson, 1984; Kickbusch, 1986; Rütten, 1995; Wenzel, 1983, pp. 1–18; also see the recent discussion on the social determinants of health, e.g. in WHO, 2008).

On the other hand, the Ottawa Charter (WHO, 1986) defines the five key domains of health promotion in a way that clearly refers to agency (*building healthy public policy, creating supportive environments, strengthening community action, developing personal skills, and re-orientating health care services*). Agency in health promotion occurs on two levels: First, by definition, any health promotion action contains agency. Second, agency is an important outcome of health promotion action, e.g. when interventions aim at improving the (agentic) capabilities of individuals (e.g. personal skills that “increase the options available to people to exercise more control over their own health and over their environments, and to make choices conducive to health”, WHO, 1986) or of communities (community actions as “empowerment of communities – their ownership and control of their own endeavours and destinies”, WHO, 1986).

It has been convincingly argued (McQueen, 2007, 1996; Potvin, Gendron, Bilodeau, & Chabot, 2005) that health promotion practice needs well-founded theories. But while structure and agency are fundamental perspectives of health promotion practice, there is a lack of adequate health promotion theory. To be sure, there exists a number of approaches that might help us link certain aspects of structure and agency in health promotion theory. Socioecological models, as developed e.g. by Stokols (1992) and Green, Richard, & Potvin (1996), theorize about the influence of both individual behavior and the environment on people’s health, and several frameworks, such as Intervention Mapping (Bartholomew, Parcel, Kok, & Gottlieb, 2006) and PRECEDE-PROCEED (Green & Kreuter, 1991) have applied this concept to health promotion planning. Some particularly promising approaches that we might build upon stem from the early discourse on the structure of lifestyle (Abel, 1991; Cockerham, Rütten, & Abel, 1997; Rütten, 1995) and the more recent debate on collective lifestyles (Frohlich & Potvin, 2008; Frohlich, Corin, & Potvin, 2001). This literature has identified some shortcomings of Giddens’s theory. In particular, the concepts of *habitus* (Bourdieu, 1977) and *capabilities* (Sen, 1985) have been added to the structure–agency approach to overcome its limitations (Abel, 2008, 2007; Williams, 2003, 1995).

However, there are still two major shortcomings in Giddens’s approach that have not been adequately dealt with in health promotion theory building to date: First, Giddens’s main focus is rather static, basically ignoring the idea that structures can be altered in any way. It is quite clear that any theory of health promotion that does not include a concept of change is rather limited in its explanatory power. Second, Giddens does not adequately consider the various levels at which social interaction takes place. In particular, this pertains to the policy-making level, which has been a key arena of health promotion efforts ever since the Ottawa Charter. Consequently, it will be necessary to make some additional modifications to Giddens’s original concept.

In this article, we will proceed as follows: First, we will briefly summarize the basic tenets of Giddens’s theory. Second, we will introduce Sewell’s (1992) modification of the approach, which presents five “axioms” for structural change. Third, we add Ostrom’s (Kiser & Ostrom, 1982; Ostrom, 2007) distinction between

the operational level and the collective-choice level. Fourth, we apply this multi-level model to the field of health promotion and connect it to the basic claims of the Ottawa Charter. Fifth, we use examples from a local health promotion project to illustrate how structure and agency at different levels interact to promote health. In the conclusion, we provide an outlook on how the approaches of Giddens and Ostrom might be combined even more closely to form a “unified” approach of structure and agency on various levels.

Theoretical framework

In order to initiate the development of a comprehensive theory on the interplay of structure and agency in health promotion, we will outline a general theoretical framework in this section. This framework will build on elements of different theories which are relevant for our multi-level model and will explore potential relationships among these elements.

Starting point: Giddens’s theory of structuration

Whether one should investigate actors or structures when trying to describe and explain social phenomena has been a matter of constant discussion in the social sciences. For a long time, structuralist and functionalist approaches were considered as completely separated from and opposed to action theory (Archer, 1995; Sewell, 1992). Giddens (1984) has addressed this conflict by pointing to the interconnectedness of the two concepts, showing that they are actually two sides of the same coin.

