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UNIVERSIDAD CATÓLICA DE MURCIA

ESCUELA INTERNACIONAL DE DOCTORADO

Programa de Doctorado en Ciencias Sociales

El rol de las actitudes en la intención de compra de productos ecológicos

Autor:
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COMPENDIO DE PUBLICACIONES

La presente Tesis Doctoral está formada por un conjunto de artículos científicos publicados por el doctorando y conectados con el Plan de Investigación, teniendo en cuenta el formato de Tesis Doctoral por compendio de publicaciones que establece la Universidad Católica San Antonio.

El compendio de publicaciones está constituido por cuatro artículos científicos publicados en revistas de gran impacto dentro del ámbito de investigación en el que está inscrito el Plan de Investigación de esta Tesis. Dos de las publicaciones han sido sometidas a revisión por pares simple y otras dos por la modalidad doble ciego.

Las referencias a los artículos que conforman el cuerpo de la Tesis son:

1. **Sarabia-Andreu, F.** and Sarabia-Sánchez, F. (2018). Do implicit and explicit attitudes explain organic wine purchase intention? An attitudinal segmentation approach. *International Journal of Wine Business Research*, *30* (4), 463-480. doi: 10.1108/IJWBR-09-2017-0063.
2. **Sarabia-Andreu, F.**, Sarabia-Sánchez, F. J., Parra-Meroño, M. C., & Moreno-Albaladejo, P. (2020). A multifaceted explanation of the predisposition to buy organic food. *Foods*, *9*(2), 197. doi: 10.3390/foods9020197.
3. **Sarabia-Andreu, F.**, Sarabia-Sánchez, F. J., & Moreno-Albaladejo, P. (2019). A new attitudinal integral-model to explain green purchase intention. *Sustainability*, *11*(22), 6290. doi: 10.3390/su11226290.
4. **Sarabia-Andreu, F.**, Sarabia-Sanchez, F., Parra-Meroño, M. C. & Moreno-Albaladejo, P. (2020). Attitudes toward organic products: a cross-national comparison and scale validation. *Spanish Journal of Marketing - ESIC*, *24*(1), pp.115-132. doi:10.1108/SJME-10-2019-0084.

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El Dr. D. Francisco José Sarabia Sánchez y la Dra. Dª. María Concepción Parra Meroño como directores de la Tesis Doctoral titulada "**El rol de las actitudes en la intención de compra de productos ecológicos**" realizada por D. Francisco Sarabia Andreu en el Departamento de Ciencias Sociales, Jurídicas y de la Empresa, **autorizan su presentación a trámite** dado que reúne las condiciones necesarias para su defensa.

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Francisco José Sarabia Sánchez

María Concepción Parra Meroño

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"We make our world significant by the courage of our questions and the depth of our answers".

Carl Sagan (1934-1996).

El rol de las actitudes en la intención de compra de productos ecológicos

RESUMEN

La sostenibilidad, el respeto y el cuidado del medio ambiente son las tendencias de mercado que más han crecido en los últimos años. Todas ellas permiten la diferenciación de los productos a través de sus atributos ecológicos y generan predisposiciones favorables (actitudes) en los consumidores.

Históricamente, en la investigación sobre actitudes ha prevalecido una orientación racionalista, derivada de considerarlas el resultado de un proceso reflexivo. Por ello, su medición se ha realizado tradicionalmente mediante respuestas declarativas y razonadas de los propios individuos, que tienen que reflexionar y racionalizar sus propensiones y tendencias personales. Sin embargo, es bien conocida la existencia de incongruencias entre el comportamiento real y las actitudes declaradas, que podría explicarse por la existencia de otras actitudes que se activan de forma automática y que se generan fuera de la consciencia. A estas actitudes se les denomina implícitas y complementan a las actitudes racionales o explícitas.

La finalidad de esta tesis doctoral es examinar la relación existente entre los diferentes tipos de actitudes citados (implícitas y explícitas) y la intención de comprar productos ecológicos. Dado que se ha elegido la modalidad de tesis por compendio de publicaciones, se han realizado cuatro trabajos de investigación relacionados con las citadas actitudes. En dichos trabajos se ha empleado una metodología cuantitativa basada en la encuesta, que incluye una técnica que permite identificar las predisposiciones no conscientes, sin necesidad de obtener una declaración directa y reflexiva de los entrevistados. Adicionalmente, se han recogido respuestas declaradas.

El primero de los trabajos de investigación explora la relación directa entre las actitudes explícitas e implícitas y la intención de compra de vino ecológico. El

segundo examina la predisposición a comprar productos ecológicos, pero incluye una distinción entre productos con distinta naturaleza (hedónica *versus* utilitaria). El tercer artículo analiza la relación entre las actitudes explícitas, implícitas y la intención de compra de productos ecológicos. En este caso, se realiza una distinción entre las componentes afectiva y cognitiva de las actitudes implícitas. Además, se incorporan el cinismo y el escepticismo como variables que pueden influir sobre la intención de comprar productos ecológicos. La última publicación analiza las propiedades formales y métricas de la escala empleada para medir las actitudes explícitas hacia los productos ecológicos, dados los problemas encontrados en su aplicación en los tres trabajos previos.

Los resultados del primer artículo muestran que sólo las actitudes explícitas explican significativamente la intención de compra de vino ecológico. El segundo artículo concluye que, dependiendo de la naturaleza del producto, las actitudes explícitas e implícitas desempeñan distinto papel. En particular, las actitudes implícitas influyen en la predisposición a comprar productos ecológicos en el caso de los alimentos con una orientación hedónica; sin embargo, esto no sucede para los productos que tienen una orientación utilitaria y funcional. El tercer artículo verifica que las componentes cognitiva y afectiva de las actitudes implícitas son constructos diferentes. Siendo la componente cognitiva la que influye en las actitudes hacia los productos ecológicos analizados. Además, como era de esperar, los resultados indican que el escepticismo influye negativamente en las actitudes hacia los productos ecológicos. Los resultados del último artículo muestran que el instrumento de medición analizado requiere de mejoras en términos de métrica y contenido.

Los estudios realizados permiten afirmar que las actitudes implícitas pueden desempeñar un papel activo sobre la intención de comprar productos ecológicos. Así, integrar las actitudes implícitas en el análisis de la intención de compra puede aportar información relevante para comprender los determinantes de la compra y los procesos internos que se generan en la mente de los consumidores.

Palabras clave: actitudes implícitas, actitudes explícitas, productos ecológicos, intención de compra, Test de Asociación Implícita, comportamiento del consumidor, marketing

The role of attitudes in the intention to purchase organic products

ABSTRACT

Sustainability, the respect and caring for the environment are the market trends that have grown the most in recent years. All of them allow the differentiation of products through their ecological attributes and generate favourable predispositions (attitudes) in consumers.

Historically, a rationalistic orientation has prevailed in the research on attitudes, derived from considering them the result of a reflexive process. For this reason, their measurement has traditionally been carried out by using declarative and reasoned responses from the individuals themselves, who have to rationalize and meditate their personal propensities and tendencies. However, it is well known that there are inconsistencies between real behaviour and declared attitudes, which could be explained by the existence of other attitudes that are activated automatically and generated outside of consciousness. These attitudes are called implicit and complement the rational or explicit attitudes.

