Article

Participative Processes as a Chance for Developing Ideas to Bridge the Intention-Behavior Gap Concerning Sustainable Diets

Leonie Fink [1,2,*], Angelika Ploeger [1] and Carola Strassner [2]

[1] Faculty of Organic Agricultural Sciences, Department of Organic Food Quality and Food Culture, University Kassel, 37213 Witzenhausen, Germany; a.ploeger@uni-kassel.de
[2] Department of Food Nutrition Facilities, Münster University of Applied Sciences, 48149 Münster, Germany; strassner@fh-muenster.de
[*] Correspondence: l.fink@uni-kassel.de; Tel.: +49-251-8365614

check for updates

Abstract: Sustainable diets are drivers and results of sustainable food systems. Therefore, they are crucial for improving our global diet-related problems. When trying to adopt sustainable diets, people often struggle with the gap between their good intentions and their actual behavior. Here we see a need for support. To understand people's needs and what could help them, it stands to reason that they can be directly involved in the development processes for appropriate ideas. On that account, we conducted six workshops in different German cities from September to December 2016 with 82 participants in total. We collected data by letting participants generate ideas to bridge the intention-behavior gap. The qualitative data was then coded in internal (168) and external factors (989). Analyzing data shows that the higher numbers of external factors offer a wider range of aspects that contribute to closing the intention-behavior gap from the participant's point of view. We discuss whether the external factors such as availability, advertising, pricing, and education about food and nutrition may be a prerequisite for a broad mass of people to practice a more sustainable diet.

Keywords: sustainable diets; diet adoption; sustainable food system; intention-behavior gap; citizen participation; innovation workshop

1. Introduction

Recently the consumption of sustainably produced food, e.g., organic food is increasing [1]. Practicing sustainable diets can promote diet quality and, thus, human health and has—generally speaking—a positive impact on the environment [2]. In order to be clear on the term "sustainable diets" we use the FAO definition, in which "Sustainable Diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources." [3].

Numerous reports on food system related issues, movements towards sustainable lifestyles and, for example, the launch of the United Nations' Sustainable Development Goals are raising public awareness for the importance of sustainable consumption and nutrition [4–9]. These cognitive contact points give people an impulse for their own behavioral improvement [10]. However, a consistent adoption of a sustainable diet seems difficult. To change one's own behavior is no piece of cake. That is why people often struggle with the implementation of their behavioral intentions [11]. This circumstance describes the so-called intention-behavior gap, based on the inconsistency between the

behavioral intention and the actual behavior [12]. This gap is a critical aspect of behavior changes, especially when only half of the possible intentions are translated into desired actions [11].

The Theory of Planned Behavior (TPB) describes that human behavior is strongly based on the formed intention (Figure 1). In addition, the model reveals that there are determining factors influencing the formation of an intention. Behavioral beliefs, meaning possible positive or negative consequences of performing the behavior, lead to a specific attitude towards the behavior in question. Normative beliefs represent beliefs about a possible judgment of relevant persons and social pressure. This kind of social influence leads to a specific subjective norm. Control beliefs consider possible internal or external factors that may positively or negatively influence a person's behavior. Furthermore, beliefs on how easy or difficult the performance of the behavior can be, leads to a certain degree of perceived behavioral control [13,14]. The TPB also considers other possible variables called background factors that can influence behavioral, normative and control beliefs. Another variable is feedback loops arising through information from previous behavior. It is assumed that the more the belief that the behavior is under control and the more favorable the attitude and subjective norms are, the more likely it is to form a positive intention towards a particular behavior. Formed intentions don't always lead to the corresponding behavior. This depends on whether a person has actual control over the behavior or whether there are internal (information, skills, abilities, emotions, compulsions) or external factors (opportunity, dependence on others) that are interfering. This actual behavioral control is strongly related to the determinant of perceived behavioral control [14,15].
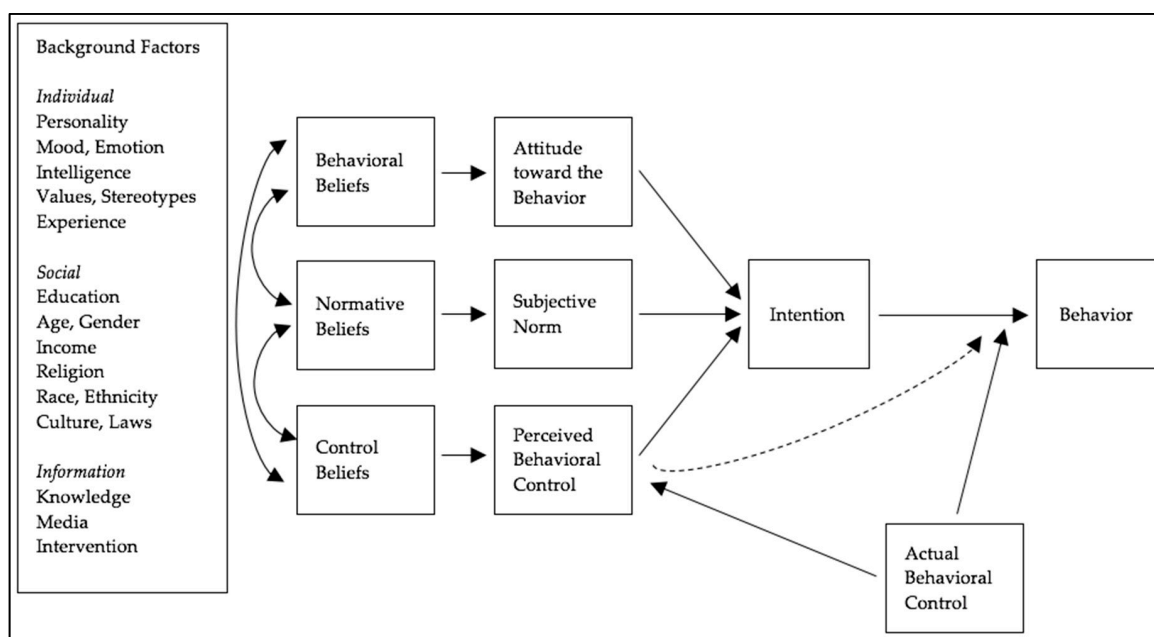

Figure 1. Ajzen's model of the Theory of Planned Behavior (TPB) [16].

The TPB is one of the most widely used social-psychological models for researching human behavior, especially when it comes to examining health behavior or the relation between intentions and behavior [14,17,18]. It offers clearly defined constructs and considers internal and external control factors that can influence the intention-behavior relation [14,18,19]; this is important to our research context.

The imminent need for changing our dietary behavior is argued by many and sustainable dietary consumption is one key driver for the existence of sustainable food systems [20]. At the same time, sustainable diets are also results of sustainable food systems [21]. The question here is how to deal with the difficulties and obstacles associated with the adoption of a sustainable diet. Recommendations for nutritional changes coming from the scientific domain are usually perceived as weak in terms of

usability in everyday life. That is why we decided to leave the traditional research paths of nutrition science and go towards innovation to seek solutions for overcoming the intention-behavior gap. With solutions, we mean theoretical and practical innovations that will help us to improve and sustain targeted nutrition behavior [22]. Research, in which responsibilities are shared and collaboration between science and society is promoted, is urgently needed [23].

Therefore, it is clear that we need sustainable development in this area towards a higher adoption rate of sustainable diets. Since sustainable development is an extreme challenge for society [24], it is important that society gets involved in this process of transformation. For a truly sustainable development that requires a change in the current state, innovative strategies are needed and new paths have to be explored [25,26], especially when it comes to dealing with something complex like the intention-behavior gap. In searching for a suitable approach to creating ideas for bridging the intention-behavior gap, we decided to choose the following strategy. To understand people's needs and what could really support the adoption process, it stands to reason that they can be directly involved in the idea generation process.

