

Concept Paper

From Values to Behavior: Proposition of an Integrating Model

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Received: 30 June 2019; Accepted: 28 October 2019; Published: 5 November 2019



Abstract: Human values are at the heart of our lives. We all hold a set of values that influence our actions. The protection of the natural environment is no exception to this rule. That is why the study of human values is key to reaching the imperative of sustainability. In this conceptual paper, we aim to (1) integrate the key theories and models explaining the influence of human values on behavior and to (2) identify factors that might have previously been overlooked. Drawing from a range of disciplines, this article proposes an integrated model mapping the influence of human values on behavior. It also puts forward the concept of consequences as an emerging factor that could play an important role in this relationship. Recommendations are to extend the research to an empirical investigation of the model and to develop the definition of the concept of consequences and the role they play in the influence of values on consumer behavior.

Keywords: human values; attitudes; behavior; consequences

1. Introduction

Human values hold a central place for us all. They are at the very core of our experiences and represent what is most important to us in life [1]. Some individuals value achievement above all while friendship is the most important thing for others. Wealth, freedom, pleasure, humility . . . each one of us holds a set of values that are manifested in everything we do [2]. Among these values, some are particularly relevant to the environmental issues the world is facing nowadays. For instance, Shalom H. Schwartz's influential work presents the "protection of the environment" as one of these specific values [3].

The reality of the environmental issues that we are facing today is very clear. Limited natural resources, global warming, water shortage, habitat and biodiversity loss, and the overall [4] demands on the biosphere that exceed the planet's regenerative capacity are some of the great issues of the day. It is now more crucial than ever before that our development creates ecological, social and economic conditions that allow for long term and worldwide fulfillment of present and future generations [1]. The role of human values in this dynamic is fundamental due to the pervasive role values play as an enduring consistent force in influencing behavior [2].

In fact, a whole set of human values, as defined by the literature, converge with the achievement of the imperatives of sustainability [3] imposed by the environmental issues we are facing [4] and can contribute largely to the uptake of sustainable behavior [2]. Therefore, a better understanding of human values, the way they relate to sustainability values (SVs) [5], and their influence on consumers' behavior is a necessary undertaking in order to study and promote sustainability-oriented behavior.

Values have been defined as (1) concepts or beliefs, (2) about desirable end states or behaviors, (3) that transcend specific situations, (4) guide selection or evaluation of behavior and events, and (5) are ordered by relative importance [6,7]. As such, their consequences are manifested in all phenomena

studied in social sciences. Because they are central, pervasive, transcendental and long lasting, they have been widely studied across various disciplines [2,6,8,9].

Because of this centrality [1,10], the value concept responds to the apparently diverse interests of all the sciences concerned with human behavior [2]. Consequently, a better understanding of the link between values and behavior would be of interest to fields as diverse as psychology, sociology, anthropology, management and the study of consumer behavior in marketing [1,11]. In the latter discipline, the investigation of the link between values and behavior upholds many implications for both researchers and practitioners: Market analysis, segmentation, product planning and promotional strategy [11,12] are some of the areas that can benefit from the investigation of this link.

However, we do not fully understand how values influence behavior. This has been studied partially on the basis of different frameworks and with different objectives in mind. In this sense, this relationship has not been sufficiently explored in relation to their importance and thus, it requires further investigation.

In this study, we aim to contribute to the variety of fields that served as references for this work.

First of all, the proposed model tries to contribute to the research on human values [1,2,6] by extending its range from focusing only on understanding values and their interactions to actually understanding the ways in which they influence consumer behavior.

Secondly, defining additional factors can be of added value to the literature focusing on attitudes, with recognized models such as the Theory of Planned Behavior (TPB) [13,14] and the Theory of Reasoned Action (TRA) [15,16]. It can contribute to this body of knowledge by improving the understanding of the processes involved and by identifying influencing or mediating factors that would, ultimately, improve the predictive capacity of these models.

Thirdly, this work tries to contribute to the literature, linking values to behavior. It aims to do so by refining the dominant models through the inclusion of intermediary factors. This would allow a more precise understanding of the influence of values on behavior and the link of causality between the two. Finally, one of this work's main contributions stems from its integrative nature. That is, putting distinct conceptual pieces in a unified whole that can be of use for each of the disciplines of reference.

This work tries to answer two main questions: Firstly, what are, in the most integrated way, the mechanisms involved in the influence of human values on behavior? Secondly, what are the factors that might have been overlooked in the study of this relationship?

Therefore, in this paper we will attempt to (1) integrate the various theories studying the relationship between values and behavior and (2) isolate the factors that have been overlooked so far. In order to do so, this conceptual paper undertakes a critical, yet integrative reading of theories, models and concepts drawn from a range of disciplines.

The structure of the paper is as follows: First of all, we review the literature on human values, attitudes, and the relationship between values and behavior and between values and sustainability. We propose a comprehensive model of the influence of human values on behavior. We then highlight emerging factors that might play a substantial role in the influence of values on behavior. Finally, the implications and suggestions for future research are outlined.

2. Theoretical Foundation

The main purpose of this paper is situated at a conceptual level. Nonetheless, depending on the objective followed by the study, its conceptual contribution can take different forms [17]. Envisioning, explicating, relating and debating are the general conceptual goals that can be pursued [17].