The aim of this doctoral thesis is to examine the relationship between the different types of attitudes mentioned (implicit and explicit) and the intention to purchase organic products. Since this thesis has been performed by compendium of publications, four research papers have been undertaken related to the aforementioned attitudes. In these works, a quantitative methodology based on the survey has been used, which includes a technique that allows the identification of unconscious predispositions, without the need to obtain a direct and reflexive statement from the interviewees. Additionally, declared responses have been collected.

The first of the research works explores the direct relationship between explicit and implicit attitudes and the intention to buy organic wine. The second examines the predisposition to buy organic products but includes a distinction

between products with different natures (hedonic versus utilitarian). The third paper analyses the relationship between explicit and implicit attitudes and the intention to purchase organic products. In this case, a distinction is made between the affective and cognitive components of implicit attitudes. In addition, cynicism and scepticism are incorporated as variables that can influence the intention to buy organic products. The last publication examines the formal and metric properties of the scale used to measure explicit attitudes towards organic products, because of the problems found in its application in the three previous works.

The results of the first article show that only explicit attitudes significantly explain organic wine buying intent. The second article concludes that, depending on the nature of the product, explicit and implicit attitudes play different roles. In particular, implicit attitudes influence the willingness to buy organic products in the case of food with a hedonic orientation; however, this is not the case for products with a utilitarian and functional orientation. The third article verifies that the cognitive and affective components of implicit attitudes are different constructs. Being the cognitive component the one that influences the attitudes towards the analysed ecological products. Furthermore, as expected, the results indicate that scepticism has a negative influence on attitudes towards ecological products. The results of the last article show that the measurement instrument analysed requires improvement in terms of metrics and content.

The studies carried out show that implicit attitudes can play an active role in the intention to buy organic products. Thus, integrating implicit attitudes into the analysis of purchase intention can provide relevant information for understanding the determinants of purchase and the internal processes that are generated in the minds of consumers.

Keywords: implicit attitudes, explicit attitudes, organic products, purchase intention, Implicit Association Test, consumer behaviour, marketing.

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1 INTRODUCCIÓN

1.1 JUSTIFICACIÓN

Hoy día muchas empresas realizan un proceso constante de reconfiguración de su cartera de productos al centrar su objetivo estratégico en el diseño de nuevas referencias. Este proceso lleva al lanzamiento continuo de nuevos productos. Esta situación genera incertidumbre a las empresas sobre la predisposición que tendrán los consumidores a comprar estos productos.

Cuando los consumidores se encuentran frente a los lineales de una tienda, se encuentran en un entorno lleno de productos que puede llegar a ser confuso y frustrante. Los elementos del empaquetado de los productos se convierten en factores críticos. Especialmente el etiquetado, ya que es uno de los elementos que mejor comunica en el momento en que los consumidores toman decisiones de compra (Silayoi & Speece, 2007). Así, comprender la respuesta de los consumidores a los envases y los mensajes que contienen los productos es clave para las empresas.

Entre los tipos de etiquetado que se usan principalmente en el ámbito alimentario están los relacionados con las propiedades nutricionales, las saludables y los relacionados con el medioambiente. Estos dos últimos van siendo cada vez más importantes porque la demanda de recursos naturales por parte de la humanidad ha superado con creces lo que la Tierra es capaz de renovar (Grooten & Almond, 2018).

Los productos ecológicos, que también se describen como biológicos, orgánicos, respetuosos con el medio ambiente, y una extensa serie de otros términos, han experimentado un desarrollo considerable en los dos últimos decenios. Hay dos razones para este crecimiento. En primer lugar, hay un creciente interés de los consumidores por una forma de consumo más limpia y saludable que también proporcione un mayor bienestar (Apaolaza *et al.*, 2018). En segundo lugar,

un número creciente de productores está abandonando los productos estándar en favor de los productos ecológicos (Willer & Lernoud, 2019). A pesar de esta creciente demanda de productos ecológicos, los consumidores son expuestos a información y noticias negativas que suscitan escepticismo hacia estos productos. En consecuencia, los productos ecológicos pueden ser vistos como un fraude (Shears, 2010) o tener una imagen positiva.

La diferenciación de los productos a través del énfasis del carácter ecológico en el envase y/o empaque se usa principalmente para promover la elección de estos productos en las distintas etapas del proceso de decisión de compra. Sin embargo, las empresas desconocen si un etiquetado con rasgos que destaquen el carácter ecológico de los productos tendrá un efecto positivo sobre la predisposición de los consumidores o producirá un efecto contrario al deseado.

La mayoría de los estudios parten de tres suposiciones: (1) el consumidor percibe la existencia de diferentes tipos de etiquetados, (2) el consumidor puede discriminar racionalmente entre ellos, (3) el etiquetado tiene características que le otorgan utilidad al producto (Lado *et al*., 2010) para poder ser un impulsor relevante de la elección. Sin embargo, desde hace algo más de un decenio está en entredicho que sean los aspectos racionales los impulsores clave de las decisiones humanas, abriéndose paso el papel crucial de otros aspectos no racionales.

1.2 OBJETIVOS

En base a lo expuesto en el epígrafe anterior, el objetivo general de la investigación es examinar la relación existente entre los diferentes tipos de actitudes y la intención de compra de productos ecológicos.

A continuación, se plantean los objetivos específicos de investigación que han tenido una evolución conforme se han recibido comentarios y opiniones por parte de los revisores de las diversas publicaciones que constituyen el compendio:

1. Determinar el rol de las actitudes implícitas y explícitas en la intención de compra de vino ecológico.
2. Analizar si las actitudes implícitas y explícitas hacia los productos ecológicos explican la predisposición a comprar productos ecológicos, haciendo una distinción entre alimentos que se perciben principalmente como hedónicos versus utilitarios.
3. Explorar la relación entre las actitudes implícitas y explícitas en la intención de compra de productos ecológicos no alimenticios.
4. Examinar las propiedades formales y métricas de la escala de medición de las actitudes hacia los productos ecológicos utilizada en esta investigación.

1.3 ESTRUCTURA

Para la consecución de los objetivos previamente señalados, este trabajo se estructura en varios apartados. Las cuestiones teóricas relacionadas con las actitudes que enmarcan esta Tesis Doctoral se exponen en el capítulo 2.

La metodología utilizada en la investigación se plantea en el capítulo 3, que también contiene una descripción de los datos y el enfoque analítico específico de cada una de las cuatro publicaciones.

En el capítulo 4 se incluyen los artículos que constituyen el compendio. Cada uno de los cuatro artículos científicos se presenta como un trabajo completo, original e independiente. Como conjunto, las publicaciones representan los pasos seguidos para obtener una visión en profundidad de las actitudes y el rol que desempeñan en la intención de compra.

En el capítulo 5 se discuten los resultados y se comparan con los obtenidos en otras publicaciones académicas previas, a fin de poner de relieve las contribuciones al conocimiento que se han realizado.

El siguiente capítulo corresponde a las conclusiones alcanzadas por el conjunto de publicaciones que conforman esta Tesis Doctoral, posteriormente se indican las limitaciones y, finalmente, se exponen futuras líneas de investigación.

Las referencias bibliográficas que han apuntalado la base teórica de este proyecto de investigación y que han sido citadas en este trabajo se exponen en el séptimo capítulo.