This paper focuses on the participative idea workshop approach for generating ideas that go along with our research question: How can we close the intention-behavior gap when it comes to adopting sustainable diets? Therefore, the aim is primarily to deliver results in answer to the research question, more precisely: innovative ideas that help deal with the barriers creating the intention-behavior gap. Since the process is open to a certain extent, we cannot commit ourselves in advance to any one type of expected results. In our anticipated range, everything from the necessary framework conditions to practicable approaches and behavioral strategies for everyday nutrition can be contained. Since this research approach in context with our research question is new, it will also be examined for suitability in the context of this research.

This paper is structured as follows. It opens with a methodological view on the development of the research approach and workshop design. Next, we present the data gained from the workshop series. Then we analyze the data within the discussion and finally draw conclusions.

2. Materials and Methods

To develop a suitable workshop design, a comprehensive literature research on participative innovation processes was carried out in advance. Our findings led us to the open innovation process, an approach commonly used in modern product development [27]. Our hypothetical conclusion was that we can derive similar benefits [28] from applying open innovation methods as product developers do. More specifically, we aimed for suitable ideas for bridging the intention-behavior gap, which then led to an increased adoption rate of sustainable diets. Based on our comprehensive research in the field of open innovation we decided that our envisaged involvement of citizens can take place in specially arranged workshops for idea generation, based on the lead-user workshop concept [29–31], which is part of open innovation practices. This concept inspired our research to develop and apply a similar approach. However, we do not claim to call our approach a lead-user workshop, because the recruitment of our participants does not fit with von Hippel's methodology to identify lead-users [32,33].

The aim of conducting the workshops was to develop specific ideas in answer to our research question. We expected to receive ideas in the form of realistic, useful tips that enable people to translate their behavioral intention into actual behavior despite emerging situational barriers. These ideas would then serve as the basis for a kind of toolkit that could promote the adoption of sustainable diets and, along with that, the transformation towards sustainable food systems.

To develop our workshop design, we defined the following criteria: a one-day workshop, allow all interested citizens to participate without special requirements, a fixed participant number between 10 minimum and 20 maximum, an attractive setting as an incentive for participants, a structured workshop led by two moderators and support of the idea generation process by using creativity techniques. In order to gather as many ideas as possible and to achieve a small comparability of the

applied methodology, we decided to carry out a series of workshops. To capture different and regional influences regarding existing food systems and communities we decided to choose a major city in the west, north, east, and south of Germany. In particular, these were Dortmund, Hamburg, Berlin, and Freiburg. These workshops were open for every interested citizen. Two additional workshops with students from the University of Kassel with an agricultural background and students from Münster University of Applied Sciences with a nutrition background completed the workshop series.

For the workshops, a time frame of eight hours including lunch and coffee breaks was set. All workshops were scheduled for a Saturday from 9 am to 5 pm. We chose Saturdays because of the higher likelihood of people having more available leisure time. According to our reasoning, we wanted to give ideally everyone, who was interested in participating, the opportunity to do so without checking a particular suitability in advance. We assumed that anyone who signs up for the workshop is interested in the topic and can develop ideas suitable for dealing with the intention-behavior gap in everyday life—at least for themselves. Because nearly everyone deals with this gap in some way, we assumed that no specialized prior knowledge or abilities were necessary. We wanted to attract motivated citizens to participate and not researchers or field experts with alleged solutions. One main challenge was recruiting participants for the workshop. The basic idea was to invite as many people as possible to the workshops in order to enable interested citizens to participate in the workshops. The participants were recruited via general mailing lists, flyers, online event calendars, and writing to companies, associations, and organizations with the request to forward the invitation to all possible contacts (creating a snowball effect). Participation was voluntary and non-remunerated, so the only direct incentive was the workshop topic and format itself. This may have led to selection bias, which we will discuss more detailed in the limitations listed in the discussion. In addition, we had paid extra attention to a pleasant setting and full day catering, where possible, in organic quality. The chosen locations offered a comfortable atmosphere, enough space, modern facilities, and adequate equipment. We decided on a structured workshop led by two facilitators. The role of the facilitators was to introduce new work stages and lead the participants through the workshop, but not interfere with their idea generation processes and be as neutral as possible. The basic conceptual idea for the whole workshop was to generate as many ideas as possible by first stimulating divergent thinking and then enabling thought condensation by convergent thinking.

The workshop procedure provided a combination of different work tasks with different creativity techniques (Table 1). Integrating work tasks offered the possibility to bring a certain structure into the process and to give a certain thematic input of different topic areas. Applying creativity techniques can support the generation of innovative ideas [34,35]. We applied different creativity techniques combined to address the research question from multiple perspectives and to maximize the potential for creative ideas. Since there is no single working formula, we sought to address the different participants by applying various techniques [36].

Depending on the work task, participants worked alone, together with a partner, or in groups of three to five people (Table 2). At the end of the workshop, the idea generation processes led to action-planning in form of developing a concept for implementing the chosen idea.

Table 1. The applied methods; Description and Purpose.

Method	Description	Purpose
Open space [37–40]	For the open space method, we combined two techniques: stimulus picture technique and sentence additions. A total of 8 pairs of pictures and 4 sentence beginnings were hung on brown paper. In this kind of gallery walk, the participants could write down everything they could think of when looking at the pictures and how the picture pairs could relate to each other. The sentences should be supplemented according to spontaneous ideas. Pictures and sentences are closely linked to the topic of sustainable food systems. After the Q&A session participants are supposed to generate ideas in answer to the research question, using the notes from the open space activity.	This methodology allows us to capture impressions before coming up with a thematic input. Based on this, ideas will be generated later in the process. Here, the participants are addressed on a visual and linguistic level.
Idea storage (brainstorming) [37,39–41]	Classic brainstorming, here, called idea storage. After the Q&A session about the workshop's research question, participants are asked to generate ideas they come up with spontaneously in order to answer the question.	Generate intuitive first ideas without using in-depth methods.
Info poster [38–40]	In group work, participants create info posters (illustrations) on a given topic. In the first step, participants depict the topic and all associative aspects. In the next step, the groups walk to a poster from another group and write down everything they can see on the info poster, what they associate with it and what they believe it is supposed to represent. In the final step, the poster illustrations are removed first and only the transcriptions remain available. On this basis, after re-routing the groups, ideas in answer to the research question are generated.	The given topics reflect different eating settings: Nutrition during lunch break Nutrition and rural life Nutrition and out-of-home catering Nutrition and city life Nutrition on the go and during journeys Nutrition and invitations to family or friends The ideas to be generated can address the challenges of implementing a sustainable diet in various settings.
Progressive abstraction [40,41]	The progressive abstraction can be used to generate thematic connections and corresponding measures. Our modified version starts with a given term. In relation to this, question X is answered. Referring to this result, question Y is then answered. Then, in turn, question X related to answer Y is answered. In this system, both questions X and Y will be addressed three times. All three answers to question Y will be used in the next step. Further ideas will be derived from the research question. X: What's good about it? Y: How can this be achieved?	The given terms were economy, ecology, society, culture, and accountability. These are the five dimensions of the Best Practice Guidelines for Agriculture and Value Chains (IFOAM Organics International). Due to this thematic background, common sustainability dimensions (supplemented by culture and accountability) should have a certain impact on the idea generation. Progressive abstraction serves to question how something positive about an aspect can be achieved in other ways.

Table 1. *Cont*.