As for the present work, its goal is clearly to "relate". More precisely, its specific conceptual goal is to "integrate" the considered conceptual entities. Therefore, the principal contribution of this conceptual paper is to place previously distinct pieces in a unified whole while revealing new insights.

In regard to the nature of this investigation and its contribution, the literature review is a particularly adapted approach. For this reason, we conducted a comprehensive literature review [18,19], more precisely, a narrative literature review [20,21].

Unlike the systematic review, this approach does not rely on prescribed methodology [18]. Nonetheless, we rigorously followed a structured approach in the planification and execution of our research, relying on databases recognized for the quality of their publications, i.e., Scopus and Web of Science. We also articulated our review around five bodies of knowledge (values, attitudes, consumer behavior, sustainability, and ethics). Nevertheless, we took advantage of the flexibility allowed by a narrative literature review to include the most accurate and influential publications encountered alongside our readings.

This section examines the literature related to the various theories involved in the relationship between values and behavior with an emphasis on the way they relate to sustainability. Firstly, we examine the main theories on values. Secondly, we examine the literature focusing on explaining, predicting, and influencing the behavior through attitudes, The Theory of Reasoned Action (T.R.A) and the Theory of Planned Behavior (T.P.B). Thirdly, we examine the literature, investigating the links between values and behavior, the means-end theory and the Value-Attitude-Behavior Hierarchy. Finally, we examine the relationship between human values, sustainability values (SVs) and sustainable behavior.

2.1. Human Values

Milton Rokeach's pioneering [22] work defined human values as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" [2] (p. 10). He defined two types of values, terminal and instrumental values, which are concerned with, respectively, preferred end-states of existence and modes of behavior [12]. In this early research, we already find the assumption of an influence of human values on behavior. In fact, according to Rokeach [2], values guide the action, the attitudes and the judgment. Additionally, by defining these two types of values, i.e., terminal and instrumental values, he presumes an influence of values on the behavior, from more general to more specific factors. Nonetheless, it did not empirically prove the influence of value on behavior.

Building on the work of Rokeach, several theories were later proposed in various areas of research. Schwartz's Theory of Basic Human Values [1,7,23] is probably the most largely recognized and the most widely used theory on values. Its universal dimension and Cross-Cultural validity made it a central theory on the subject. Nonetheless, it has not proved the influence of human values on behavior.

The list of values of Lynn Kahle (LOV) were later proposed to fill one of the voids left by Rokeach, that is [9], the fact that the values he proposed are less related to the consumer's everyday life and are more society-oriented. As a result, Kahle's list of values is constituted by only nine values, all of which are terminal values. This makes it a more practical and person-oriented tool.

Nonetheless, Kahle's LOV presents some limitations. For instance, its values are specific to the American context. This questions the relevance of its use outside of the US, in international contexts, and for cross-cultural research. Despite that, it is important to note that Kahle's LOV has been used in subsequent research [24] to investigate the relationship between values and behavior with substantial success.

The theories presented above do not contradict each other. Quite the opposite, they converge largely towards a deeper understanding of human values and their influence on consumer behavior. Actually, the very fact that they approach values from different angles in the pursuit of different goals makes them very complementary theories. This is why we will try to integrate them in a comprehensive framework.

Values are an important concept in social sciences, consumer behavior, and in the research focusing on sustainability. Nonetheless, due to certain similarities, it can easily be mistaken for some other fundamental concepts such as norms and beliefs. To avoid any confusion, we underline the main differences between norms, beliefs and values.

A crucial way in which each concept differs from values is that it varies on another scale and is measured differently [25]. Values "vary on importance as guiding principles in life" [25] (p. 16).

In other words, they are guiding principles in life, that vary in terms of their relative importance. Beliefs are ideas about how true it is that things are related in particular ways. As such, they vary in how certain we are that they are true [25]. As for norms, they are standards or rules of a group or society about the way to behave. They vary on a scale of how much we agree or disagree that people should act in a specific way [25].

Finally, it is important to point out that this investigation is mainly concerned with the study of consumer behavior. Because of its epistemology, it apprehends the concept of values through the particular lens of its field of research. It draws to a large extent from disciplines such as psychology or social psychology. Consequently, it “does not talk about the nature of values or their justification and does not formulate any judgments about correctness or right and wrong” [26] (p. 2). It is more focused on exploring individual preferences among different values and the role of values as criteria of judgment [26].

Conversely, philosophical disciplines such as axiology and ethics apprehend the nature of values from a moral perspective [26–28]. Because values are more central to these disciplines than in most social sciences, it would be of great interest to embed the study of human values in this field of knowledge. This is particularly accurate when dealing with the inherently ethical issues related to sustainability-oriented research. We explore this possibility in more detail in the discussion section.

To conclude, the literature on human values is mainly focused on proposing accurate and valid lists of values, mapping their structures and the way they relate to one another. It is not sufficient for understanding their influence on consumer behavior even though it acknowledges its existence.

Fortunately, other bodies of knowledge have approached it from different angles. The most influential research in this regard is the inevitable work on attitudes [29].