Por último, siguiendo la normativa de la Universidad se incluye un apéndice con los datos relativos a la calidad de los artículos que componen el compendio. En dicho apéndice se exponen las bases de datos en dónde se encuentran indizadas las revistas académicas, sus factores de impacto y la localización exacta de cada una de ellas. Además, se incluye otros datos que informan sobre la calidad de los artículos.

2 ACTITUDES

La actitud es uno de los constructos psicológicos más estudiados y que ha tenido un gran impacto en diversas disciplinas dentro de las ciencias sociales. Como sucede con la gran mayoría de constructos, el concepto de actitud ha ido evolucionando desde su más temprana definición incluyendo contribuciones que han influido en su tratamiento. A continuación, se exponen tres de las definiciones que más han contribuido a su acepción actual:

> *"Predispositions to respond, but are distinguished from other such states of readiness in that they predispose toward an evaluative response"*. [Las actitudes son predisposiciones a responder, que se distinguen de otros estados de preparación, ya que predisponen una respuesta evaluativa] (Osgood, Suci & Tannenbaum, 1957, p. 189).

> "D*isposition to react favorably or unfavorably to a class of objects*". [Disposición a responder de modo favorable o desfavorable a un objeto o clase de objetos" (Sarnoff, 1960, p. 261).

> "*Enduring systems of positive or negative evaluations, emotional feelings, and pro or con action tendencies with respect to social objects*". [Sistemas duraderos de evaluaciones positivas o negativas, sentimientos emocionales y tendencias a actuar en pro o en contra con respecto a los objetos sociales" (Krech, Crutchfield & Ballachey, 1962, p. 139).

Las definiciones previamente mencionadas describen las actitudes como una predisposición estable que expresa una tendencia a actuar de una manera determinada. Las acepciones expuestas, con más de medio siglo de antigüedad, han sido la base para todo el desarrollo conceptual en psicología sobre cambio actitudinal y conducta humana en el ámbito del consumo (comportamiento del consumidor). Lo mismo ha sucedido en Marketing y otras disciplinas centradas en la Psicología Económica. Sin embargo, no son las únicas pues otros autores han

reformulado el concepto de actitud, centrándose en la evaluación como su componente fundamental (Eagly & Chaiken, 1993; Albarracín, Zanna, Johnson & Kumkale, 2005; Maio & Haddock, 2009). Este enfoque ha tenido muy amplia aceptación en la literatura. De hecho, muy recientemente Albarracín, Sunderrajan, Lohmann, Chan y Jiang (2018) definen la actitud como:

> "*We define attitude as evaluation*" [Definimos la actitud como una evaluación] (Alabarracín *et al.*, 2018, p. 4).

Igualmente, otros autores han propuesto otras definiciones más operativas y centradas en el área de Marketing. Entre ellas destaca la de Wilkie (1994) que ha sido posteriormente utilizada en muchos manuales de comportamiento del consumidor:

> "*The readiness to act in a predetermined manner toward some specific market-related stimulus*" [La disposición a actuar de una forma predeterminada hacia un estímulo específico relacionado con el mercado] (Wilkie, 1994, p. 281).

Las teorías clásicas sobre el comportamiento incluyen las actitudes como componentes esenciales de la conducta. Las más extendidas en el área de Marketing y los negocios son la Teoría de la Cognición Social (Bandura, 1977) y la Teoría del Comportamiento Planificado (Ajzen, 1985). Según la Teoría de la Cognición Social, el comportamiento interactúa con las actitudes y el entorno, mientras que, en la Teoría del Comportamiento Planificado, las actitudes actúan junto con las normas subjetivas y el control del comportamiento percibido, y se consideran predictores directos de la intención.

Ajzen y Fishbein (2005) señalan que hay dos tipos de actitudes. El primero se refiere a las actitudes hacia ideas y objetos (por ejemplo, alimentos ecológicos) como interpretaciones cognitivas y emocionales de los estímulos. Estas actitudes tienden a ser pasivas, y definen en gran medida las percepciones que tienen los individuos. Pueden ser juicios de valor que se basan en cualquier información que los individuos reciben y que producen opiniones favorables, desfavorables o ambivalentes. El segundo tipo se refiere a las actitudes activas porque no se centran

exclusivamente en un fenómeno u objeto particular, sino también en un comportamiento determinado con respecto a esa cuestión (por ejemplo, la compra de alimentos ecológicos).

La literatura sobre el comportamiento del consumidor destaca tres enfoques prominentes para la comprensión y la medición de las actitudes: el modelo de atributos múltiples, el modelo afectivo-cognitivo-conductual (ABC) y el modelo de Motivación y Oportunidad como Determinantes (MODE). Según el modelo de atributos múltiples las actitudes se pueden explicar en función de las creencias que tienen los individuos respecto de las características individuales, las funciones o los beneficios percibidos de un objeto actitudinal. El modelo ABC describe las actitudes como constructos formados por componentes afectivas, cognitivas y conductuales. Finalmente, el modelo MODE (Fazio, 1990) hace distinción entre reacciones automáticas de evaluación y actitudes que operan a un nivel consciente.

2.1 ACTITUDES EXPLÍCITAS E IMPLÍCITAS

Las teorías clásicas sobre actitudes tienen un enfoque racionalista y consideran que estas predisposiciones se derivan del procesamiento cognitivo y se obtienen mediante la declaración consciente por parte de los individuos. Sin embargo, la existencia de disonancias entre el comportamiento real y las actitudes declaradas puede explicarse en parte por la existencia de otras actitudes que se producen en un nivel inconsciente (Greenwald & Banaji, 1995) o que no surgen porque son reprimidas deliberadamente por las convenciones sociales (Kim *et al*., 2018). Estas actitudes, denominadas actitudes implícitas, se definen como evaluaciones de objetos actitudinales de origen desconocido, que se forman a partir de experiencias, que se activan automáticamente y que influyen en las respuestas involuntarias de los individuos (Greenwald & Banaji, 1995). Estas actitudes son estables y resistentes a modificaciones (Wilson *et al*., 2000).

Estos dos tipos de actitudes parecen ser el resultado de la actividad de diferentes zonas del cerebro. Más concretamente, la corteza dorsolateral prefrontal está implicada en la activación de las actitudes implícitas, la amígdala está

implicada en la evaluación automática de estímulos sociales, la corteza prefrontal desempeña un papel destacado en la activación de las actitudes explícitas y, en casos de conflicto, se activan áreas específicas relacionadas con el control cognitivo de la corteza prefrontal (Stanley *et al*., 2008). Desde una perspectiva psicológica, las actitudes explícitas están más estrechamente relacionadas en la generación de evaluaciones controladas y deliberadas, mientras que las actitudes implícitas están centradas en el procesamiento de acontecimientos automáticos y espontáneos (De Houwer, 2006). Sin embargo, los dos procesos no tienen por qué ser excluyentes: cuando el cerebro recibe un estímulo, responde activando primero las respuestas automáticas y luego proporcionando respuestas cognitivas conscientes (Salzman y Fusi, 2010). En resumen, los individuos tienden a procesar los estímulos de manera explícita, pero la información que reciben también genera actitudes implícitas a través de asociaciones inconscientes o preconscientes (Gawronski *et al*., 2006).