Method	Description	Purpose
Opposites method (negative brainstorming) [37–41]	The opposites method is a kind of negative brainstorming. This means that the participants are asked questions that are formulated contrary to the actual research question. The next step is to generate ideas in answer to the research question by transferring the previous answers to positive solutions.	The questions bring the participants out of their previous thinking processes by considering the complete opposite of what they did before, e.g., how positive contributions to the implementation of sustainable diets can be prevented: How can we get people not to be interested in their nutrition? How can a worldwide unfair distribution of food be organized? How can we prevent a connection between regional, sustainable agricultural production and human nutrition? How can we discourage people from a healthy diet? How can we reduce the consumption of sustainably produced food? How can we complicate the implementation of sustainable diets? How can people having no access to (healthy and sustainable) food be achieved? How can we prevent a connection between organic farming and consumers of the produced food? How can we convince people not to act according to their knowledge and values regarding their diet? Through the provocative formulation of the questions, a certain kind of creativity should be encouraged that is refreshing and brings variety, in the same way as trying to be negative to get a positive outcome. Based on the results, participants could then generate ideas for answering the research question.
Concept development [38,40]	Based on the selected favorites of the previously generated ideas, a further development of these should be done in group work. Each group received two selected favorite ideas of each idea generation step. Based thereon, concepts for idea implementation should be developed.	In this way, favored ideas should be further developed towards an implementation concept. This also served to give the participants something tangible at the end of the workshop.

Table 2. The workshop design and procedure.

Time	Duration (minutes)	Method	Constellation	Work/Ideas Are Captured on
09:00–09:10	10	Welcome	All together	
09:10–09:30	20	Introduction of participants	All together	
09:30–09:50	20	Open Space method	Individual work	Brown paper
09:50–10:20	30	Input and Q&A session on intention-behavior gap	All together	
10:20–10:30	10	Idea storage (brainstorming) in answer to the research question	Individual work	Yellow cards (1)
10:30–10:40	10	Derive Ideas in answer to the research question (from the Open Space posters)	Individual work	Orange cards (2)
10:40–11:00	20	Info posters, part 1	Group work, 3 participants	Flip chart paper
11:00–11:10	10	Info posters, part 2	Group work, 3 participants	Flip chart paper
11:10–11:25	15	Derive Ideas in answer to the research question (from the info posters)	Group work, 3 participants	Blue cards (3)
11:25–11:40	15	Coffee break		
11:40–11:55	15	Progressive abstraction	Partner work	DIN A3 templates
11:55–12:05	10	Collect and exchange results	Partner work	
12:05–12:20	15	Derive Ideas in answer to the research question (from the progressive abstraction)	Partner work	Green cards (4)
12:20–12:35	15	Selection (1, 2, 3) of favorite ideas	Individual work	Sticky dots
12:35–13:35	60	Lunch break		
13:35–14:20	45	Topic tables	Group work, 3–5 participants	Brown paper
14:20–14:35	15	Opposites method (negative brainstorming)	Partner work	DIN A3 templates
14:35–14:50	15	Rotation & Derive Ideas in answer to the research question (from opposites method)	Partner work	Red cards (5)
14:50–15:05	15	Selection (4, 5) of favorite ideas	Individual work	Sticky dots
15:05–15:20	15	Coffee break		
15:20–16:20	60	Concept development	Group work, 3–5 participants	Brown paper
16:20–16:50	30	Presentation, discussion round	All together	
16:50–17:00	10	Feedback, close the workshop	All together	Feedback questionnaires

The workshops took place from September to December 2016. For the six workshops, we had 82 participants in total, of these 67 were female (81.7%) and 15 male (18.3%; Table 3). People registered themselves by mail. In no case were more than 20 registrations reached for any workshop. Additionally, some registered people did not attend the workshop.

Table 3. The demographic information for the workshop participants.

City	Date	Number of Participants $n = 82$	Female $n = 67$ (81.7%)	Male $n = 15$ (18.3%)
Dortmund	24.09.2016	18	15	3
Kassel	22.10.2016	13	9	4
Hamburg	12.11.2016	11	10	1
Berlin	26.11.2016	10	6	4
Münster	03.12.2016	18	18	0
Freiburg	10.12.2016	12	9	3

3. Results

Before we present the data, we would like to mention that we have tried to avoid the loss of words and meanings by translating the ideas generated from German into English for this article.

For each idea generation step, we had different colored cards, on which participants wrote down their ideas. In this way, we collected the qualitative data during the workshop (these were always ideas in the form of first solutions and not elaborated contributions in the form of directly implementable solutions). Since we collected a large amount of qualitative data, we needed to organize them. For data analysis and coding, all ideas were transferred to a simple spreadsheet software. Analyzing the data, we decided on internal (code 1) and external (code 3) as code-categories for factors influencing the intention-behavior relation as described in the TPB. As we screened data, we expanded these categories by one each (internal+ (code 2) and external+ (code 4)). This additional coding was necessary because of the vague wording of the ideas. From a factual perspective, the coder often had to think one step further or interpret the data in order to assign it to the thematic context of the research question rather than eliminate it.

In total, 1223 ideas were generated during the six workshops that we allocated to five codes (see Supplementary Materials, Table S1). Overall, we can see from Table 4 that we have coded 168 internal (including 142 internal+) and 989 external (including 811 external+) factors. A total of 66 (5.4%) items of the screened data were excluded (code 0). Excluding criteria were (i) pure questions from which no indirect idea can be read and (ii) ideas irrelevant or with no direct link to our research question or (iii) to the subject area of sustainable diets and (iv) sustainable food systems. To illustrate examples of data entries, we listed five ideas for each code (Table 4). It turns out that the external factors outweigh the internal factors, which we will discuss later.

Table 4. The results of data coding, $n = 1223$.

Factors	Factors	Examples of Participants' Ideas
Internal $n = 168$, 13.7%	**Internal** $n = 26$, 2.1%	Taking time for grocery shopping, eating, and cooking Pack food (organic etc.) to go Eating as a conscious time-out Do not buy abundantly, then you can buy healthy things Highlight the individual benefits of sustainable nutrition
	Internal+ $n = 142$, 11.6%	Gardening yourself (for a little self-supply and a lot of insight) Create Consciousness: What impact has my behavior on other people in the world and in view of that we all share the world? Question trends, do not chase after them Accept more personal responsibility Development of implementation strategies

Table 4. *Cont.*

Factors	Factors	Examples of Participants' Ideas
External *n* = 989, 80.9%	**External** *n* = 178, 14.6%	Enable a need-based purchase through unpacked goods (packaging-free shops), and in that way stem food waste (special value packs for fresh products tempt us to by abundantly) Celebrities as an advertising medium for sustainable nutrition (role models) The higher tax rate for animal-based and unhealthy foods, lower for plant-based and healthy foods Apps for information on sustainability when purchasing Explain sustainable diet starting in schools, through courses (cooking class etc.)
	External+ *n* = 811, 66.3%	Community gardens (as a getting started guide) Increase public advertising Price tag with "real" price → conscience appeal Organic products at every turn More support from the government
Neither internal nor external (not used) *n* = 66, 5.4%		Individual traffic (cars) → reduce emissions in the cities Stupid people run, smart people wait, wise people go into the garden Repair cafes Start with simple things: "Who likes to shower with dead animals?" Where is the problem in general, when people do not act despite consciousness?

After generating the ideas, we gathered them on a pinboard, where every participant could select two favorites for each color card set. This allowed us to identify the participant's favorite ideas during the workshop and the data analysis. Out of this selection, we generated a top 25 list of favorite ideas (Table 5). Here we point out that not all ideas were available for selection in all workshops.

Table 5. The top 25 favorite ideas, rated by participants during the workshops.