2.2. Attitudes

Until now, attitudes have still been among the most studied subjects in the field of social and behavioral sciences [5]. “An Attitude is a disposition to respond favorably or unfavorably to an object, institution or event” [29] (p. 3). We all hold attitudes towards virtually everything that makes our life. The objects surrounding us, the people we know, (or do not know, for that matter), specific behaviors or global policies. Nothing escapes our ability to generate attitudes [13]. Therefore, it is not surprising that attitudes are at the center of research attempting to explain, predict or influence behavior.

We already know that values influence behavior indirectly. We also know that attitudes are characterized by a lower level of abstraction than values, that is, values are more abstract than attitudes. Also, the various theories on the subject have either placed values as one of the background factors influencing the attitudes or have drawn a direct link between the two. This is important to us because it makes it clear that we cannot understand the influence of values on behavior without understanding the impact of the attitudes on behavior on the one hand, and the way in which values affect attitudes on the other.

Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB)

Fishbein and Ajzen’s TRA [15,16] and Ajzen’s TPB [13,14] are recognized as “the best known and most widely applied models of attitude-behavior relationship within the expectancy-value (EV) approach” [30] (p. 162). The success of the two theories [31,32] is due to their simplicity and adaptability. Not only are they parsimonious and easy to operationalize [30], they are also applicable to a very large variety of behavioral domains [33–36]. The two models rightfully occupy such a predominant position in the study of attitudes and behavior that they naturally imposed themselves as an essential foundation for this work.

Over a period of 3 decades, hundreds of papers have discussed, applied or used the TRA and the TPB. With more than 1000 articles, the research relying on these theories has covered a large variety of disciplines, fields and subjects and has aimed to answer an extremely diverse spectrum of

problematics and questions. The number and variety of articles attests to the importance and centrality of these models.

HIV counselling [37], Speed limit violation [38], Domestic violence [39], sex education [40], household energy use [41], oral hygiene and managers' hiring are only some of the many subjects treated. This illustrates the diversity of the research based on the TRA and the TPB.

With such rich literature, it was difficult to cover all the research relying on these models. Therefore, we focused primarily on reviewing the meta-analyses that aggregate the results and findings related to these theories.

The TRA and TPB have been used extensively in health-related behavior [42,43]. From chronic illness [44] to cancer treatment [45], pregnancy [46] and sun protection [47], to name just a few, these theories have served in a wide variety of contexts, trying to integrate [48,49] frameworks and explain or predict [50] behavior.

Related to health, these theories have been used in many other contexts such as nutrition, exercise, drug use, or sexual behavior.

In regards to nutrition [51], the research on the TPB and the TRA examined problems related to organic food [52], healthy food [53], and discreet food choice [54]. As for exercise and physical activity [55], it tried to assess the predictive validity of the models [56] and considered other variables of influence, such as socioeconomic status. For what comes to drug use, it addressed problems related to smoking [57,58], drinking [59] and ecstasy use [60] by trying to understand behaviors' determining factors, predicting and guiding influence attempts. The literature on sexual behavior [61] addressed problems related to condom use [62–64] or risky behavior [65]. The TPB and the TRA were also used in the study of transport and travelling [66].

Moreover, the TPB and the TRA have been largely used in the study of sustainability-oriented consumption [67,68] and sustainable behavior [69]. Thus, these theories are particularly relevant to the present study. Within the field of sustainability, they covered a large variety of contexts and behaviors: restauration [70], driving [71], transport and travel mode choice [72–75], green products and food [76–78], waste management, recycling [79,80], and agriculture [81,82].

Naturally, the TPB and the TRA have been largely used in the fields of consumer behavior [83], social psychology [84], and psychology [85–87]. Substantial contributions allowed to assess and to investigate the role of the models' key concepts such as descriptive norms [88]; subjective norms [89]; affective and normative components [90]; perceived behavioral control [91]; as well as additional predictors, influencing and moderating factors such as anticipated regret [84], identity [92] or self-identity [93].

Although the two models are intimately connected, there are some noticeable differences between them. Thus, it was essential for us to operate a choice and to retain the theory that best fits the needs of our investigation.

The TRA is central to the study of human behavior [13,16,94]. It has drawn considerable and justified attention in the field of consumer behavior [95–97]. Not only does it allow us to predict intentions and behavior in a reliable way, it also identifies and orients behavioral change attempts. It was conceptualized before the TPB and served as a foundation for its formulation.

The TPB pursues the same purpose of predicting behavior and orienting behavioral change attempts. Nonetheless, it is an extension of the TRA [98,99] and was proposed in order to complete, update and palliate some of its limitations. The main differences between the two models stem from this fact. As a result, the differences between the two theories correspond to the improvement made by the TPB on the TRA.

To summarize it, the principal contribution of the TPB is that it addresses the problem of sufficiency of the TRA [30]. In fact, the latter is based on restrictive assumptions. It considers only volitional factors while, in certain situations [100], a person's behavior can be determined by non-volitional factors such as resources [13,101]. In this case, the TRA is not sufficient to predict the intention or the behavior. The TPB responds to these limitations by including a belief factor: perceived behavioral control [101]. This makes the TPB a more complete and more accurate model.

Besides the main difference between the two theories being, in fact, an improvement of the TPB, many other reasons support it as a more adequate theory for this investigation.

First of all, the TPB has encountered much success in predicting a variety of behaviors [29,95,102]. A large number of empirical studies have been led in behavioral domains [14,101,103,104].