3 METODOLOGÍA

3.1 INTRODUCCIÓN

Hasta hace poco, las herramientas metodológicas existentes permitían trabajar, casi en exclusiva y para costes asumibles, con respuestas declaradas obtenidas mediante técnicas basadas en encuesta. Sin embargo, estas herramientas tradicionales de investigación han demostrado tener inconvenientes a la hora de reunir información fiable cuando se trata de responder sobre aspectos que se escapan de la consciencia o se ven influenciados por factores no conscientes. Esto se debe a que las respuestas declaradas pasan necesariamente por el tamiz de la consciencia de quienes responden.

Teniendo en cuenta que investigaciones recientes sobre actitudes señalan que las evaluaciones declaradas (explícitas) reflejan actitudes conscientes, mientras que las evaluaciones indirectas (implícitas) reflejan actitudes no conscientes (Gawronski *et al*., 2006). Se ha empleado una metodología cuantitativa basada en la encuesta, que incluye una técnica que permite identificar las actitudes implícitas sin necesidad de obtener una declaración sobre la naturaleza y características básicas de dichas predisposiciones. Y posteriormente se recogen respuestas declaradas.

3.2 EL TEST DE ASOCIACIÓN IMPLÍCITA

Para medir las actitudes implícitas se usó el Test de Asociación Implícita (IAT) que fue propuesto originalmente por Greenwald *et al*. (1998). Esta técnica revela las preferencias inconscientes de los sujetos a través de asociaciones entre diferentes conceptos. La idea subyacente es que ciertos conceptos pueden estar más estrechamente vinculados que otros en la mente de las personas. El IAT utiliza un protocolo estándar secuencial de siete conjuntos de tareas. En cada una de las

tareas, los participantes ven estímulos que deben clasificar lo más rápido posible presionando en el teclado con su mano izquierda o derecha (Tabla 1).

Tabla 1. Secuencia del Test de Asociación Implícita

Ronda	Tarea	Respuestas asignadas a la izquierda	Respuestas asignadas a la derecha
1	Prueba de discriminación de conceptos	Productos ecológicos	Productos convencionales
2	Prueba de discriminación de atributos	Atributos positivos	Atributos negativos
3	Prueba de tareas combinada	Productos ecológicos + Atributos positivos	Productos convencionales + Atributos negativos
4	Test de tareas combinada	Productos ecológicos + Atributos positivos	Productos convencionales + Atributos negativos
5	Prueba de discriminación de conceptos inversa	Productos convencionales	Productos ecológicos
6	Prueba de tareas combinadas inversa	Productos convencionales + Atributos positivos	Productos ecológicos + Atributos negativos
7	Test de tareas combinadas inverso	Productos convencionales + Atributos positivos	Productos ecológicos + Atributos negativos

Este protocolo presenta una serie de estímulos que combinan palabras e imágenes para suscitar predisposiciones latentes en los consumidores. En los distintos artículos que forman esta tesis se utilizaron diversos estímulos en función de los productos analizados. Sin embargo, en todos se utilizaron palabras para suscitar atributos e imágenes de productos con diseños diferentes para diferenciar entre productos ecológicos y convencionales.

El IAT mide la latencia de las asociaciones mentales realizadas por los individuos. Para ello, mide el tiempo que tarda cada individuo en asignar cada estímulo a una de las dos opciones de respuesta que aparece en la pantalla. Cuanto menos tiempo tarda el individuo en responder, más intensa se considera la asociación entre la opción y el estímulo. Por el contrario, cuando los individuos tardan más en asociar un estímulo con una opción de respuesta, la asociación automática o implícita se considera más débil. El razonamiento detrás del IAT es que es más fácil y rápido asociar conceptos que son consistentes con nuestra forma de pensar que hacer asociaciones con conceptos con poca coherencia.

Las puntuaciones del IAT derivan del tiempo de reacción de los participantes a la hora de categorizar el estímulo en una de las opciones de respuesta. Originalmente, el IAT contemplaba únicamente tiempos de reacción en los dos bloques 4 y 7. Greenwald *et al*. (2003) observaron que la inclusión de los bloques de práctica mejoraba significativamente los resultados. Así pues, el algoritmo moderno emplea los cuatro bloques de tareas combinadas para el cálculo de las puntuaciones. Es importante destacar que éstas son adimensionales, van de -2 a +2 y son comparables al estadístico de Cohen para medir el tamaño del efecto (Cohen, 1988). Una puntuación D positiva reflejaría una asociación más intensa entre los pares de estímulos del primer test de tareas combinadas. Una puntuación D negativa reflejaría lo contrario.

La literatura muestra que el IAT tiene una buena consistencia interna (fiabilidad de 0,70 a 0,90) (Hofmann *et al*., 2005) y validez predictiva (Greenwald *et al*., 2009) por lo que se considera un método de alta calidad psicométrica.

3.3 MUESTREO

Esta tesis doctoral no utiliza el mismo método muestral para cada una de las publicaciones, pero sí unos "comunes denominadores" que han guiado el trabajo metodológico. Estos comunes denominadores se sintetizan en tres ejes básicos:

1. Un muestreo que atienda a tamaños muestrales suficientes que:
    a. Técnicamente permitan grados de libertad para que los modelos empleados estén suficientemente identificados.
    b. Permitan una radiografía amplia de la/s población/es analizada/s.

En relación con la necesidad de contar con respuestas de sujetos elegidos aleatoriamente, no hay que olvidar que los estudios de mercado (en general) o las investigaciones sobre el consumidor (en particular) no pueden trabajar con muestras estrictamente aleatorias. Esto es porque el sesgo de autoselección siempre está presente. Es decir, invariablemente estará presente el hecho de que no se puede forzar a nadie a responder (por mucha elección aleatoria que se haga) y sólo responderán quienes estén predispuestos a colaborar (ya sea por acuerdo con el

objetivo de la investigación, por tener tiempo libre, por gustar de la temática o por una personalidad colaborativa).

En este sentido, las muestras deben tener un tamaño suficiente, pero permitiendo que sean los sujetos quienes se auto seleccionen y no que sean elegidos por el investigador.

2. Contactar con individuos realmente dispuestos a colaborar; es decir, a iniciar y finalizar el cuestionario. Esto en muestreo es realmente importante porque hemos contado con:

    a) Respuestas sin datos *missing*, que introducen problemas en muchos análisis, así como una reducción de la calidad de las bases de datos.
    b) Respuestas dentro del período asignado. Muchas veces los trabajos se alargan por la propia procrastinación de los individuos contactados.
    c) El número máximo de respuestas para el reducido presupuesto disponible en cada trabajo de campo.

3. Un muestreo que atienda a criterios de calidad (Thompson & Ramsey, 1995; Thompson, Coles & Douglas, 2002; Southgate, 2002). Especialmente, la calidad abarca tres ámbitos:

    a. Respuesta ética del encuestado. En esta tesis doctoral, cada cuestionario presentó como primera pantalla el consentimiento informado. En él se solicitó al encuestado una participación sincera, y se le resaltaba que sólo interesaba su opinión. Se ha tratado de evitar en todo momento que los encuestados se enfrentaran a los respectivos cuestionarios como si de un examen se tratara.
    b. Eliminación de los cuestionarios con *straightlining*, patrones de respuesta no naturales y un tiempo de respuesta excesivo/muy reducido (sobre todo en los trabajos de campo con el IAT como técnica de análisis). Esta política está perfectamente aceptada en los procesos de depuración de la muestra y de aceptación de respuestas en trabajos de campo en línea (Gitlin 2020; Leiner, 2019).
    c. Trabajo de campo controlado a posteriori. Cada trabajo de campo ha sido auditado conforme a la norma ISO correspondiente por la

empresa de campo[1] o por el propio doctorando, para aumentar la calidad de los casos que finalmente integraron la base de datos.