According to Giddens’s theory, human agency implies more than just “acting”. It involves being knowledgeable of the rules that govern social interaction. By acting according to these rules, individuals contribute to the reproduction of the structures they live in. Structures, on the other hand, are “both the medium and the outcome” of the practices which constitute social systems (Giddens, 1984 p. 25), i.e. they are both the result of human agency and the framework in which human agency takes place. Giddens calls this twofold character the “duality of structure”. He also underlines that structures do not always restrain people’s actions but that they can also be enabling. As the mutual reinforcement of structure and agency is a process, Giddens terms his approach “theory of structuration”.

Structure itself consists of two components: rules and resources, or “rule-resource sets” (Giddens, 1984, p. 377). Rules are generalizable procedures in the reproduction of social life, thus comprising not only of formal regulations but also informal conventions that govern everyday life. Resources are the means by which social interaction is executed, or, put more simply, “sources of power” (Sewell, 1992, p.9). Resources may either be “authoritative”, providing power over people, or “allocative”, providing power over objects (Giddens, 1984, p. 33). As Frohlich & Potvin (2010) point out, the most basic lesson for health promotion to be learned from Giddens is that interventions should avoid focusing purely on structural or agentic aspects, but should always consider the context in which the two interact.

Integrating a concept of structural change

As authors such as Sewell (1992) and Archer (1995) have argued, one of the major drawbacks of Giddens’s work is that he does not properly recognize the potential for structural change. Even though he emphasizes the notion of structuration as a process, his main focus on the constant reproduction of structures through agency leads to stasis rather than to change. But if there were nothing but constant reproduction, the implication for health promotion would be that any attempt to change “unhealthy” structures

(e.g. related to unhealthy environments and policies or to unhealthy behaviors) would necessarily be futile.

In her “realist social theory”, Archer (1995) therefore presents an approach to conceptualize processes of change related to structure and agency. Her fundamental critique of “structuration” focuses on the “conflationary” character of Giddens’s model. According to Archer, traditional conflation theories are unidirectional, stressing either “downward conflation” (agency determined by structure) or “upward conflation” (structure determined by agency, Archer, 1995, p. 82). However, she also criticizes the “central conflation” approach in Giddens’s structuration model because of its reduced perspective on the “mutual constitution” (1995, p. 87) of structure and agency. Compared to the “limited time span” of conflation theories, Archer’s own “morphogenetic approach” to structure and agency attempts to cover the full “timescale through which structure and agency themselves emerge, intertwine and redefine one another” (Archer, 1995, p. 76). Thus, while Giddens’s structuration model suggests stasis rather than change, Archer’s morphogenetic model has a particular focus on possibilities for change. We believe that this morphogenetic perspective is promising, but due to its special focus tends to underestimate the mutual reinforcement of structure and agency as outlined in Giddens’s theory.

In contrast to Archer (1995), Sewell’s (1992) critique is less fundamental and may rather be conceptualized as a “reformulation” of Giddens’s theory. Sewell’s main interest is to integrate possibilities of change into the structure–agency model (Sewell, 1992). Moreover, his approach is more pragmatic and lends itself more easily to practical application than Archer’s, which is why we consider it more appropriate for our context. To Sewell, Giddens’s notion of a perfect reproduction of structures through agency is only a theoretical construct, whereas in the real world, change actually happens all the time. After re-defining some of Giddens’s concepts (including the substitution of the term “schemas” for Giddens’s “rules”), he introduces five “axioms” to explain how the interaction of structure and agency can lead to structural change. For him, the term “agency” goes beyond the reinforcement of existing structures and points to the ability of actors to draw on patterns of action they already know from other settings when trying to handle new situations. This “transposability of schemas” (e.g. of etiquette) is one opportunity for structural change. As a practical example, one could imagine a child from a family where problems are solved through dialogue coming to a new school where there is much violent behavior among the children. The child might either successfully transpose the schema from her family to the school, introducing a less violent way of resolving conflict to her class, or the transposition might occur in the opposite direction, with the child beginning to display a more violent behavior within the family. In either case, structures are changed. Transposability is closely connected to another axiom, namely the “multiplicity of structures” in which actors are embedded. Individuals act in various structures, e.g. in the family, at school, at the workplace, in the circle of their friends, in voluntary associations, vis-à-vis public authorities, etc. Change may also be brought about by the *unpredictability of resource accumulation*, i.e. by the fact that transposing schemas from one structure to another may either lead to an increase or a loss of resources, in turn modifying structures. It is uncertain for a farmer if planting a new kind of crop on his fields will be a change for the worse or the better compared to the old crop used (Sewell, 1992, p. 18). Another opportunity for structural change is related to the fact that structures do not simply exist side by side but often overlap. An example from everyday life for this *intersection* of structures could be an individual’s school or workplace environment, which contains structures of formal education or of working relations as well as structures of private relations and

friendship. Sewell’s fifth axiom is the *polysemy of resources*, which holds that resources are subject to different interpretations by different agents. The prevailing interpretation will influence which schemas will be replicated and how the position of the agents involved is altered. For example, the executive board of a business enterprise may attribute the success of a project either to the head of the project unit or to the employees. Depending on the interpretation of the leadership, this may either strengthen or weaken the position of the head of unit.