Secondly, as said before, the TPB provides a suitable basis for the explanation of sustainability-related behavior [105]. It has proved to be adapted to the study of general pro-environmental behavior [69], individual consumption and a myriad of other sustainability-related behaviors [106–111].

Thirdly, the TPB explicitly acknowledges the influence of values as a background factor affecting behavior, as shown in the figure below (Figure 1). This is of great importance because all the work presented in this article revolves around the concept of values. Thus, the TPB allows us to clearly recognize human values as a determinant of behavior and to, eventually, isolate it from the potential influence of the other background factors. All of these reasons make of the TPB a better model for our investigation.

In conclusion, attitudes are a central junction between values and behavior. More concrete and less abstract, they are subsequent to them in their influence on behavior.

The TPB is a privileged model for understanding this role because it defines values as one of the forces influencing behavior. Moreover, it integrates all the previous models and surpasses them in terms of reliability and accuracy. Nonetheless, it presents some limitations in regard to our work.

First of all, it focuses to a large extent on predicting the behavior and pays little attention to studying the links of causality. Secondly, it mainly focuses on the influence of attitudes on behavior while the influence of its background factors on attitudes has drawn much less attention. Thirdly, it considers the many background forces' effects on attitudes, including values, as a whole, without trying to consider them separately. Additionally, previous studies have considered the link between values and attitudes in the pursuit of a variety of objectives. Furthermore, this link has not been sufficiently explored in relation to the importance of the two concepts. Additionally, the link between values and attitudes has not been studied sufficiently and requires further investigation. Nevertheless, and despite these limitations, research on values has assessed their crucial role. Therefore, they deserve to be studied separately. Research from different backgrounds has pursued that goal as we shall see in the next section.

2.3. Attitudes and Consequences: Between Values and Behavior

Various theories have approached the relationship between values and behavior and examined the factors that shape this. The two models we examine in this section will enable us to deepen our understanding of these factors.

2.3.1. The Means-End Chain Theory

The means-end theory allows us to better understand the consumer decision making process and pinpoint its underlying factors [12]. Its premises are that (1) values play a key role in guiding behavioral patterns and that (2) people manage the overwhelming diversity of products that can satisfy their values by grouping them together in classes in order to reduce the complexity of their choices.

The means-end model goes beyond the consumer and includes the product in its construct [112]. In this, it differs from all other theories on the subject. Ultimately, it connects the products attributes, their consequences for the consumer and their potential links to his values [12].

A typical means-end chain would go through the following sequence [112]:

Product concrete attributes/Product abstract attributes/concrete consequences/abstract consequences/instrumental values/terminal values.

In comparison to other theories, the means-end theory presents another particularity. On one hand, it does not include attitudes. On the other, it introduces an additional concept, i.e., consequences. This is very singular since we know that all the research on the subject has defined attitudes as a central

force and have included it in one form or other. This is even more singular because no other models have included what Gutman calls consequences. This is very important because it could mean that some factors intervening in the relationship between values and behavior might have been bypassed in some way.

Consequences are the results accruing to the consumer from his behavior [12]. Because of their singularity, we will pay particular attention to the consequences. After values, they are the most abstract concept identified by Gutman. Therefore, consequences might be more abstract than attitudes in which case they would play an intermediating role in the influence of values on attitudes. This is particularly interesting because the link between values and attitudes is precisely the link that has not been fully explored and therefore needs deeper investigation.

Nonetheless, it is important to keep in mind the limitations of this theory. Being conceptual, it is not based on empirical work. Therefore, the nature of the relation between the various factors (correlation, causality, prediction . . . etc.) is not precisely defined.

2.3.2. The Values-Attitude-Behavior Hierarchy

The values-attitudes-behavior hierarchy is the sequence according to which [24] in a given situation, the influence should theoretically go from abstract values to attitudes at an intermediary level and from attitudes to specific behaviors. This work converges with the previously presented theories on values and attitudes in the fact that they all assume an influence on behavior, flowing from the more general and abstract concepts to the more specific ones.

This work [24] makes a significant contribution. It confirms the influence of human values on behavior, through the intermediating role of attitudes. More specifically, it contributes to assessing the link of causality between these factors. This is particularly important because it confirms an influence that was previously presumed by other theories.

Despite its significant contribution, this study is not without limitations. It might have assessed the influence of attitudes on behavior, but it did so focusing only on three factors (values, attitudes and behavior). It ignores some of the intermediating factors that have been established (such as the intentions) or that still need to be revealed.

The present work builds on all of these contributions, trying to provide an integrated picture of the dynamics involved in the influence of values on behavior. It also attempts to identify the mechanisms involved in this relationship and to isolate the factors that might have been overlooked.

2.4. Human Values and Sustainability

In response to the need for a drastic change in our approach to growth and development, the concept of sustainability was introduced by the UN (2022) Millennium Declaration according to which certain fundamental values are essential to international relations of the century [113].

These values have been stated explicitly and have been identified as: freedom, equality, solidarity, tolerance, respect of nature, and shared responsibility [5]. They have been identified as sustainability values (SVs) and have been used to investigate the determinants of pro-environmental and sustainable behavior.

SVs have been grounded in literature. They fall under the definition of human values as proposed in Schwartz's theory of basic values [6,7,113]. As such, they have also been identified as "antecedents to attitudes and behavior" according to Sirakaya-Turk [113] (p. 115).