Debido a la imposibilidad de elección aleatoria de los individuos, los muestreos realizados se han basado en el cumplimiento de cuotas. Éste es un método no aleatorio, muy parecido al muestreo estratificado, que garantiza que la muestra global mantiene la representación de determinadas características clave en el estudio o en los individuos (niveles de edad, sexo, país de origen, hábitat, etc.). Este método de muestreo se ha planteado como alternativa a los muestreos aleatorios (Cumming, 1990). Aunque haya sido discutido por Yang y Banamah (2014) es una alternativa más válida que el muestreo por juicios, principalmente en los trabajos de campo en línea basados en panel (Ochoa & Porcar, 2018). Estos autores mantienen que, a la hora de recoger datos en línea, la eficiencia del muestreo aumenta cuando la empresa panel evita dirigir enlaces a los miembros inactivos y se sigue la norma ISO-26362:2009 (ISO, 2009), que cumple la empresa contactada para los trabajos de campo realizados.

Dado que se ha elegido la modalidad de tesis por compendio de publicaciones, a continuación, se exponen los detalles más relevantes del muestreo realizado para cada artículo que compone la tesis.

ARTÍCULO 1: *"Do implicit and explicit attitudes explain organic wine purchase intention?: An attitudinal segmentation approach"*

Tabla 2. Resumen de la muestra del primer artículo

Población objetivo	Españoles residentes en España.
Marco muestral	Españoles residentes en España entre 18 y 70 años.
Conglomerado/Estrato	Se estratificó a la población en función de su disposición a beber vino, evitándose la participación de quienes no bebieran bebidas alcohólicas o fueran ex alcohólicos. Para los individuos finalmente seleccionados se sabe que la población es heterogénea siguiendo variables demográficas.

[1] La empresa encargada de realizar diferentes trabajos de campo cumple con los estándares ESOMAR, MRS, ARF, MRIA, AMA, AMSRO e Insights Association, así como la ISO-20252. Para más información puede consultarse su web https://www.cint.com/quality.

Tabla 2. Resumen de la muestra del primer artículo

Muestra	N = 690.
Sesgos esperados	• Aceptabilidad social. • Autoselección • Espacial (por la localización de participantes).
Cuotas	Aunque el cuestionario se respondió en línea, se utilizaron entrevistadores que captaron potenciales encuestados. Cada entrevistador siguió cuotas de sexo, edad (18-30; 31-50 y 51-70) y geográficas (cada individuo tenía que residir en un municipio diferente).
Panel	No aplicable.
Período del trabajo de campo	Mayo 2016.
Control/Calidad	• Se rechazaron los casos en los que el control de tiempo de respuesta señaló que era demasiado bajo (respuesta automatizada) o demasiado elevado (respuesta inválida en el IAT). • A posteriori se controló la coherencia de respuestas (straighlining) y de número de accesos por IP.

ARTÍCULO 2: "*A Multifaceted Explanation of the Predisposition to Buy Organic Food*"

Tabla 3. Resumen de la muestra del segundo artículo

Población objetivo	Ingleses residentes en Reino Unido
Marco muestral	Residentes de Reino Unido entre 18 y 70 años inscritos en el panel de Cint.
Conglomerado/Estrato	Se considera que la muestra del panel es un conglomerado que mantiene las características de la población objetivo.
Muestra	• N = 300 para el producto hedónico. • N = 299 para el producto utilitario.
Sesgos esperados	• Aceptabilidad social. • Autoselección.
Cuotas	• Edad. • Sexo.
Panel	El trabajo de campo fue realizado por Cint.
Período del trabajo de campo	Septiembre 2018.

Tabla 3. Resumen de la muestra del segundo artículo

Control/Calidad	• Cint cumple con la norma ISO 20252 y los códigos aplicables de la industria de la investigación, incluidos ESOMAR y CASRO. • Adicionalmente, se ha realizado un control de tiempo de respuesta y de coherencia de respuestas.

ARTÍCULO 3: "*A New Attitudinal Integral-Model to Explain Green Purchase Intention*"

Tabla 4. Resumen de la muestra del tercer artículo

Población objetivo	Españoles residentes en España.
Marco muestral	Españoles residentes en España entre 25 y 65 años.
Conglomerado/Estrato	El estudio considera a la población como un único conglomerado.
Muestra	N = 724 individuos.
Sesgos esperados	• Aceptabilidad social. • Autoselección.
Cuotas	• Edad. • Sexo. • Área geográfica (por entrevistador cada participante debía residir en un municipio diferente).
Panel	No aplicable.
Período del trabajo de campo	Mayo 2018.
Control/Calidad	• Tiempo de respuesta • Coherencia de respuestas (*straightlining* y patrones no naturales) • Número de accesos por IP.

ARTÍCULO 4. ***"Attitudes toward organic products: a cross-national comparison and scale validation"***

Tabla 5. Resumen de la muestra del cuarto artículo

Población objetivo	Se realizó en dos etapas: **1.** Se consideran 5 países entre los existentes: Alemania, Reino Unido, España, Hong Kong, y Noruega. Los países objetivo fueron elegidos por su posición en el ranking de ventas de alimentos ecológicos: a. Dos en las posiciones relevantes (Reino Unido y Alemania). b. Dos en posiciones intermedias (España y Hong-Kong). c. Uno donde la compra ecológica sea muy reducida (Noruega). **2.** Para cada país se consideraron sólo los residentes en dicho país.
Marco muestral	Adultos de 18 años o más que fueran responsables de las compras del hogar inscritos en el panel de Cint.
Conglomerado/Estrato	Se considera que cada muestra del panel es un conglomerado que mantiene las características de la población objetivo.
Muestra	• N = 838 para Alemania. • N = 1200 para Hong Kong. • N = 840 para Noruega. • N = 1011 para España. • N = 1103 para Reino Unido.
Sesgos esperados	• Aceptabilidad social. • Autoselección.
Cuotas	• Edad • Sexo • Población (ciudad) de residencia.
Panel	El trabajo de campo fue realizado por Cint.
Período del trabajo de campo	Marzo-Septiembre 2019, según el país.
Control/Calidad	• Cint cumple con la norma ISO 20252 y los códigos aplicables de la industria de la investigación, incluidos ESOMAR y CASRO. • Además, se realizaron control de tiempo de respuesta y de coherencia de respuestas.

4 PUBLICACIONES

4.1 INTRODUCCIÓN

En este apartado se incluyen los artículos publicados que conforman la Tesis doctoral con la excepción del primer artículo, que no ha podido ser incluido completamente por motivos de *Copyright*, pues su distribución y publicación corresponde a la editorial.