As the case example provided below will show, these five axioms can also provide a way to analyze how exactly change was brought about in a given health promotion intervention. This knowledge, in turn, may help us to make inferences about how to design future interventions to achieve maximum effects in a given public health context.

Integrating the policy dimension

While we can find references to policy in the discourse on structure and agency, this dimension has not been systematically integrated into the model yet. For example, in his considerations on the “forms of institutions”, Giddens introduces a classification of institutional orders (1984, p. 31ff), allocating, among others, specific structures – and thus specific sets of rules and resources – to political institutions. However, he has general reservations about making clear-cut distinctions between the different institutional spheres and therefore remains rather vague on this point, hardly providing a starting point for a concrete operationalization of the interplay of structure and agency in policy-making. This may also be one reason why this level has hardly been considered so far when applying Giddens’s theory to health promotion. As has been suggested in the recent discourse on policy analysis in health promotion (Bernier & Clavier, 2011; Rütten, Gelius, & Abu-Omar, 2010), using approaches from political science can be a fruitful way to conceptualize policy processes in health promotion. Among the most prominent approaches are the Advocacy Coalition Framework (ACF) and the Multiple Streams (MS) Framework (Sabatier, 2007). A particularly useful multi-level theory of policy-making is Elinor Ostrom’s (2005, 2007) “Institutional Rational Choice” or “Institutional Analysis and Development” (IAD) framework.

Ostrom’s basic unit of policy analysis are “action arenas”, which are composed of “action situations” and “actors” (Ostrom, 2007). The former are constituted by the participants, positions, allowable actions, procedures, control, the information available, and the costs and benefits assigned to actions in a given context. The latter are characterized by specific resources, information, beliefs, etc. that affect their conduct within an action situation. According to the IAD framework, there are three classes of factors that exert influence on action arenas: (1) physical and material conditions (e.g. attributes of resources, degree to which resources are exclusive or not), (2) the general attributes of the community (most importantly culture), and (3) rules, i.e. agreements of the community about the appropriate procedures of interaction. In addition, Ostrom points out that, in real-world situations, informal rules (“working rules”, “rules-in-use”) may be more important than formally specified rules (“rules-in-form”).

A crucial aspect of the IAD framework is clearly the concept of different levels of action. The major levels identified by Ostrom are (1) the operational level (e.g. everyday life of individuals, working level of organizations) (2) the collective choice level, which includes more formal settings (such as legislatures, regulatory agencies, and courts) as well as informal arenas (e.g. gatherings, appropriation teams, and private associations, Ostrom, 2007, p. 46), and (3) the constitutional level (with the potential addition of an even more basic metaconstitutional level). Of particular interest to

the context of health promotion are the “collective choice level”, where health promotion policy is made, and the “operational level”, where individual health behavior occurs. In Ostrom’s view, the different levels build upon each other, and more basic levels influence structures and actions on more specific ones by determining how their rules can be altered.

Ostrom (2007, p. 44) argues that there is a multiplicity of action arenas that are nested within each other (a notion similar to Sewell’s idea of the multiplicity and intersection of structures), and that nesting can occur at the same level or between levels. For example, in their everyday lives, individual actors usually take part in multiple action arenas on the operational level (e.g. family, school, work), but at the same time, they may also be involved in action arenas on the collective-choice level (e.g. as voters in an election).

Upon closer examination, one can find some interesting links to Giddens in Ostrom’s approach: Her notion of action arenas also combines structural and agentic aspects, although this link is not her major theoretical concern. There are also some interesting similarities between the concepts used by the two authors, for example concerning their notions of rules. On a general level, it might be rewarding to attempt to combine the two frameworks into a full-scale, unified approach that includes the duality of structure and the idea of action arenas. We will outline some potential starting points for such an endeavor in the conclusion of this paper.