Nonetheless, SVs were proposed in response to a specific context and in order to fulfill the particular objectives cited above. Additionally, they hold a moral dimension, in the sense that a consensus is held in terms of their desirability. Human Values, on the other hand, as defined [6] by different fields of research, are the result of processes of theorization and investigation. This makes of human values a concept that is more grounded in theory than SVs, as the former is more practical.

The research related to sustainability relies (almost exclusively) on SVs when it approaches the concept of values. Conversely, the literature that does not deal with the specific issue of sustainability

does not pay much attention to SVs. It approaches values through the conceptualization drawn from the various fields of research reviewed in this paper.

Nonetheless, both types of research build on the concept of values. It may take a different form in the particular context of sustainability-related research, but it is still fundamentally the same phenomenon that is being studied. Consequently, we can naturally assume a strong connection between these two concepts.

For this reason, it was essential for us to evaluate how the concepts of SVs and Human Values relate to one another. To what extent do they converge or diverge? What are the similarities and differences between the two?

Responding to our questioning, the literature [2,113] suggests that SVs and human values are indeed related. In fact, links between individual's values and their expressed environmental concerns and behavior have been demonstrated.

In this regard, most of the research has been built on Schwartz's self-transcendence values, which are a combination of universalism and benevolence (as opposed to self-enhancement values). These researches suggest that self-reported environment behavior correlates positively with self-transcendence values and negatively to self-enhancement ones. According to Axsen [114] (p. 70), if "Schwartz (1994) didn't include sustainability-oriented values explicitly, his value of environmental was found to fit within the "universalism" motivation type which corresponds with high self-transcendence and openness to change".

It is then clear that human values, as defined by the literature, can play a key role in sustainability-related research. A better understanding of human values and their influence on behavior opens the door to a deeper comprehension of the sustainability issues we are facing. It also links the research on sustainability to wider, more established and diverse bodies of knowledge.

Finally, the study of the influence of values on behavior can orient the effort of influence in promoting more sustainable practices and encourage a global shift towards sustainability-oriented values leading to the uptake of sustainable behavior and supporting the enactment of environmental policies [114].

In conclusion, the theories and models in this literature review come from fields as diverse as psychology [115], social psychology [99], marketing, and consumer behavior [9] using for each case the specific language, terminology and concepts related to their field. Additionally, each one of these theories and models aims to attain specific goals. Predicting, influencing, understanding, categorizing, assessing the causality are some of the objectives pursued by the various studies reviewed. Finally, depending on its field of investigation and its aim, each model puts an emphasis on one or more factors while paying little to no attention to others.

These disparities and differences reflect the necessity of an integration of the various theories and models for a better understanding of the factors intervening in the relationship between values and behavior and the way they interact.

3. Results and Propositions

In this section, we begin by demonstrating the construction of the proposed model through a comparative illustration of the theories reviewed and the factors considered by each one of them. Secondly, we present the proposed model, illustrating the variables in play and the interaction between them. Finally, we highlight the concept of "consequences" as a variable that emerged from this conceptualization work as a potentially impactful factor.

3.1. Building the Proposed Model: A Full Sequence

In this section, we present an exhaustive sequence that includes all the factors intervening in the action of values on behavior. As a first step, it will facilitate the conceptualization, formalization and understanding of the integrated model we suggest.

We can consider that the factors intervening in the relationship between values and behavior are related to each other in a particular order. Each variable illustrated in the figure influences the following variable that subsequently influences the one that comes after . . . etc. This chain of influence is what we refer to as a sequence.

In this sequence, the influence goes from the most general factor to the most specific. It also goes from the most abstract factor to the most concrete. We can also infer that it goes from the most enduring, long lasting factor, to the more fleeting, punctual and context-contingent one. This “funnel”-like articulation of influence has been found, in more or less simplistic terms, in all the models reviewed.

For instance, the V-A-T hierarchy [24] considers that values influence attitude which in turn influences behavior. Conversely, in Gutman’s means-end chain [12], terminal values influence instrumental values which influence consequences, which influence behavior, which translate into product attributes.

As we can see in this example, some models acknowledge some factors and not others with varying levels of overlap between the different theories.

Nonetheless, when we consider all the studied theories, as a whole, a full sequence becomes apparent. From the most general variable to the most specific one, this sequence comes as follows: Terminal values/Instrumental values/Beliefs/Consequences/Attitudes/Intention/behavior/Product abstract attributes/Product concrete attributes.