Points	Idea	Code
11	Consume/live consciously and in a resource-saving way	2
9	Direct farm sales, without many processing steps	4
8	More packaging-free grocery stores	3
8	Clarification and education	4
7	Value and advertising-free food (valuation only on content, for example "with *x*% fruit content" instead of "high content of x")	4
7	Consumers visit farms and discuss animal husbandry, fertilization, etc.	4
7	Nutrition as a subject (cooking, gardening...)	4
7	100% utilization (of things)	4
7	More education in schools	4
6	A product database including true costs (resource consumption etc.) (for example sausages Aldi €0.69 → Earth costs €2.69)	3
6	Food prices must represent the total cost	3
6	Ban factory farming (plus new stricter regulation of fertilizer)	4
6	Create more time resources for people	4
5	Food prices must reflect the full cost	3
5	Higher (value-added-?) tax rate for animal-based and unhealthy foods, lower for plant-based and healthy foods	3
5	Create reward systems for sustainable nutrition	3

Table 5. *Cont.*

Points	Idea	Code
5	Create infrastructure for sustainable strategies (e.g., for neighborhood cooperation) Legal simplifications, e.g., for (food) sharing points, shopping communities; establish jobs that maintain the infrastructure, carry out work	3
5	Sustainability parties in the same way as "Tupperware parties"	4
5	Show an ecological footprint on the product	4
5	Responsible school catering-earning effect for children	4
5	Prohibit or strictly regulate lobbying in agriculture and the food industry	4
5	Make sustainability "noticeable"-price?	4
5	Governmental support	4
5	Organic farming as the only solution for feeding the world	4
5	Integrated production/processing in the city, e.g., urban gardening, rent a field	4

Looking at the results we notice that they are more factors that influence behavior than precise and practicable ideas or useful suggestions to bridge the intention-behavior gap in everyday life.

During the evaluation, it became apparent that a range of topics came up repeatedly. This has led us to an additional inductive data coding, in order to allow a more in-depth discussion of the data. We would like to point out that some data can be assigned to several categories and some data did not fit into the main categories at all. We prefer to use the terminology thematic cluster instead of code categories because we have collected several similar thematic aspects under a generic term (Figure 2).

Figure 2. The thematic cluster of factors influencing the intention-behavior relation.

Availability (also meaning the supply, access, and distribution channels) of sustainably produced food with 175 mentions is one large category within the data (example: easier availability → as easy as buying conventional food). Others are nutrition education and education about the food industry including sub-topics like exchange of information, provision of information, and learning (289 mentions; example: creating general knowledge and experiences about food in schools, kitchens, health centers, rural and urban, e.g., nutrition education as a "must"), transparency related to the production and methods as well as to the information on the packed foods by labeling (80 mentions; example: more transparency about the ingredients of food products and understandable declaration) and advertising including all actions that raise public awareness for sustainable nutrition, food, and production. This includes campaigns, positive image building, role model staging and marketing activities (113 mentions; example: promote advertising in favor of organic food and sustainability). It continues with the category community meaning collective action within families and societies (111 mentions; example: introduce collective rituals for the appreciation of food by cooking together, harvest festivals), policies such as promotion, subsidization, prohibition, sanctioning and legislation (178 mentions; example: politically regulate lobbyism in the food industry) and agriculture meaning aspects like food production and the role of farmers (141 mentions; example: promotion of small-scale agriculture with greater consumer involvement). Regarding food products the following aspects were clustered: food pricing (59 mentions; example: offer healthy food more cheaply), organic (113 mentions; example: introduce more organic products into everyday life), local (61 mentions: example: linking regional products and suppliers with the urban world (internet, delivery, "country" shops)) and seasonal (21 mentions; example: supermarkets with seasonal products and a stronger signage). Other clusters concern purchasing (22 mentions; example: avoid emotionally influenced grocery shopping: do I really need it?), cooking (59 mentions; example: cooking, baking, canning, preserving, stockpiling—making it more attractive and imparting craftsmanship), eating (32 mentions; example: develop new eating habits), building awareness including consciousness, mindfulness, and appreciation (79 mentions; example: creating awareness: what effects does my behavior have on other people in the world? Especially considering that we all share the world), food culture (20 mentions; example: (re)establish food culture) and time (33 mentions; example: problem: time pressure → no sustainable nutrition possible; solution: find time and take time to eat). In addition, urban life was often mentioned, especially urban gardening (32 mentions; example: rent a field: urban gardening in open spaces, unused urban areas, parks, green areas) as well as the thematic aspect of food packaging (25 mentions; example: using sleeves instead of plastic packaging for the differentiation of food) concerning the amount and type of packaging material.

4. Discussion

As part of our research, workshops were conducted to collect ideas in answer to the research question. To the best of the authors' knowledge, this was the first attempt of such a method being applied to develop ideas for bridging the intention-behavior gap for adopting sustainable diets.

As described in the introduction, we expected to receive qualitative data in the form of useful ideas that will help people to overcome emerging barriers when dealing with the gap. However, we could not anticipate in advance what kind of ideas we will receive. Looking at the results, they do not seem to provide direct practical or applicable solutions to the addressed problem (no ready-to-use ideas). Within the ideas we coded as internal factors, we have a few that correspond to direct situational solutions.

Most of the data offer important information that we discuss in more detail below, starting with the five most occurring thematic clusters: education, politics, availability, agricultural production, and advertising.

Education is the most mentioned aspect amongst the ideas. Missing knowledge about something can influence the actual behavioral control as an external factor. We can form an intention without having all (necessary) knowledge about aspects concerning our target behavior, which can turn out to be a barrier in the course of the action. This is why lifelong education about nutrition and our

food industry is still important. Education may be the one aspect where most research has been done and the most intervention programs have been conducted so far. Many nutrition education approaches are health-related and especially obesity-related [42–46]. Nevertheless, the efficacy of intervention programs for nutrition is still debated [47]. As far as we know, there are no generally applicable guidelines focusing on how to implement an effective intervention program and measures when an intervention is really effective (for example when children help their parents to make more sustainability-led choices). Clearly, educational institutions like schools can directly promote sustainable development by improving the type and quality of the provided food [48,49]. However, it should be noted that social stratification also plays a role in whether children attend school meals or not. Therefore, there is a high probability that those who may need this education cannot be reached [50,51]. In addition, there is some knowledge about different types of emerging resistance when healthy food proposals are implemented in schools [52].

In order to gain knowledge and education, transparency is an important factor and also often mentioned in the data.

The data show that regulatory intervention at the political level is intentional and necessary to have a positive impact on the development of the sustainable food system to enable sustainable nutrition, according to the participants. This mainly concerns subsidies, controls and the labeling of sustainable foods, as well as sanctions for unsustainable economies. This also goes along with the other frequently mentioned aspects such as agriculture, food pricing, organic, local, and seasonal foods and food packaging.

One further observation that seems very important is the frequently emerging aspect of food availability (in grocery stores, restaurants, canteens, catering). Consumption behavior, including that of sustainable nutrition, is based on a decision-making process. Here, the everyday behavior is mainly determined by factors such as habits and convenience that are persistent in terms of possible changes [53,54]. That is why intentions alone can be poor predictors of behavior. In order to change everyday nutritional behavior, external factors play a more important role, especially the availability of what is called sustainable food [53,55]. Without offering such food, people cannot opt for or against food items at the point-of-sale. Moreover, no corresponding consumption patterns can be formed [56]. Food availability can create a direct link to people's behavioral control because everyone can have the intention and behavioral persuasion to practice a sustainable diet but it can be impossible to do so because of a lack of (appropriate) food availability [53]. If availability and accessibility are drivers of food consumption and consumers are drivers of food production [56] then we have a mutually reinforcing, but also interdependent cycle of necessary factors where one cannot exist without the other. Considering that one factor must exist first for this cycle to get going, it is the availability without which there cannot be a corresponding consumption. However, there can be a pure availability of food by agricultural production and corresponding distribution without a demand through consumption (leaving aside economic aspects).

Agricultural food production is, of course, a hot topic considering that the availability of the desired food quality cannot exist without prior sustainable production. The basic premise is that there must be more sustainable agriculture and funding to produce food in the desired quality. In addition, the (sustainable) agricultural production of food is the basis of a (sustainable) food system and human nutrition.

Advertising seems to be a little-used aspect to promote sustainable dietary behavior. The data contain many ideas about marketing strategies, advertising campaigns, and corresponding media communication. The assumption is that a greater media presence of sustainable products is considered necessary to influence the purchasing decisions positively. There are studies about buying behavior successfully influenced by advertising—but mostly for foods that do not promote a healthy and sustainable diet and often targeting children and adolescents [57–60].