A multi-level model of the interplay of structure and agency in health promotion

Our model on the interplay of structure and agency in health promotion is shown in Fig. 1. As outlined above, it uses the general framework provided by Giddens, with additions from Sewell and Ostrom. At the core are Giddens’s dual, mutually reinforcing constructs of structure and agency. On the collective choice level, potential examples from health promotion contexts include the “pair” of participation of different stakeholders in policy-making processes and the rules-resources sets in policy arenas related to these processes. On the operational level, examples include the

“pair” of physical activities of different stakeholders and the rules-resources sets of the environments related to these activities. The arrows between structure and agency indicate that the two presuppose each other: This may be interpreted both in Giddens’s original sense, i.e. that there is mutual reinforcement and thus structural stability, and following Sewell, for whom this duality provides several “entry lanes” for change. For instance, we might say that physical activity-unfriendly environments lead to low levels of physical activity in the population, which in turn decreases demand for changing these structures to make them more physical activity-friendly. Alternatively, the establishment of a new sport facility may also change people’s physical activity behavior, leading in turn to increasing demand for additional sport infrastructures.

Considering Ostrom’s levels in our model is important for two reasons. To begin with, as has been noted above, it allows for systematic considerations of the policy dimension, which is widely neglected by Giddens’s original concept. We can thus theorize about health promotion interventions that do not (or not exclusively) take place at the operational level of health behavior and the related environment but also in the field of policy-making (collective choice level). Second, we can now begin to see the connection between the two levels: Policies may reinforce or change structures at the operational level. For example, they may influence the rule-resource sets related to a specific context of physical activity and environment. Vice versa, the population’s physical activity behavior may influence the rule-resource sets related to a specific policy context. For example, increasing involvement in physical activity at the operational level may increase the participation of different stakeholders in the policy-making process. Moreover, such processes may ultimately result in changes in policy structures, i.e. modified procedures of policy-making and resource allocation.

In a second step, we can now add some of the central claims of the Ottawa Charter (WHO, 1986) to the model, i.e. “build healthy public policy”, “create supportive environments”, “strengthen community actions”, and “develop personal skills”. If we consider Giddens’s concept of structure and agency as well as Ostrom’s notion of levels, we find that healthy *public policy* is, by definition, located on the collective choice level, and that it is related to

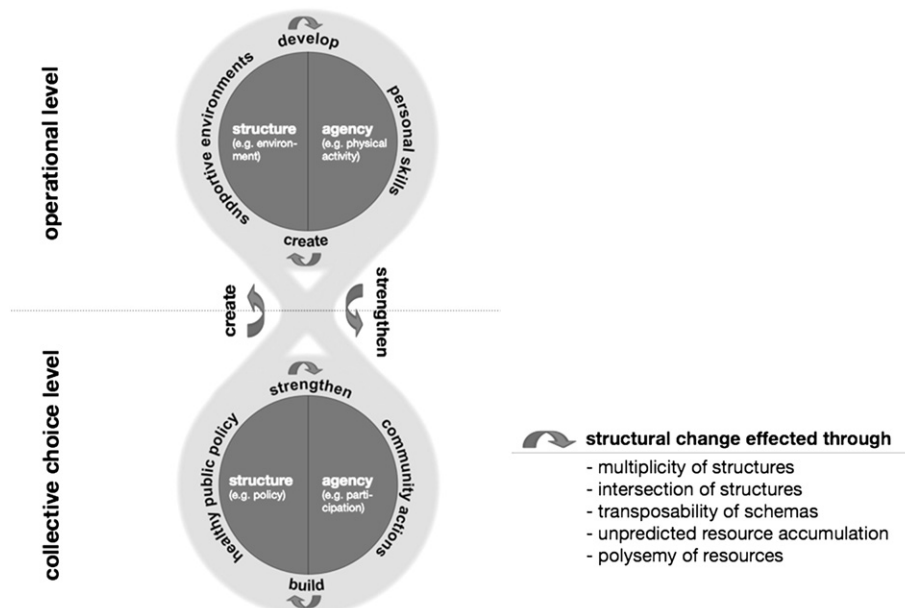


Fig. 1. Multi-level interdependence of structure and agency in health promotion.

structure – both via power, i.e. authoritative resources, and via rules, e.g. political procedures, laws, and regulations. *Community action* occurs at the collective choice level, as reflected in the Ottawa Charter, which uses terms such as “setting priorities” and “making decisions” as examples for community action. As the term “action” also implies, it is more focused on agentic aspects. *Supportive environments* are structural in nature (e.g. in the sense of allocative resources), but they belong to the operational level, for instance by forming the structural basis of playing sport. Finally, *personal skills* refer to individuals’ capabilities to act, i.e. to human agency at the operational level. Keen observers will note that we are omitting the fifth central demand of the Ottawa Charter, “reorient health services”. We perceive the reorientation of health services not so much a basic category of structure and agency in health promotion like the other four. Instead, we see it as a specific case to which the four basic categories can be applied. We therefore consider it a logical step to exclude this claim from our model.