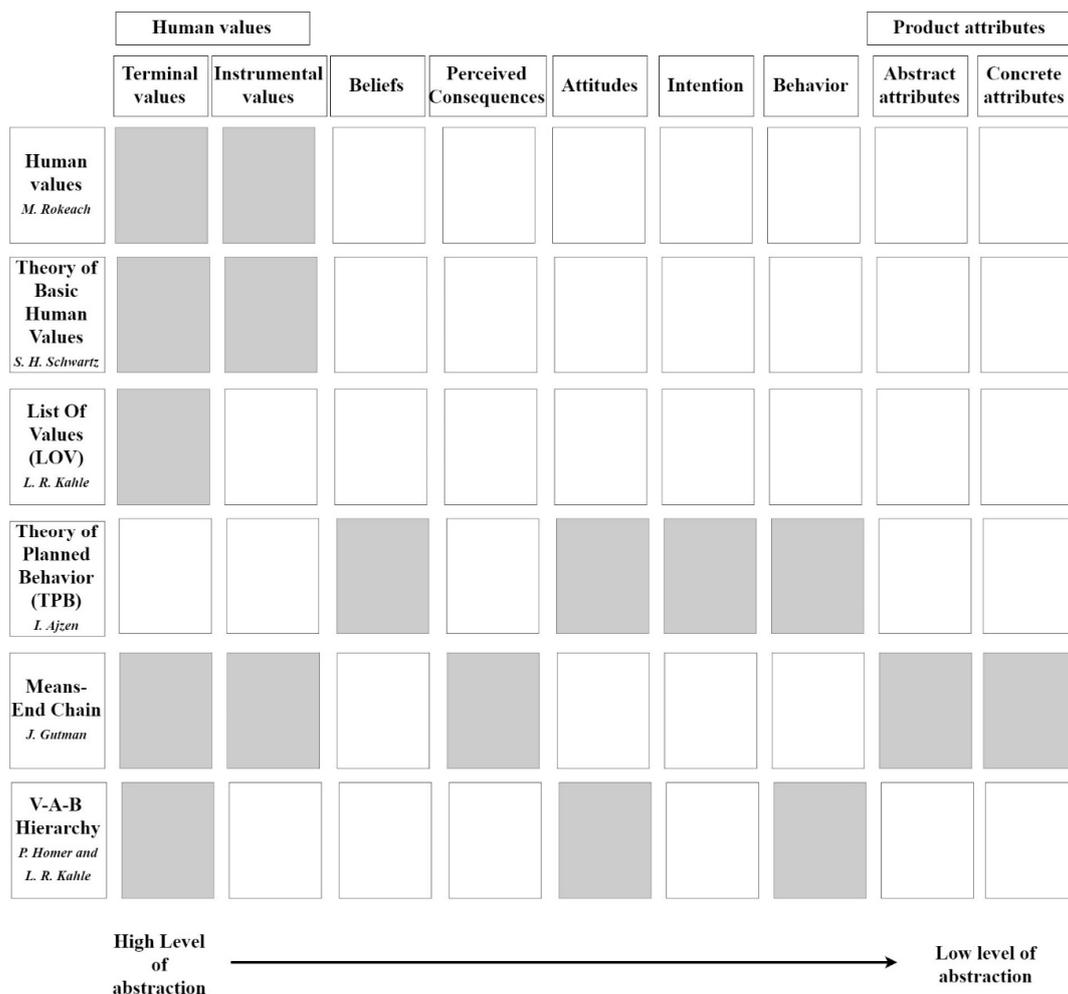


Figure 1. Sequence of factors involved in the influence of values on the behavior: A comparative illustration of the theories reviewed.

As already explained, all the theories and models reviewed consider some of the variables of the chain presented. The figure below (Figure 1) highlights the factors that are part of the construct of each theory. It helps us build a picture of the relative contribution of each theory.

In (Figure 1) and (Figure 2), the consequences have not occurred yet. Therefore, we refer to them as perceived consequences.

3.2. Unifying and Integrating: Presentation of the Proposed Model

Our objective in this part is to integrate the factors identified into one comprehensive model. The difficulty here is to articulate the factors at play and map the interactions between the variables defined in the previous part.

This difficulty comes from the fact that there is an overlap between the different theories reviewed. While some factors are characteristic of only one theory, many of the factors have been identified as active influences in more than one model.

Nonetheless, a deep investigation of the structure of the studied theories allowed us to build on the existing conceptual frames to come with a theoretically integrated and consistent proposition (Figure 2).