En relación con el número de artículos y su contenido, es importante señalar que el proyecto ha evolucionado desde su planteamiento inicial. Durante el proceso de publicación, las revisiones ciegas a las que fueron sometidos los diferentes artículos han sido las principales fuentes de reajuste. A pesar de esto, los cuatro artículos siguen una línea de investigación que los mantiene estrechamente relacionados. Conjuntamente poseen estructura suficiente para considerarlos como la evolución académica de nuestra línea de investigación.

El compendio se compone de cuatro artículos:

En el primero se examina la relación existente entre las actitudes explícitas e implícitas y la intención de compra, utilizando el vino ecológico como producto de referencia. Se eligió este producto por la existencia de dos tipos de vino (ecológico versus convencional) como por la creciente importancia que tiene el vino ecológico y la ausencia de publicaciones sobre actitudes implícitas en el sector vitivinícola.

En el segundo artículo se examina la predisposición a comprar alimentos ecológicos, pero distinguiéndose entre alimentos ecológicos de naturaleza principalmente hedónica frente a utilitaria. Así mismo, se incluyen en el modelo planteado las componentes hedónica y utilitaria de las actitudes explícitas.

En el tercer artículo se estudia la relación existente entre las actitudes explícitas e implícitas y la intención de compra. En este caso, se incorporan al

modelo planteado otras variables actitudinales como el cinismo y el escepticismo. En esta ocasión, los productos ecológicos examinados no son alimenticios, porque la tesis persigue ofrecer un amplio abanico de productos en los que basar las conclusiones. Igualmente, se realiza una aportación muy novedosa al diferenciar entre las componentes afectiva y cognitiva de la actitud implícita. Hasta donde sabemos, sobre esta cuestión sólo había un artículo publicado el año anterior. Esto implica que nuestro enfoque es realmente novedoso y se encuentra a la vanguardia de los estudios sobre actitudes implícitas aplicadas al análisis del consumidor.

En el último artículo se analizan las propiedades formales y métricas de la escala empleada para medir las actitudes explícitas hacia los productos ecológicos. Esto se debe a que, en los sucesivos estudios realizados, encontramos que la escala para medir las actitudes explícitas hacia los productos ecológicos generaba algunos problemas de validez y fiabilidad, siendo necesario eliminar ciertos ítems para que se cumplieran los criterios de ajuste para cada modelo planteado.

4.2 DO IMPLICIT AND EXPLICIT ATTITUDES EXPLAIN ORGANIC WINE PURCHASE INTENTION? AN ATTITUDINAL SEGMENTATION APPROACH

Sarabia-Andreu, F. and Sarabia-Sánchez, F. (2018). Do implicit and explicit attitudes explain organic wine purchase intention? An attitudinal segmentation approach. *International Journal of Wine Business Research*, *30* (4), 463-480. doi: 10.1108/IJWBR-09-2017-0063.

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Do implicit and explicit attitudes explain organic wine purchase intention?

An attitudinal segmentation approach

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Abstract

Purpose The purpose of this paper is to recognise the role of implicit and explicit attitudes on organic wine purchase intention and to segment consumers using these variables.

Design/methodology/approach The authors conducted a two-part Web survey (n = 690) in Spain: an Implicit Association Test followed by a questionnaire on explicit attitudes, purchase intention and demographic data. Validity and reliability of these attitudes are contrasted using confirmatory factor analysis, attitude relationships with purchase intention using multiple linear regression analysis, and segments using k-means cluster and discriminant analyses.

Findings The authors improve the measurement of explicit attitudes explaining organic wine purchase intention. Only attitudes towards intrinsic attributes and arousal feelings significantly explain purchase intention. Two attitudinal segments are detected, one showing moderate purchase intention with high explicit attitudinal levels and high consumption of organic wine and the other showing low levels of purchase intention and explicit attitudes, consuming mainly conventional wines. Neither segment shows any relevant differences in implicit attitudes.

Practical implications The analysis offers information on attitudes that contribute to explain Spanish consumer purchase intention in a wine sector notable for focusing more on making quality products than by knowing its market.

Originality/value The authors offer deeper understanding of the influence of attitudes on organic wine purchase intention. This paper also presents an attitudinal segmentation of consumers.

Keywords Market segmentation, Wines, Attitudes, Purchase intention, Marketing research, Organic wine

Paper type Research paper

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4.3 A MULTIFACETED EXPLANATION OF THE PREDISPOSITION TO BUY ORGANIC FOOD. FOODS

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foods

MDPI

Article

A Multifaceted Explanation of the Predisposition to Buy Organic Food

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Abstract: This study explores whether implicit and explicit attitudes toward organic products explain consumers' predisposition to buy organic food, considering the hedonic and utilitarian dimensions of attitudes. The data are from an online survey, which included a section on implicit attitudes (measured using an Implicit Association Test) and a section on explicit attitudes. Two products were analyzed using 557 responses from a panel of consumers: chocolate (hedonic-oriented food) and milk (a utilitarian-oriented food). Confirmatory factor analysis and multigroup structural equations were applied to assess the proposed model. Three findings may be highlighted. First, in the model with the lowest entropy, the hedonic and utilitarian dimensions are considered to be independent. Second, different types of attitudes play different roles depending on the product. Finally, implicit attitudes influence the predisposition to buy organic food in the case of pleasure-seeking food but not utilitarian-oriented food. Thus, there is convergence between implicit and explicit attitudes for hedonic-oriented foods and divergence between such attitudes for utilitarian-oriented foods. This study's value lies in the novel use of implicit attitudes, which have generally been neglected in attitudinal models in the organic food domain.

Keywords: implicit attitudes; explicit attitudes; hedonic dimension; utilitarian dimension; organic food; implicit association test

1. Introduction

Consumers increasingly buy organic food because of its perceived superiority to conventional food [1,2]. The general opinion is that organic food is healthier, more nutritious, and more natural than conventional food. This view, along with organic food's greater perceived environmental friendliness, has led many consumers, institutions, and producers to adopt a pro-organic stance. Nevertheless, there is literature that has expressed doubts over these benefits, questioning whether organic food really is better than conventional food [3], and whether it really does have less of an impact on the environment [4]. In fact, it has been argued that food labeled as organic "does not say anything directly about the product, only about the production method" [5]. However, consumers believe that organic food is synonymous with environmental friendliness and naturalness [6], and the huge growth in demand for organic food shows that consumers perceive buying organic food as a positive choice.

Consumers' decisions to buy organic food go beyond the evaluation of purely objective and conscious criteria [7]. These decisions are instead shaped by psychological precursors. One of the most studied precursors is attitude. Many studies have addressed attitudes as a key element in the

development of behavioral intentions and subsequent buying. However, most studies have focused on only one type of attitude, namely explicit attitudes, because it is the consumers themselves who report these attitudes. It is argued [8] that attitudes lie in people's choice processes, regardless of whether they are consciously perceived, implying the existence of implicit attitudes. Besides a few recent studies [9–11], research in the food domain has paid scant attention to the role played simultaneously by implicit and explicit attitudes.

The literature also reports that attitudes are not unidimensional; they have both a hedonic dimension and a utilitarian dimension [12,13]. These two dimensions, which are intrinsic motivations that shape predispositions to buy, are fundamental to understand how consumers develop their attitudes. In food, the utilitarian dimension refers to aspects related to nutritional goodness and/or the enhancement of their organoleptic characteristics. In contrast, the hedonic dimension relates to features such as the pleasure of consumption or the search for experiences. Thus, consumers may display distinct types of attitudes toward organic foods when different attitudinal dimensions motivate their choices.