The collective action appears to be the way to a new kind of lifestyle, where not everyone undertakes life only individually, but many actions take place at a community level. The mentioned

actions are producing, purchasing, cooking and eating food together. Added to this is the demand that people learn to cook and practice this frequently, whether alone or in the community. Another aspect that seems to play a decisive role in here is "time": to spend more time on nutrition decisions, have more time for cooking and eating. Eating also goes hand in hand with the development of awareness of nutrition and consciously deciding for or against food items or behavioral action. This is where the aspect of a food culture also comes in, which should be lived out more distinctively, according to the workshop participants. One of the biggest barriers to sustainable food consumption is the price [61–63]. Within our data, participants suggest that prices for sustainably produced food should be lower than those for conventional products. Another observation we make is, that the workshop contributions also aim at a change in urban space and use. For example, establish a nutrition parliamentary committee in the municipality; edible City: free fruit, nuts, vegetables for everyone (allowed by the municipality); Integrated production/processing in the city, e.g., urban gardening. One reason for the number of urban targeting ideas can be that the workshops took place in bigger cities. Another reason for the focus may be the global challenge of urbanization in particular with food [64–66].

The above discussion shows that all these aspects are highly connected to each other. Altogether, aspects like education, politics, availability, and advertising serve the purpose of bringing sustainable food into the public focus and forming a certain image. Ideally, these transformations would trigger a real trend towards sustainable diets. Previous isolated efforts through nutrition interventions for dietary change and public health could not bring any significant reversal from unhealthy diets [55]. It can, therefore, be assumed that real changes in the sense of improving diets require a large-scale movement of change involving multiple sectors and actors that affect everyday life.

The data indicate what kind of external framework conditions need to be created according to the workshop participants so that there is no gap between intention and behavior regarding the implementation of sustainable diets. Conversely, the data can be used to read perceived aspects that influence dietary behavior (missing availability of health-supporting and sustainably produced food, nutrition education throughout life) or what the potential barriers are (allegedly higher prices of health-supporting and sustainably produced food, lack of time for nutrition and related processes). Individual aspects overlap and can also be found in the literature [53,55,56]. Consequently, we have factors that could be key or at least suitable tools for bridging the intention-behavior gap in decision-making situations.

According to the TPB, intentions are formed and therefore can be influenced by our attitude towards the behavior, our subjective norms, and our perceived behavioral control. In addition, individual, social and informational background factors can have an impact on these variables. Once an intention is formed, the decision-making process to translate the intention into actual behavior can be affected by the person's actual behavioral control consisting of internal and external factors. As we were able to code our results by internal and external factors influencing the behavior, we see how numerous and varied these can be—especially with a complex behavior such as nutrition. Some of the results, e.g., aspects of education, culture, and media also fit the background factors (Figure 1). First, we may need a clearer understanding of or separation between factors influencing the actual behavioral control and background factors. Second, using the TPB, we could also examine within a study which background factor affects which beliefs of attitudes, subjective norms and perceived behavioral control and thereby indirectly influence the intention and behavior [14,16]. This is a very important aspect to consider since the TPB also includes feedback loops coming from behavior to beliefs. Meaning, a performed behavior provides information about consequences, reactions and about how easy or difficult it was to perform the behavior. This information can change people's behavioral, normative, and control beliefs, thereby influencing future intentions and behavior [14]. Combining our results with a suitable follow-up research design may shed light on how our findings may affect the intention-behavior relation. This, in turn, could be used to develop targeted solutions to bridge the intention-behavior gap.

One further interesting aspect we can observe within the results is a kind of rejection of the intention-behavior gap by the participants themselves. The results are, with a few exceptions, never worded as self-referential. Instead, they aim for changes that others have to make, both internal and external. There is mention of individuals who are often called consumers, farmers, politicians, and society, also named community. When screening the data, it seems that the solutions are mainly intended for others and for future generations, rather than for direct optimization for the participants themselves here and now. This is why a large part of the data can be interpreted as targeting a long-term system change that must come from the top down, which is a very interesting aspect to come from applying a bottom-up approach. One indication of this is the high number of external factors (80.9%). In addition, we are able to show a ranking within our dataset. It is also noticeable that among the top 25 selected favorites (Table 5), almost all are external factors (96%). One prominent example of a top-down action that has resulted in a broad change in behavior applies to tobacco. A large-scale strategy that included anti-smoking campaigns, stringent product labeling and offensive media communication of scientific evidence has led to a lifestyle change for many people [55]. If such a multiple offensive can alter a manifested behavior (with an addictive character) such as smoking, this example offers the potential for a similar strategy targeting nutritional behavior.

There are a number of limitations of our study which we want to list here. The first limitation concerns the participants. The absence of a monetary incentive might have selected only people who are who are very committed to sustainable nutrition and related issues. Their assumed high educational status could be one reason why there are so many external factors compared to internal factors within the results. Since we have collected almost no additional data from the participants, we cannot say much about the socioeconomic composition of the sample. However, as stated above we can say that most of our participants are highly educated which may affect the representation of the intention-behavior gap. We raise this in relation to research about the relationship between intentions and behavior affected by the socioeconomic status [67,68]. Social stratification in general also plays an important role, e.g., food consumption is strongly affected by people's economic and cultural resources. Due to the lack of data, we cannot make any statements regarding our results in this respect.

In addition, our sample consists of 81.7% women (Table 3). The gender aspect can also have an impact on health-related behavior. For example, women tend to eat more healthily than men do [69], which in turn could imply that men and women's intention-behavior gaps differ to a great extent. If the proportion of men in our sample were higher, it could have an impact on the results.

Another limitation concerns the definition and interpretation of a sustainable diet. Such a complex construct leaves room for individual interpretations. People's ideas might differ from the scientific definition and its intended meaning. Although we introduced the concept of a sustainable diet at the beginning of each workshop, individual interpretations may have influenced the nature of the results.

A further limitation may be the methodology itself. Because we applied a new approach, we see a need for a subsequent discussion on it, to possibly find out to what extent the type of results was influenced by the applied methods and other parameters. For many people, working with creativity techniques is a new experience and the way of their application can be perceived as abstract and not effective. When using creativity techniques, there are four complex parameters that can be decisive to the success or failure of the creative process. These parameters are processed (problem perception, problem-wording, idea generation, idea evaluation, idea realization), product (what is being worked on), environment (physical and social), and person (attitude, motivation, abilities, personality traits) [70]. Going into detail about these parameters and their individual aspects would go beyond the scope of this discussion. However, we can see here that many factors, some of them uncontrollable, interact, which should be considered when planning to apply such methods. For our research, this means that within this discussion we can take a close look at our workshop design, the research question, and ideas to be generated, possible environmental factors and the participants. The workshop design includes the choice of methods and their combination. Among many methods, we chose those that we considered suitable individually and in combination. The combination of the