But how do these four concepts interact to either reinforce structures or to effect change? We argue that one might conceive of the four claims of the Charter as “pairs” of structure and agency that reinforce each other on the different levels. It is even possible to draw on the terms used in the Charter to support this claim, although the authors probably did not have Giddens in mind when they chose their wording: Thus, one could say that healthy public policy can “strengthen” community action on the collective choice level, while community action can help “build” healthy public policy. On the operational level, supportive environments can help “develop” personal skills, which may in turn contribute to “building” supportive environments.

Furthermore, this interplay of structure and agency may also take place between the two levels. For instance, as elaborated in greater detail in the case example below, involvement of individuals in community action on the collective choice level might increase these individuals’ personal skills on the operational level, and vice versa.

It should be noted here that the idea of two clear-cut levels and only two action arenas is a radical simplification of health promotion *reality*. In the real world, there are usually multiple action arenas (e.g. parliament, policy-making of federal governments, health promotion projects, communities of people, etc.). In addition, the hierarchy in which these arenas are related to each other may be rather complex. Some might claim that our model is also a simplification of health promotion *theory*. As a matter of fact, there are theories more elaborate and detailed than any of the individual aspects of our model, e.g. the capabilities approach (Sen, 1985) or elaborate theories of the policy process (Rütten et al., 2010; Sabatier, 2007). However, the strength of the model lies in its ability to connect all these categories with each other in a meaningful way, an issue that is not raised by other approaches. In addition, the model provides us with an effective link between Giddens’s idea of the duality of structure, Sewell’s five axioms to account for the possibility of structural change, and Ostrom’s levels of action. It also proposes a systematic way of relating four basic tenets of the Ottawa Charter to each other, and it theorizes about how structure and agency and the various levels might interact in health promotion to shape public health outcomes.

A case example from health promotion practice

In the following section, we will use a local-level health promotion project to assess whether the model outlined above has any explanatory power for health promotion practice.

The BIG Project (BIG is the German acronym for “Movement as an Investment for Health”) was originally a university-led project conducted in the German city of Erlangen between 2005 and 2008.

It aimed to develop innovative means of health promotion for women in difficult life situations (e.g. women with a migrant background, recipients of social welfare, or single mothers), with a special focus on physical activity. In 2009, the City of Erlangen took over the responsibility for the project. Meanwhile, the project has also been transferred to other municipalities in Germany. Currently, each week more than 800 women in 10 cities take part in BIG activities (Rütten, Abu-Omar, Frahsa, & Morgan, 2009). One special feature of the project is that the actual interventions are developed in a cooperative planning process that involves women from the target group as well as local experts and policy-makers. Consequently, BIG is a good case example for the interaction of the collective choice and the operational level, as project work takes place on both levels.

In the course of the cooperative planning process conducted for the original BIG Project in Erlangen, women from the target group successfully initiated the establishment of women-only hours at the municipal indoor swimming pool, thus giving Muslim women the opportunity to use the facility without men being present (Rütten & Frahsa, *in press*). This particular outcome of the BIG Project indicates that changes have occurred on both levels: On the operational level, rules and resources related to an important environment for physical activity were altered, as were the corresponding physical activity behaviors (Muslim women starting to swim). On the collective choice level, the context of the BIG Project provided Muslim women with access to the policy agenda for the first time, allowing them to influence policy decisions and subsequent changes in certain institutional arrangements.

How can we explain these changes using the multi-level model of the interplay of structure and agency outlined above? Quite in line with Giddens’s original concept, the situation in Erlangen was characterized by stasis on both levels at the start of the project. On the operational level, many of the women in difficult life situations later involved in the project had predominantly inactive behaviors and were heavily focused on the structural barriers preventing a change of these behaviors. In particular, Muslim women were interested to engage in water-based activities. But as they had no opportunities to do so, especially due to a lack of women-only indoor pool hours and adequate childcare, they remained inactive.