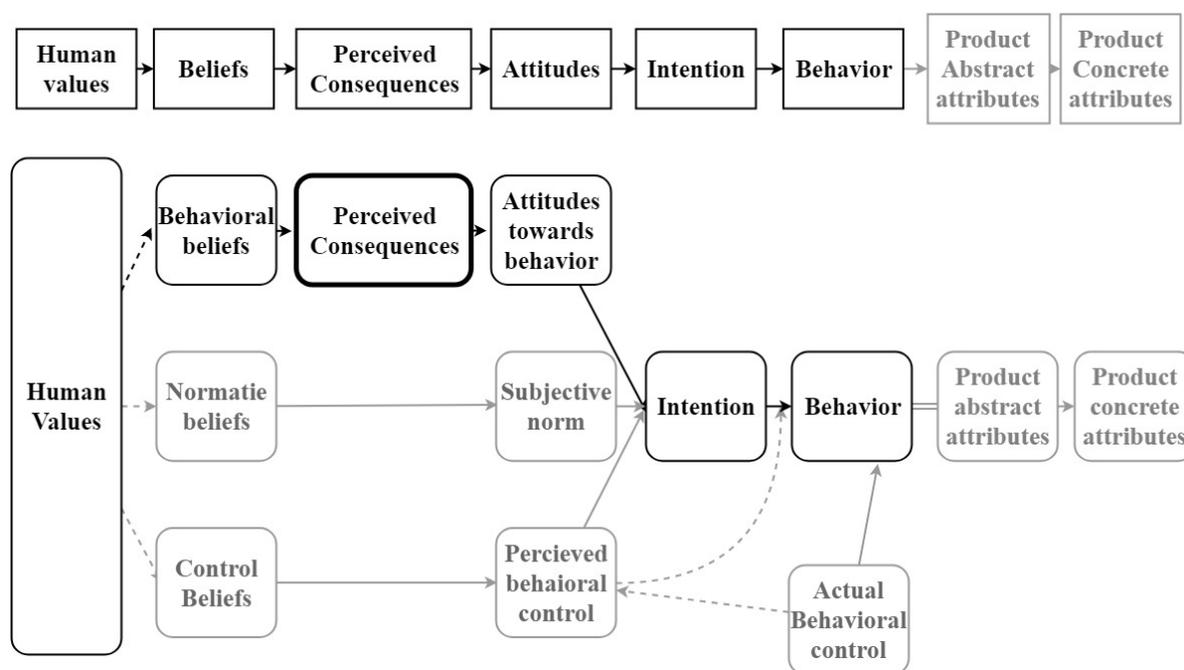


Figure 2. Integrated comprehensive model illustrating the influence of human values on behavior.

N.B. Product abstract and concrete attributes [12] are included in the figure only to illustrate the sequence in which the various factors are articulated. They are not crucial to the model and can be eventually excluded because they are not parts of the consumer’s process leading from values to behavior, but rather characteristics of an external object, i.e., the product.

Probably the most contributing theory to the proposed model, the TPB [4,116], provided a privileged receptacle for our questioning and facilitated a coherent articulation of the various variables identified.

Nonetheless, notable differences characterize the proposed model and add to the state of the art. One of the main particularities is the consideration of human values as a unique background factor. The other key contribution is related to the nature of the relationship investigated; while the TPB traditionally focuses on predicting behavior, this work allows us to extend its range to the study of causality.

3.3. *The Consequences, a Forgotten Variable?*

Finally, what we consider the most important contribution of this model is the introduction of a new factor: consequences [12,117]. This variable, playing an intermediating role between beliefs and attitudes, emerged from the effort of conceptualization led throughout this work.

Consequences have clearly been overlooked so far. They have not been precisely defined in the literature and their role in influencing behavior has not yet been investigated empirically. We believe that a better understanding of consequences and their role can improve our understanding of the way in which values influence behavior.

Gutman has defined the consequences as “any result (physiological or psychological) accruing directly or indirectly to the consumer (sooner or later) from his/her behavior”. “Consequences can be desirable or undesirable.” [12] (p. 61). They can be physiological, psychological or sociological. According to Gutman, the literature dealing with desirable consequences is built around the concept of benefits [118], benefits being nothing more than positive consequences.

As we can see in Gutman’s fundamental definition, consequences are difficult to grasp. It is an elusive concept that changes form depending on the literature of reference. Many concepts in the literature share similarities with consequences. That is the case for behavioral consequences [119] or, to a certain extent, the expected outcomes related to Ajzen’s behavioral beliefs [98]. We also found certain links between Consequences and TPB’s [98] “attitudes towards behavior” in the sense that the latter links behavior to outcomes and experiences. These outcomes might share noticeable similarities with the concept of consequences. Considering the relationship between consequences behavioral beliefs and attitudes toward the behavior makes us think of a possible moderating or intermediating role of consequences between the two.

In this paper, we try to define the contours of this concept. This will constitute the basis of its crystallization in a form that would fit within and complete the related frameworks in the literature. Also, the link between consequences and behavioral beliefs is yet to be assessed based on empirical evidence. We discuss these orientations for future research in more detail in the discussion section.

4. Discussion

The present manuscript aims to improve our understanding of the factors involved in this relationship of influence between values and behavior. In this conceptual paper, our objectives are in the one hand to integrate the various theories into one comprehensive model and, on the other hand, to identify the factors that might have been overlooked. This section examines the key findings of this work and outlines our most important deductions. It also presents the limitations of this work and lays the ground for future research on the subject.

In this work, we propose an integrated model illustrating the influence of human values on behavior. It builds on an extensive literature review to draw from a variety of theories and models from different bodies of knowledge. Firstly, it aggregates all the factors implicated in this relationship in an exhaustive sequence where the influence goes from the most abstract factor, which is terminal values [8], to the most concrete factor, i.e., concrete product attributes [12]. Secondly, it maps the interactions between these different factors. In order to do so, it relies on all the theories and models reviewed to draw on an exhaustive and complete image of this relationship while benefitting from the contribution of each of these theories and models.

These two steps together allow us to respond to one of our key objectives by providing a model that gives a precise and comprehensive understanding of the factors at play, as well as the mechanisms involved when it comes to the influences of human values on behavior.

Finally, as a result of the literature review and the construction of the model we propose, we were able to identify the concept of “consequences” [12,117], a key factor that has not been considered by the major theories treating this subject. We claim that this factor could play a key role in understanding the influence of human values on behavior and therefore, deserves more attention and more investigation.

By isolating the consequences, as a potentially influential variable we respond to the second main objective of this research, that is, to identify the main factors that may have been overlooked in the description of the influence of values on behavior.

The theories and models reviewed can be grouped in three groups: human values, attitudes, and linking theories such as the means-end chain and the values-attitudes-behavior hierarchy (V-A-B) hierarchy. This work brings a contribution to each one of these areas.