individual work steps could have been arranged differently. However, there is no standard procedure for a successful workshop of this kind and for this research question. Another aspect is the lack of discussion rounds, which could have also acted as a control for the results. In addition, the interaction between the facilitators or organizer and the participants could have helped to correct or steer the direction in which ideas have been developed. Another consideration is the number of group work tasks. Here the group work and the desired creativity may be contrary. In order to achieve an optimal participation, group dynamic abilities like autonomy, spontaneity, and communication skills have to be learned [70]. Possibly mainly individual work in combination with subsequent discussions could have been more conducive to expose the own ideas of all participants [38,71]. From workshop design to the desired product, the formulation of the research question needs to be discussed. The research question is rather generally worded. One option would be to phrase the question more specifically to situational aspects (e.g., out-of-home catering, grocery shopping) to gain more precise direct situational solutions. However, at the beginning of the workshop, the research question, aim, and expectations were discussed. What remains to be mentioned is that the term 'sustainable food systems', was used in the invitation and the initial explanation. This may have led the participants to generate the ideas in their present form (targeting the whole food system). Further, the participants might not have been able to generate self-related ideas of the kind targeted. They may possibly have a lack of appropriate skills and experience in dealing with creativity techniques or the research question, but this is only an assumption. The structure of the workshop was designed in such a way as to be possible for all people to successfully participate without special prior knowledge; this worked well. First of all, we assumed that every interested participant has experience with the intention-behavior gap and the associated situational barriers. Thinking that anyone could contribute some ideas on how to act in specific situations to bridge the gap was possibly a fallacy. However, we need experts in the continuous practice of sustainable diets. These experts must be found and recruited or at least selected more specifically. Our participants had a variety of backgrounds and we had no further information about their skills and abilities for dealing with the methods and the research question. If we return to the lead-user approach, it is about people who already have solutions. Therefore, it should be considered that a more specific selection of participants and training could be a possible success factor. Within our research, we dealt with a lack of capacities to implement this approach. In addition to the participants, of course, the facilitators also play a major role in a workshop. The facilitators were neutral during the creative process and did not judge the ideas. It seems important to reconsider if a stronger steering would be more effective to release more potential innovative ideas. In a similar way, a lead-user workshop has stakeholders join the workshop and always give clear instructions about what they have in mind. In such cases, the success of the company may very well depend on the developed product. In order to make our applied method more resilient and to find out exactly which aspects have significantly influenced the processes of idea generation, a follow-up study with all participants would be necessary. Though we have not carried this out at this time, what we already have is an evaluated feedback questionnaire distributed to all participants at the end of each workshop. In order to ask for the participant's personal attitude towards the workshop design and other specific aspects, we used a 5-point Likert scale (Table 6).

Table 6. The results of the feedback questionnaire, n = 63.

Selected Questions	Strongly Agree	Agree	Disagree	Strongly Disagree	Neither Agree nor Disagree	No Information
The methods used were suitable and appropriate for the workshop.	50	12	-	1	-	-
The methods used were suitable to support creativity.	45	15	1	1	1	-
The research question is suitable for processing within an idea workshop.	47	14	1	-	1	-
The aim of the workshop was clear after the presentation of the question.	27	33	2	1	-	-
The implementation of several regional workshops makes sense for the research question.	45	15	-	-	1	2
The work materials provided (pens, paper, etc.) were sufficient.	61	2	-	-	-	-
The amount of time was appropriate for the workshop.	45	14	2	-	1	1
The venue was appropriate for the workshop.	58	4	1	-	-	-
The atmosphere during the workshop was pleasant.	58	5	-	-	-	-
Any interested citizen can participate in this workshop without special prior knowledge.	31	24	6	-	1	1
Including citizens in such scientific research makes sense.	50	13	-	-	-	-
By involving citizens in the development of ideas to bridge the intention-behavior gap, ideas can be successful later.	40	18	3	-	-	-
Overall, the facilitators were competent.	56	6	-	-	-	1
The facilitators were clear in the speeches and work tasks.	42	20	-	-	-	1
The facilitators reacted sufficiently to questions.	57	5	-	-	1	-
The facilitators remained neutral within the facilitation.	54	8	1	-	-	-
The facilitators guided the participants well through the workshop.	59	3	-	-	-	1

In total, 63 (76.8%) participants of a total of 82 completed the questionnaire. Since the workshops' procedure was identical, we decided on an overall evaluation without distinguishing between the individual workshops. The discussion of the results below only refers to the participants who completed the questionnaire. It is not possible to make informed statements about the attitudes of the other participants. That is why, despite the generally positive feedback results, we cannot assume that all participants share these opinions. We can see that in total, 62 participants agreed that the applied methods were suitable for the workshop and 60 participants think that the methods were suitable for supporting creativity. In general, we can say that for 61 participants the research question was perceived as suitable for processing within an idea workshop. Additionally, the workshop's aim was clear for the participants (60 participants agreed). Addressing environmental parameters, we can see that in general participants agreed on appropriate time management (59 participants), appropriate venue (62 participants), and pleasant atmosphere (63 participants).

Regarding the question, whether it makes sense to involve citizens in such research, all 63 agreed. However, 6 participants disagreed on the statement that any interested citizen can participate in this workshop without special prior knowledge (whereas 55 agreed on that). Another important

point is that 58 participants thought that involving citizens in the development of ideas to bridge the intention-behavior gap can be successful for their later application.

Finally, we cannot say exactly why the results are influencing factors rather than situational solutions and if a different methodological approach would have generated other results that more innovatively address situational barriers, or whether the external factors such as availability, advertising, pricing, and education about food and nutrition are simply a prerequisite for a broad mass of people to practice a sustainable diet. While not a new point, this does seem to reinforce its importance.

5. Conclusions

Sustainable diets cannot exist without sustainable food systems and vice versa. Sustainable food systems wherein environments provide only sustainable food choices evolve slowly, if at all. That is why it is important to support society by researching the adoption and practice of sustainable diets.

The diversity of the gained data and their possible interpretations alone show that our research is part of a highly charged discussion where we are easily crossing set research boundaries. Since the results in themselves are not entirely new ideas, research into innovations that make a decisive contribution needs to continue. All the listed limitations within the discussion could lead us to say that our gained results are rather a list of desiderata of a selected group of people who would like to be able to practice a more sustainable dietary behavior. We have to accept this on the basis of the mentioned limitations, and also because of the sample size and geographical limitation (Germany). However, the interesting aspect of the results is that those participants themselves reject the intention-behavior gap (as we discussed earlier). We see this as an important research topic that deserves further investigation.

Our research did not solve the problem at its first attempt and it seems that we are just at the beginning of the problem-solving process. To achieve our planned goal to research solutions to overcome barriers and bridge the intention-behavior gap we are planning to adjust our methodological approach and our sample, as discussed. It is necessary to collect more socioeconomic data about the participants so that we can later analyze and interpret results in differentiated ways. Ideally, studies will be conducted with particular selected groups of people such as men, woman, mothers, the privileged, the deprived, and experts. It is conceivable to carry out a study that examines the intention-behavior gap of the participants (researching their behavior in vivo). The design should strongly be based on Ajzen's TPB, his published research, and supporting guides on TPB-based questionnaires and interventions [72]. On the other hand, the study design should involve the participants in the solution process. Therefore, we need to develop a methodological approach that leads people to work on ready-to-use ideas for bridging the intention-behavior gap.

We encourage other scientists to apply further methodological approaches that promote participative processes and collaborate with society because studies are required to deliver applicable solutions to people's everyday life. On the basis of our work, we further suggest that future research can use a mixed methodology approach. This allows researchers to collect and distinguish quantitative and qualitative data from participants with different intention-behavior gaps. Consequently, the factors that cause these differences could be more closely analyzed and understood, which in turn could lead to applicable solutions. It remains to be said that, as with many other studies there is no innovation without a risk [73].

References

1. Willer, H.; Lernoud, J. *The World of Organic Agriculture 2018. Statistics and Emerging Trends.*; Willer, H., Lernoud, J., Eds.; Research Institute of Organic Agriculture (FiBL), Frick, and IFOAM–Organics International: Bonn, Germany, 2018; ISBN 9783940946126.

2. Johnston, J.L.; Fanzo, J.C.; Bogil, B. Understanding Sustainable Diets: A Descriptive Analysis of the Determinants and Processes That Influence Diets and Their Impact on Health, Food Security and Environmental Sustainability. *Adv. Nutr* **2014**, *5*, 418–429. [CrossRef] [PubMed]

3. FAO. *Sustainable Diets and Biodiversity Directions and Solutions for Policy, Research and Action*; Burlingame, B., Dernini, S., Eds.; FAO: Rome, Italy, 2012; ISBN 9789251072882.