Given this background, this study explores the role of implicit and explicit attitudes toward organic food in explaining the predisposition to buy organic food, considering the hedonic and utilitarian dimensions. This paper has four further sections. The following section offers an overview of attitudes (differentiating between implicit and explicit attitudes) and their hedonic and utilitarian dimensions. Hypotheses are also proposed. The next section then outlines the method (measurement instruments and data collection). The penultimate section presents the quantitative results, including validation of the model and hypothesis testing. The paper concludes with a discussion of the findings, limitations, and recommendations arising from the study.

2. Literature Review

2.1. General Background

2.1.1. Attitudes: Definition, Types, and Model

Attitudes are fundamental precursors of behavior and are crucial to understand the decision and change processes in which personal and social aspects play relevant roles. An attitude can be defined as a natural predisposition or tendency of individuals toward some issue, object, person, or action, which expresses a predilection or dislike toward what is perceived. Eagly and Chaiken define attitude as "an individual's propensity to evaluate a particular entity with some degree of favorability or unfavorability" [14], Ajzen and Fishbein [15] note that there are two types of attitudes. The first type refers to attitudes toward issues or objects (e.g., organic food) as overall cognitive and emotional interpretations of stimuli. These attitudes tend to be passive, and they largely define the perceptions that individuals have. They can be conscious or unconscious evaluative judgments that are built on any information individuals receive and that determine favorable, unfavorable, or ambivalent opinions.

The second type refers to active attitudes because they are focused not only on a particular phenomenon or object but also on a specific behavior with respect to that issue (e.g., buying organic food). These attitudes are evaluative predispositions that are activated when consumers must choose from the different types of products available. Whereas some choices follow deliberative processes, others follow automatic or impulsive processes.

Both types of attitudes are considered stable predispositions of consumers [16]. They can also be viewed as the result of a subjective comparison of the perceived value of an offering, and it represents a certain buyer's preference for a particular type of product [17]. Although, from a constructivist perspective, evaluative predispositions are not stored in the mind, studies have shown that attitudes are an efficient strategy for organizing knowledge and making evaluative judgments [18].

The consumer behavior literature highlights three prominent approaches to understanding and measuring attitudes: the multi-attribute model, the affective-cognitive-behavioral (ABC) model, and the Motivation and Opportunity as DEterminants (MODE) model. The multi-attribute model depicts

attitudes as consisting of smaller components such as individual object features, functions, or perceived benefits. The ABC model describes attitudes as having affective, cognitive, and behavioral components. Finally, the MODE model [19] considers implicit and explicit attitudes. In the MODE model, implicit attitudes refer to automatic evaluative reactions, whereas explicit attitudes are those that operate on a conscious level. The MODE model is chosen for this study because it includes consideration of implicit attitudes, which is often excluded in other attitudinal models, and bridges a gap in the food literature.

2.1.2. Explicit and Implicit Attitudes

Most psychological theories consider attitudes as a key element to explain who, how, when, where, and/or why individuals behave as they do. Some of these theories only use explicit attitudes, which are formed following a deliberate thinking process and are consciously acknowledged as rational by the individual [15]. However, the existence of a dissonance between actual behavior and declared attitudes may be partly explained by the existence of other attitudes that occur at an unconscious level [8] or that do not emerge because they are deliberately repressed by social conventions [20]. These attitudes, called implicit attitudes, are defined as evaluations of attitudinal objects that are of unknown origin, that are formed using experiences, that are activated automatically, and that influence involuntary responses by individuals [8]. These attitudes are stable and knowable [21].

These two types of attitudes seem to respond to different brain activity. More specifically, the dorsolateral prefrontal cortex is involved in the regulation of implicit attitudes, the amygdala is implicated in the automatic assessment of social stimuli, the prefrontal cortex plays a prominent role in the regulation of explicit attitudes, and, in cases of conflict, specific areas related to the cognitive control of the prefrontal cortex are activated [22]. From a psychologic perspective, explicit attitudes are more closely involved in generating controlled and deliberate evaluations, whereas implicit attitudes are more involved in the processing of automatic and spontaneous events [23]. However, the two processes need not be exclusive: When the brain receives a stimulus, it responds by first activating automatic responses and then providing conscious cognitive responses [24]. In short, individuals tend to process stimuli explicitly, but the information that is received also generates implicit attitudes through unconscious or preconscious associations [25,26].

In relation to food, implicit attitudes are associated with spontaneous behaviors such as buying healthy food [27], explicit attitudes predominate in deliberative behavior [9,28,29], and both play relevant roles in various types of decisions [30,31]. In conclusion, both attitudes are important, although explicit attitudes have a greater influence when consumers show greater self-control motivation, and implicit attitudes predominate in situations of impulsive consumption or low self- control motivation [32]. Since the works of Nobel Prize winner Daniel Kahneman, it has been accepted that there is an automatic (implicit) system of action and another mediated and deliberative (and therefore explicit) system, and these two systems interact in a dual process [33].

2.1.3. Utilitarian and Hedonic Dimensions of Attitudes

Traditionally, the study of attitudes focused on only one dimension [13]. In other words, attitude was interpreted as a continuum with two extremes. However, the theoretical development of the hedonic and utilitarian dimensions in various areas of knowledge changed the way attitudes are understood. Thus, the comprehension of attitudes has evolved from a one-dimensional concept toward a more complex concept [34,35] based on a two-dimensional approach.

Differentiating between the hedonic and utilitarian dimensions of attitudes helps explain consumers' food preferences and patterns in consumers' buying decisions [36,37]. Although these dimensions underpin attitudes, the most prevalent dimension depends on the type of food. For example, the utilitarian dimension is prevalent when rational, objective, and sensible criteria are the main buying drivers. Thus, the choice of utilitarian-oriented food depends on fulfilling a practical purpose and achieving an instrumental goal [38]. With some foods, the utilitarian dimension dominates because the relevant attributes for consumers (nutritional value, calorie content, etc.) mean that the choice

is aimed at meeting useful objectives (sticking to a diet, losing weight, etc.). Meanwhile, food has a prevalent hedonic dimension when aspects related to pleasure-seeking and other affective reasons are predominant in consumer choices. Accordingly, hedonic-oriented food choices are oriented toward sensory experiences [34,38]. For example, with indulgent desserts such as cakes, sensory features (taste, smell, texture, etc.), which are manifestations of the hedonic dimension of attitudes, may dominate when the consumer's goal is to feel emotions and pleasure.

Of course, this hedonic versus utilitarian distinction is not exclusive. In certain buying scenarios, products, and decision processes, hedonic and utilitarian dimensions or motives combine [13,39,40]. For example, when buying salt, utilitarian aspects (e.g., preserving and seasoning food) can be combined with hedonic and/or affective aspects (e.g., evocations of place of origin and/or religious norms) that lead consumers to consider different types of salt (e.g., Himalayan pink salt or kosher salt).

2.2. *Research Model and Hypothesis Development*

The aim of this study is to explore and test whether the aforementioned attitudes can explain consumers' predisposition to buy organic food, considering the hedonic and utilitarian dimensions of attitudes. Figure 1 shows the overall conceptual model used in this study.