For what comes to the study of human values, both the objectives pursued and the factors examined vary. For instance, while Rokeach tries to identify values, Schwartz attempts to understand the way they interact amongst themselves. He also focuses on assessing their cross-cultural validity and universal structure. Kahle, on the other hand, based his work on the social adaptation theory and proposed a List Of Values (LOV) [120] that aimed to be more person-oriented and more practical. Additionally, Rokeach's [8] work considers two types of values, i.e., terminal and instrumental, while Kahle [9,120] considers only terminal values. Schwartz on the other hand approaches them from another perspective and groups them into motivational domains.

Despite these differences between the different theories' studying values, they all focus only on understanding how values relate to one another and how they interact. They do not go beyond that and actually try to understand how values influence other, less general factors. They do not try to understand how values influence behavior.

Therefore, by linking values to behavior, in the most precise way, the proposed model in this work contributes, alongside to existing theories, to palliating this gap.

This contribution is even more important because the proposed model builds to a certain extent on the TPB [102,121] but, unlike it, it defines human values as the unique background factor. This makes it a model that is specially adapted and suitable to the study of human values on behavior.

As for the study of attitudes, we consider the TPB which is admitted to be one of the most influential theories in this area. As explained, it acknowledges human values as an active force influencing both attitudes and behavior, it considers them as a part of an undefined aggregate of background factors. It sees them as a whole and links them to attitudes and behavior as is. For this reason, it cannot, in the present state, help understand the influence of human values on attitudes. The proposed model brings substantial added value in this regard.

Additionally, a large part of the literature on the TPB focuses mainly on the action of attitudes on behavior through the intermediating role of intention and are far less interested in understanding the links between background factors (such as values) on attitudes. In that sense, this work can improve the understanding of this link. This is particularly true because it reveals the concept of "consequences" that might play a key role, particularly and precisely in this link. That is, the influence of background factors like values on attitudes. For this reason, the present work brings substantial contribution to the research on attitudes.

Finally, in regard to the linking theories that create bridges between values and behavior, they do so in a partial and uncomplete way. The values-attitudes-behavior hierarchy [24] clearly links attitudes to behavior and values to attitudes. Nonetheless, it does not acknowledge any intermediary variables outside of these three variables. By proposing a more detailed model, the present work can contribute to the purposes of this research in understanding the relation of causality between values and behavior.

This is also a significant contribution in the sense that it pinpoints a noticeable lack of Gutmann's Means End chain [12]: The fact that it does not include attitudes as a factor and proposes an alternative to this lack.

Probably one of the main contributions of this work is that we support that consequences [12,117] are an active force in the influence of human values on behavior. This is important because each theory has considered a relatively limited number of factors. Consequences would allow us to build a better picture of the mechanisms involved in the influence of values on behavior.

This work is not without limitation. The main one is that it is based solely on a literature review. It is also conceptual and results in a proposed theory. Therefore, it would need further empirical investigation.

The future research would benefit from an empirical investigation of the proposed model. The empirical method adopted would bring substantial added value by considering the factors involved in this model as a whole and by investigation, the interactions between them. Besides grounding the model in the literature in a deeper way, this would allow a better understanding of the role of consequences and their importance as a factor.

Further research needs to investigate the concept of consequence. Consequences have been defined by Gutman [12] in an elementary way. A better grasp on the concept itself is necessary. Therefore, an effort to define consequences in regard to their role as an intermediary factor in the relationship between values and behavior can be a promising research venue.

Additionally, the role of consequences can be investigated in future research, in relation to the role they can play in the TPB [98]. In fact, the proposed model can be considered as an adapted version of the TPB. Therefore, the research could benefit from an attempt to fully embed consequences in the TPB. Consequently, their role could be investigated in terms of predictive capacity or in the research on behavioral change.

Finally, the present work allowed us to identify more general research venues. As we pointed out in the introduction, two visions of values meet in this paper: one that investigates the role of values in shaping behavior and another that is concerned with their ethical dimension. Particularly when it comes to sustainability issues, it would be beneficial to throw bridges between these two approaches.

The philosophical disciplines of axiology and ethics are literally built around the concept of values as their main object. The research on human values in social sciences can only benefit from such a deeply rooted source of knowledge and questioning.

Moreover, the two visions of values often overlap. For instance, Schwartz's work on human values [1] converges with the moral foundation theory [122–125] in the sense that they both highlight the universal dimension of values and presume an innate intuitive [122,125] or biologic/genetic origin to them [126].

Additionally, human values and ethics often meet at the heart of a large variety of research, ranging from management [127,128] to sustainability [129,130], globalization [131,132] or neuroethics [133,134]. Thus, building on this relationship can open the doors for numerous, diverse and innovative research possibilities.

Author Contributions: Conceptualization, O.A. and M.-d.-M.P.-P.; methodology, O.A. and M.-d.-M.P.-P.; validation, O.A. and M.-d.-M.P.-P.; resources, O.A. and M.-d.-M.P.-P.; writing—original draft preparation, O.A. and M.-d.-M.P.-P.; writing—review and editing, O.A. and M.-d.-M.P.-P.; visualization, O.A. and M.-d.-M.P.-P.

Funding: This research has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 713679 and from the Universitat Rovira i Virgili (URV).

Conflicts of Interest: The authors declare no conflict of interest.

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