4. Runini, L.F.; Ciati, R.; Pratesi, C.A.; Marino, M.; Principato, L.; Vannuzzi, E. Working toward healthy and sustainable diets: the "Double Pyramid Model" developed by the Barilla Center for Food and Nutrition to raise awareness about the environmental and nutritional impact of foods. *Front. Nutr.* **2015**, *2*, 1–6. [CrossRef]

5. Seyfang, G. Shopping for sustainability: Can sustainable consumption promote ecological citizenship? *Env. Polit.* **2005**, *14*, 290–306. [CrossRef]

6. Sachs, J.D. From millennium development goals to sustainable development goals. *Lancet* **2012**. [CrossRef]

7. OECD. *Promoting Sustainable Consumption. Good Practices in OECD Countries*; OECD Publications: Paris, France, 2008.

8. Clark, G. Evolution of the global sustainable consumption and production policy and the United Nations Environment Programme's (UNEP) supporting activities. *J. Clean. Prod.* **2007**, *15*, 492–498. [CrossRef]

9. Toledo, Á.; Burlingame, B. Biodiversity and nutrition: A common path toward global food security and sustainable development. *J. Food Compos. Anal.* **2006**, *19*, 477–483. [CrossRef]

10. Young, W.; Hwang, K.; McDonald, S.; Oates, C.J. Sustainable consumption: Green consumer behaviour when purchasing products. *Sustain. Dev.* **2010**, *18*, 20–31. [CrossRef]

11. Sheeran, P.; Webb, T.L. The Intention–Behavior Gap. *Soc. Personal. Psychol. Compass* **2016**, *10*, 503–518. [CrossRef]

12. Orbell, S.; Sheeran, P. "Inclined abstainers": A problem for predicting health-related behaviour. *Br. J. Soc. Psychol.* **1998**, *37*, 151–165. [CrossRef] [PubMed]

13. Ajzen, I. From Intentions to Actions: A Theory of Planned Behavior. In *Action Control. From Cognition to Behavior*; Kuhl, J., Beckmann, J., Eds.; Springer: Berlin/Heidelberg, Germany, 1985; pp. 11–39. ISBN 978-3-642-69746-3.

14. Ajzen, I. Consumer attitudes and behavior: The theory of planned behavior applied to food consumption decisions. *Rivivista Econ. Agrar.* **2015**, *2*, 121–138. [CrossRef]

15. Ajzen, I. *Attitudes, Personality And Behaviour*, 2nd ed.; Open University Press: Berkshire, UK, 2005; ISBN 978-0335217038.

16. Ajzen, I.; Albarracin, D.; Hornik, R. *Prediction and Change of Health Behavior: Applying the Reasoned Action Approach*; Lawrence Erlbaum Associates: New Jersey, NJ, USA, 2007; ISBN 0-8058-5926-8.

17. Knoll, N.; Scholz, U.; Rieckmann, N. *Einführung Gesundheitspsychologie*, 4th ed.; Ernst Reinhardt Verlag: München, Germany, 2017; ISBN 978-3825247454.

18. Skår, S.; Sniehotta, F.F.; Araújo-Soares, V.; Molloy, G.J. Prediction of behaviour vs. prediction of behaviour change: The role of motivational moderators in the theory of planned behaviour. *Appl. Psychol.* **2008**, *57*, 609–627. [CrossRef]

19. Armitage, C.J.; Conner, M. Efficacy of the Theory of Planned Behaviour: A meta-analytic review. *Br. J. Soc. Psychol.* **2001**, *40*, 471–499. [CrossRef] [PubMed]

20. Mason, P.; Lang, T. *Sustainable diets: How ecological nutrition can transform consumption and the food system*; Routledge: New York, NY, USA, 2017; ISBN 978-0415744720.

21. Meybeck, A.; Gitz, V. Conference on "Sustainable food consumption" Sustainable diets within sustainable food systems. *Proc. Nutr. Soc.* **2017**, *76*, 1–11. [CrossRef] [PubMed]

22. Rothman, A.J. "Is there nothing more practical than a good theory?": Why innovations and advances in health behavior change will arise if interventions are used to test and refine theory. *Int. J. Behav. Nutr. Phys. Act.* **2004**, *1*, 1–7. [CrossRef] [PubMed]

23. Coudel, E.; Devautour, H.; Soulard, C.; Faure, G.; Hubert, B. *Renewing Innovation Systems in Agriculture and Food: How to Go towards More Sustainability?* Wageningen Academic Publishers: Wageningen, The Netherlands, 2013; ISBN 9789086862146.

24. United Nations. *Our Common Future: Report of the World Commission on Environment and Development*; Oxford University Press: New York, NY, USA, 1987; ISBN 978-0192820808.

25. Lowe, P.; Phillipson, J.; Lee, R.P. Socio-technical innovation for sustainable food chains: roles for social science. *Trends Food Sci. Technol.* **2008**, *19*, 226–233. [CrossRef]

26. Ericksen, P.J.; Ingram, J.S.I.; Liverman, D.M. Food security and global environmental change: Emerging challenges. *Environ. Sci. Policy* **2009**, *12*, 373–377. [CrossRef]

27. Chesbrough, H.W. *Open Innovation: The New Imperative for Creating and Profiting from Technology*; Harvard Business School Publishing: Boston, MA, USA, 2003; ISBN 1578518377.

28. Tidd, J.; Bessant, J. *Strategic innovation management*; John Wiley & Sons Inc.: New York, NY, USA, 2014; ISBN 978-1-118-45723-8.

29. Reichwald, R.; Piller, F. *Interaktive Wertschöpfung: Open Innovation, Individualisierung und neue Formen der Arbeitsteilung*; Gabler Verlag: Wiesbaden, Germany, 2009; ISBN 978-3-8349-9440-0.

30. Busse, M.; Siebert, R. The role of consumers in food innovation processes. *Eur. J. Innov. Manag.* **2018**, *21*, 20–43. [CrossRef]

31. von Hippel, E. Democratizing innovation: The evolving phenomenon of user innovation. *J. für Betriebswirtschaft* **2005**, *55*, 63–78. [CrossRef]

32. Von Hippel, E. Lead Users: A Source of Novel Product Concepts. *Manage. Sci.* **1986**, *32*, 773–907. [CrossRef]

33. Lüthje, C.; Herstatt, C. The Lead User method: An outline of empirical findings and issues for future research. *R&D Manag.* **2004**, *34*, 553–568. [CrossRef]

34. Cook, P. The creativity advantage—Is your organization the leader of the pack? *Ind. Commer. Train.* **1998**, *30*, 179–184. [CrossRef]

35. Meinel, M.; Voigt, K.-I. The Application and Impact of Creativity Techniques in Innovation Management. In Proceedings of the XXVII ISPIM Innovation Conference—Blending Tomorrow's Innovation Vintage, Porto, Portugal, 19–22 June 2016.

36. Backerra, H.; Malorny, C.; Schwarz, W. *Kreativitätstechniken. Kreative Prozesse anstoßen, Innovationen fördern*, 3rd ed.; Carl Hanser Verlag: Munich, Germany, 2007; ISBN 978-3446412330.

37. Wack, O.G.; Detlinger, G.; Grothoff, H. *Kreativ sein kann jeder: Kreativitätstechniken für Leiter von Projektgruppen, Arbeitsteams, Workshops und von Seminaren. Ein Handbuch zum Problemlösen*, 2nd ed.; Windmühle Verlag: Hamburg, Germany, 1998; ISBN 978-3922789420.

38. Higgins, J.M.; Wiese, G.G. *Innovationsmanagement. Kreativitätstechniken für den unternehmerischen Erfolg*; Springer: Berlin, Germany, 1996; ISBN 978-3540605720.

39. Gray, D.; Brown, S.; Macanufo, J. *Gamestorming. Ein Praxisbuch für Querdenker, Moderatoren und Innovatoren*; O'Reilly Media Inc.: Köln, Germany, 2011; ISBN 978-3897213265.