On the collective choice level, policy structures were inappropriate. The target group of the project hardly had a political lobby to represent their interests in the political arena. A scientific assessment showed that only very few political or administrative organizations and institutions had any specified goals related to physical activity promotion for women in difficult life situations, let alone the resources to implement concrete measures (Rütten, Roger, Abu-Omar, & Frahsa, 2009). As women from the target group did not form a coherent or even organized group of voters, they did not seem relevant to most policy-makers. Instead, policy initiatives for physical activity promotion focused mainly on health sport offers of local sport clubs. However, as most women of the BIG target group were not sport club members, their interests were not catered for.

A central point we need to examine in order to explain how change was effected in this situation of stasis is how the issue of women-only pool hours came on the political agenda at the collective choice level at all, and why it did not do so before. A possible explanation is that the need for women-only pool hours mostly affects women with a Muslim background. In this culture group, “public affairs”, including interaction with the authorities, are usually handled by men, meaning that the women were not able to voice their demand. But the process of cooperative planning created a new action situation in which the women involved were equal partners of the representatives of the community (the mayor,

the head of the sport authority, members of the city council, etc.). This new structure empowered the women to change their actions and to bring forth their request. Adding the basic propositions of the Ottawa Charter as presented in Fig. 1, we could say that a community action (the BIG Project) initiated a process that eventually led to the creation of a supportive environment for health (women-only indoor pool hours).

We can clearly see Sewell's idea of the "transposability of schemas" at work here, both within and between levels. In their own social and cultural environment (i.e. on the operational level, or at least on a less basic collective choice level), the Muslim women involved in the planning process were well-connected with others and actually acted as "community leaders". They were able to act according to collective procedures of decision making and to use authoritative resources to influence the outcomes. After initial hesitation, they were able to transpose these schemas to the cooperative planning process (i.e. to a new action situation at the collective choice level).

To bring about the intended change of the environment, additional action on the policy dimension was necessary. Some of the policy-makers involved in the planning transferred schemas of policy action from one policy arena to another in order to put the women-only pool hours into practice. Drawing on their experience from other policy issues, they were able to overcome political resistance (e.g. in the board of the municipal utility company running the indoor pool). Linking this chain of events back to Fig. 1, one could say that community action (cooperative planning) led to the development of healthy public policy.

Beyond the changes on the collective choice level, additional transfer back to the operational level took place. For one, the women that had been involved in the planning process reported afterwards that they were now more self-confident dealing with local authorities, going on errands at city hall themselves instead of sending their husbands. Another effect was the establishment of swimming classes within the women-only hours, which, in turn, seem to have increased the participants' self-efficacy with respect to other forms of physical activity (for example, the women also reported an increase in walking and cycling).

To summarize, this example contains most of the elements outlined above and summarized in Fig. 1. The interplay of structure and agency can be found, among others, in the new structure of cooperative planning that enabled the participating women's agency, which then led to the development of a new structure, the women-only pool hours. Sewell's transposability of schemas is illustrated on various occasions, e.g. between the women's social and cultural context and the cooperative planning process. There is also a clear multiplicity and intersection of structures, e.g. the cooperative planning, the board of the municipal utility company, project implementation (indoor pool hours and swimming classes), the women's everyday life (both within their community and vis-à-vis the local authorities), and their specific physical activity behavior. The fact that the women-only pool hours unexpectedly led to the establishment of swimming classes, which in turn led to better personal skills among the women in the form of increased general physical activity-related self-efficacy, can be viewed as an example of unpredictable resource accumulation in Sewell's sense. Moving on to Ostrom's concepts, it should have become clear that there was substantial interaction between action arenas on the collective choice and the operational level. Of particular interest is the fact that the women were part of various arenas and moved back and forth between levels (e.g. between their private life and their own circle of friends on the one hand and the cooperative planning group and more formal policy arenas on the other). Finally, the BIG example has also shown that the basic messages of the Ottawa Charter can actually be conceived of as specifications of

the interplay between structure and agency on the one hand and between the collective choice and the operational level on the other.

Discussion

Attempting to combine concepts from two of the most high-profile social science theories of the 20th century and applying them to the Ottawa Charter is, as we frankly admit, a bold endeavor. We realize that the proposed approach has a number of limitations and shortcomings. For one, theoretical models should be parsimonious. In particular, when dealing with complex phenomena such as health promotion, a reduction of the potentially relevant elements is necessary. As a consequence, the theoretical perspective chosen in this article neglects some aspects of the structure–agency discussion in previous contributions, particularly the influence of structures on the individual. The model presented here does not make any reference to the theoretical concepts of *habitus* (Bourdieu, 1977) and *capabilities* (Sen, 1985), which other papers on the subject have identified as important (Abel, 2008, 2007; Williams, 2003, 1995). This does not mean, however, that we regard of these concepts as irrelevant, but the model at hand has a different focus.

Critics might also interject that the distinction between the two levels is somewhat artificial. For example, Frohlich and Potvin (2010) argue that participation of individuals in health promotion interventions is already a political act. While this might be true from a certain point of view, this interpretation misses the "institutionalization" of the policy arena as correctly described by Ostrom, including specific rules and resources as well as phenomena of collective choice.

Another potential objection pertains to the question if we need a combination of the theory of structuration and the IAD framework at all. While we believe we have convincingly argued that Giddens's approach neglects the notion of a specific policy level and therefore needs the addition of Ostrom's theory, critics might argue that, instead of combining the two, one might simply substitute Ostrom for Giddens. After all, her action arenas account for both structures and agents that interact to produce outputs and outcomes. However, actors and structures are not systematically distinguished in the IAD framework, and neither is their interaction. Some elements of an action arena simply happen to belong to either of these classes. This is why, for the field of health promotion in particular, we agree with Frohlich and Potvin (2010) that we need Giddens's systematic approach, but we would add that we also need the modifications outlined above.

Concerning the empirical part of this paper, some might argue that the BIG Project presented in this article is a non-representative case of "perfect" interaction between the operational and the collective choice level. It is true that the connection between the levels is much easier to track in local-level health promotion projects, where (a) community action or health policies can have a rather direct impact on the operational level, and (b) members of the target group may interact directly with actors on the collective choice level. In fact, it would be of particular interest to investigate other types of health promotion interventions, particularly those that involve more basic collective choice levels and that are therefore farther removed from the operational level. Direct participation of the target group may work well in a local setting, but not if the project is situated at the regional, national, or even international level. In turn, the direct effects of such projects on the individual might be much harder to measure. It is therefore necessary to conduct more research on this type of intervention, assessing how the interplay of structure and agency on and between the various levels works in these projects.

Conclusion and outlook

The main goal of this article has been to introduce the policy context to the theoretical discussion on the interplay of structure and agency in health promotion. By adding the collective choice level to the often-discussed operational level of individual health behavior, we hope to spark a discussion on the conceptual usefulness of the interplay of structure and agency specifically for health promotion policy. Moreover, by demonstrating how the two levels are intertwined, the model allows us not only to deal with virtually all key domains of health promotion (as outlined by the Ottawa Charter) simultaneously, but it also connects these domains in a meaningful way theoretically.

We see two major areas for future research on this approach. The first concerns case studies of health promotion projects working in policy environments other than the local arena. We intend to put forth such a case study involving two of our own EU-sponsored projects in the near future. The second field pertains to further elaborating the combination of Giddens's theory with the concepts developed by Ostrom.

This seems possible because, although the approaches of Giddens (Duality of Structure) and Ostrom (IRC/IAD) belong to different disciplinary traditions and discourses, they both refer to a similar terminology. However, they conceptualize and apply these terms in different ways. To use the most obvious example, both approaches relate "rules" to "resources", but Giddens is mainly concerned with their allocative and authoritative character, whereas Ostrom primarily relates them to the "states" (i.e. physical and material conditions) of the world.

For Giddens, "rules" are a basic component of his concept of structure, referring less to directives and regulations but rather to formulae, schemata, and generalized procedures. Ostrom, by contrast, uses the term mostly in a regulatory sense. However, her "working rules" or "rules-in-use" come closer to Giddens's concept, potentially allowing for a closer combination of the two theories.

The major task for anyone attempting to build a detailed "unified" theory would be to identify all of the potential links and to "harmonize" the concepts in such a way that they are fully compatible with each other. The result might be an elaborate multi-level concept of action arenas that can tell us more about how actors and structures interact to process external influence and to produce specific outputs and outcomes. While the model presented in this article is still simple enough to be used for health promotion practice, a more detailed theory would be particularly useful for health promotion analysis.

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