40. van Aerssen, B.; Buchholz, C. *Das große Handbuch Innovation. 555 Methoden und Instrumente für mehr Kreativität und Innovation im Unternehmen*; Verlag Franz Vahlen: München, Germany, 2018; ISBN 978-3800656837.

41. Boos, E. *Das große Buch der Kreativitätstechniken*; Compact Verlag GmbH: München, Germany, 2010; ISBN 978-3817451067.

42. Murimi, M.W.; Kanyi, M.; Mupfudze, T.; Amin, M.R.; Mbogori, T.; Aldubayan, K. Factors Influencing Efficacy of Nutrition Education Interventions: A Systematic Review. *J. Nutr. Educ. Behav.* **2017**, *49*, 142–165. [CrossRef] [PubMed]

43. USDA. *A Series of Systematic Reviews on the Effects of Nutrition Education on Children's and Adolescents' Dietary Intake*; U.S. Department of Agriculture: Richmond, VA, USA, 2012.

44. Ajie, W.N.; Chapman-Novakofski, K.M. Impact of computer-mediated, obesity-related nutrition education interventions for adolescents: A systematic review. *J. Adolesc. Heal.* **2014**, *54*, 631–645. [CrossRef] [PubMed]

45. Contento, I.R. Nutrition education: Linking research, theory, and practice. *Asia Pac. J. Clin. Nutr.* **2008**, *17*, 176–179. [CrossRef] [PubMed]

46.	Silveira, J.A.C.; Taddei, J.A.A.C.; Guerra, P.H.; Nobre, M.R.C. Effectiveness of school-based nutrition education interventions to prevent and reduce excessive weight gain in children and adolescents: A systematic review. *J. Pediatr. (Rio. J).* **2011**, *87*, 382–392. [CrossRef]

47.	Benn, J.; Carlsson, M. Learning through school meals? *Appetite* **2014**, *78*, 23–31. [CrossRef] [PubMed]

48.	Morgan, K.; Sonnino, R. *The School Food Revolution: Public Food and the Challenge of Sustainable Development*; Earthscan: London, UK, 2008; ISBN 9781844074822.

49.	Sonnino, R. Quality food, public procurement, and sustainable development: The school meal revolution in Rome. *Environ. Plan.* **2009**, *41*, 425–441. [CrossRef]

50.	Oncini, F.; Guetto, R. Determinants of dietary compliance among Italian children: Disentangling the effect of social origins using Bourdieu's cultural capital theory. *Sociol. Heal. Illn.* **2017**, *39*, 47–62. [CrossRef] [PubMed]

51.	Wills, W.J.; Danesi, G.; Kapetanaki, A.B.; Hamilton, L.K. The Socio-Economic Boundaries Shaping Young People's Lunchtime Food Practices on a School Day. *Child. Soc.* **2018**, *32*, 195–206. [CrossRef]

52.	Fletcher, A.; Jamal, F.; Fitzgerald-Yau, N.; Bonell, C. 'We've Got Some Underground Business Selling Junk Food': Qualitative Evidence of the Unintended Effects of English School Food Policies. *Sociology* **2014**, *48*, 500–517. [CrossRef]

53.	Vermeir, I.; Verbeke, W. Sustainable Food Consumption: Exploring the Consumer "Attitude-Behavioral Intention" Gap. *J. Agric. Environ. Ethics* **2006**, *19*, 169–194. [CrossRef]

54.	Pfeiffer, C.; Speck, M.; Strassner, C. What leads to lunch—How social practices impact (non-)sustainable food consumption/eating habits. *Sustainability* **2017**, *9*, 1437. [CrossRef]

55.	Duchin, F. Sustainable consumption of food: A framework for analyzing scenarios about changes in diets. *J. Ind. Ecol.* **2005**, *9*, 99–114. [CrossRef]

56.	Kearney, J. Food consumption trends and drivers. *Philos. Trans. R. Soc. B Biol. Sci.* **2010**, *365*, 2793–2807. [CrossRef] [PubMed]

57.	Matthews, A.E. Children and obesity: A pan-European project examining the role of food marketing. *Eur. J. Public Health* **2008**, *18*, 7–11. [CrossRef] [PubMed]

58.	Story, M.; French, S. Food Advertising and Marketing Directed at Children and Adolescents in the US. *Int. J. Behav. Nutr. Phys. Act.* **2004**, *17*, 1–17. [CrossRef]

59.	Chandon, P.; Wansink, B. Does food marketing need to make us fat? A review and solutions. *Nutr. Rev.* **2012**, *70*, 571–593. [CrossRef] [PubMed]

60.	Kelly, B.; Hattersley, L.; King, L.; Flood, V. Persuasive food marketing to children: Use of cartoons and competitions in Australian commercial television advertisements. *Health Promot. Int.* **2008**, *23*, 337–344. [CrossRef] [PubMed]

61.	Grunert, K.G. Sustainability in the Food Sector: A Consumer Behaviour Perspective. *Int. J. Food Syst. Dyn.* **2011**, *2*, 207–218. [CrossRef]

62.	Barosh, L.; Friel, S.; Engelhardt, K.; Chan, L. The cost of a healthy and sustainable diet - Who can afford it? *Aust. N. Z. J. Public Health* **2014**, *38*, 7–12. [CrossRef] [PubMed]

63.	Furst, T.; Connors, M.; Bisogni, C.A.; Sobal, J.; Falk, L.W. Food choice: A conceptual model of the process. *Appetite* **1996**, *26*, 247–265. [CrossRef] [PubMed]

64.	Satterthwaite, D.; McGranahan, G.; Tacoli, C. Urbanization and its implications for food and farming. *Philos. Trans. R. Soc. B Biol. Sci.* **2010**, *365*, 2809–2820. [CrossRef] [PubMed]

65.	Global Panel. *Urban Diets and Nutrition: Trends, Challenges and Opportunities for Policy Action*; Policy Brief No.9; Global Panel on Agriculture and Food Systems for Nutrition: London, UK, 2017.

66.	Regmi, A.; Dyck, J. Effects of Urbanization on Global Food Demand. Changing Structure of Global Food Consumption and Trade. 2001. Available online: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.738.5776&rep=rep1&type=pdf (accessed on 12 August 2018).

67.	Conner, M.; Mceachan, R. Moderating Effect of Socioeconomic Status on the Relationship between Health Cognitions and Behaviors. *Ann. Behav. Med.* **2013**, *46*, 19–30. [CrossRef] [PubMed]

68.	Vasiljevic, M.; Ng, Y.L.; Griffin, S.J.; Sutton, S.; Marteau, T.M. Is the intention-behaviour gap greater amongst the more deprived? A meta-analysis of five studies on physical activity, diet, and medication adherence in smoking cessation. *Br. J. Health Psychol.* **2016**, *21*, 11–30. [CrossRef] [PubMed]

69.	Oncini, F.; Guetto, R. Cultural capital and gender differences in health behaviours: A study on eating, smoking and drinking patterns. *Health Soc. Rev.* **2017**, *27*, 15–30. [CrossRef]

70. Sikora, J. *Handbuch der Kreativ-Methoden*, 2nd ed.; Katholisch Soziales Institut der Erzdiözese Köln: Cologne, Germany, 2001; ISBN 978-3927566255.

71. Prekel, T.; Sobey, L.-M. Excursions and Metaphors—Getting crazy ideas, and turning them into brilliantsolutions. In *Complex Creativity, The Pathway to Opportunity Finding*; Rajah, K., Ed.; Greenwich University Press: London, UK, 2007; ISBN 978-1861662323.

72. Ajzen, I. Theory of Planned Behavior. Available online: http://people.umass.edu/aizen/tpb.html (accessed on 9 November 2018).

73. Heye, D. Creativity and innovation: Two key characteristics of the successful 21st century information professional. *Bus. Inf. Rev.* **2006**, *23*, 252–257. [CrossRef]