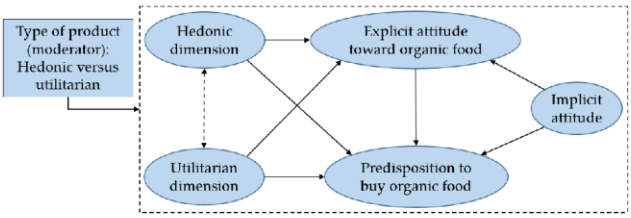

Figure 1. Conceptual model.

This model can be divided into two sub-models. Model 1 (presented in Figure 1 using solid arrows only) depicts a moderated model of implicit and explicit attitudes, where the hedonic and utilitarian dimensions are independent of one another. It is also possible to consider a second model (Model 2, presented in Figure 1 using the dotted arrow), which includes the possible mutual influence between these attitudinal dimensions.

In relation to these utilitarian and hedonic components of attitudes, the literature is inconclusive. Although most research has shown that these two attitudinal dimensions are independent of one another [41,42], Dhar and Wertenbroch [38] report that utilitarian components are preferential in buying decisions, and Voss et al. [13] note that the two dimensions are mutually related. Other scholars refer to a hierarchy between the two components. For example, Lee and Goudeau [43] affirm that the utilitarian dimension dominates the hedonic dimension when buying organic food, although other researchers [44–46] report that food choice is driven by emotional mechanisms and is based on hedonic motives such as pleasure and sensory gratification. Nevertheless, Nasir and Karakaya [47] note that the hedonic dimension of consumer attitudes plays a key role in determining the intention to buy organic food.

Regarding organic foods, Nasir and Karakaya [47], and Lee and Yun [48] report that the utilitarian and hedonic dimensions have a significant impact on consumers' intentions to buy organic food. However, the possible moderating effect of different product categories has been overlooked in the literature. Moreover, the literature has not examined how perceptions differ between people who tend to buy organic food when considering the hedonic versus utilitarian dimensions of attitudes [48]. Based on these considerations, the following hypothesis may be proposed:

Hypothesis 1 (H1). *The mutual independence between the utilitarian and hedonic dimensions of attitudes contributes to a better explanation of the predisposition to buy organic food.*

The literature highlights the importance of differentiating between products according to their hedonic or utilitarian nature [49–51]. This hedonic or utilitarian nature stems from consumer motivations in relation to the goals that consumers hope to achieve by buying a certain product. More specifically, hedonic-oriented food choices are primarily motivated by consumer experiences and emotional rewards (pleasure, fun, fantasy, etc.). In contrast, utilitarian-oriented food choices are more strongly rooted in rational motivations [52,53] such as nutrition or the pursuit of a rational goal.

Many food choices are shaped by emotional and hedonic aspects rather than rational motivations and functional needs. However, certain foods that are primarily consumed for their utility (e.g., bread and vegetables) may also be subject to emotional motivations. Thus, for some products, the distinction is not exclusive because they might involve a mixture of hedonic and utilitarian aspects [13,39,40], even if one of the two motivational orientations tends to dominate the other when buying the product.

There is extensive research on the motivations that lead to the predominantly hedonic orientation of organic food [47] given its mixture of related aspects such as health, environmental friendliness, and ethics [54]. However, much of the information that consumers receive (from websites, forums, magazines, etc.) stresses the superior attributes of organic food with respect to conventional food. Similarly, in the minds of consumers, there is also a clear difference between food that is oriented toward rational motivations and food that is oriented toward hedonic motivations [55–57]. Based on these considerations, the following hypothesis may be proposed:

Hypothesis 2 (H2). *The type of food (hedonic-oriented or utilitarian-oriented) influences the importance of each type of attitude and attitudinal dimension in explaining the predisposition to buy organic food.*

Figure 1 shows that both implicit and explicit attitudes are precursors to buying. Some scholars note the priority of implicit attitudes over explicit ones [58], although this relationship is still being studied [9] because of the complex attitudinal framework. There is also a broad consensus that implicit and explicit attitudes have a joint influence on behavioral response [32,59,60] and that they compete for the control of individuals' responses [61]. Thus, implicit attitudes may dominate food choices when individuals make intuitive, automatic choices in impulse buying situations [27] or in situations with restricted cognitive resources [62], whereas explicit attitudes may prevail over implicit ones in, for example, situations of high self-control [32] or situations where choices are binary [9]. In relation to the influence of implicit over explicit attitudes, most of the literature tends to affirm that the two coexist or interact with one other [9] but does not clearly show the priority of implicit over explicit attitudes. However, in this study, this priority is assumed based on the MODE attitudinal model [19], and implicit attitudes are considered predictors of explicit attitudes [27,58].

In the model shown in Figure 1, the utilitarian and hedonic dimensions only influence explicit attitudes (toward organic food or toward buying organic food) because both are established on a stated, conscious level. Based on these considerations, the following hypothesis may be proposed:

Hypothesis 3 (H3). *For each type of food (hedonic-oriented or utilitarian-oriented) the different types and components of attitudes vary in importance.*

3. Method

3.1. Participants, Fieldwork, and Data Collection

The target population comprised residents of the United Kingdom aged between 18 and 70 years. Participants were contacted in September 2018 through the consumer panel specialist company Cint, using computer-assisted web interviewing. The researchers had no opportunity to contact the participants because Cint handled the whole process.

Non-random sampling was used. To minimize the usual biases associated with this type of sample, three actions were taken. First, respondents were spread over several cities and areas in the United Kingdom, thereby avoiding sample concentration. Second, the sample was balanced [63] by age and gender. Finally, the fieldwork was controlled [64] during its execution, following the standards established by Cint and the specific instructions given by the authors.

To validate the instruments and perform explanatory analysis of the proposed model, the minimum sample size was set to 10 individuals for each item in the measurement instruments. Thus, the sample size n was set to 280 ($10 \times 28 = 280$) and was raised to 300 to comply with the limit imposed after the debugging process.

Each potential participant received an invitation via e-mail. This invitation included a brief description of the study, its phases, and the objective pursued. This fieldwork was performed in two phases:

- Phase 1: Product: Chocolate. Period of fieldwork = 1 week. Effective responses = 300. Implicit Association Test (IAT) and questionnaire with images and text focused on this specific product.
- Phase 2: Product: Milk. Period of fieldwork = 5 days. Effective responses = 299. IAT and questionnaire with images and references focused on this product.

Cint was instructed that one respondent could only participate in one of the two phases, not both. After all responses had been received, a debugging process was performed in two steps:

- Eleven cases were eliminated because of repeated IP addresses. The IP address was unique for each router and session during the fieldwork. Although this elimination rule might have prevented well-intentioned respondents from participating, it also reduced the possibility of receiving several responses from the same person. The survey software automatically deleted the 11 cases without the researchers' access to the IP information.
- Thirty-one cases were discarded because of straightlining, which was used as an indicator of poor-quality responses [65].

3.2. *Instruments*

The Appendix A at the end of the document shows the items of all the instruments used in the study, as well as the acronyms assigned to the instruments and their respective items.

3.2.1. Implicit Attitudes (IA)

The IAT, which was originally proposed by Greenwald et al. [66], was used to measure implicit attitudes. This technique reveals the unconscious preferences of subjects through associations between different concepts. The underlying idea is that certain concepts might be more closely linked than others in consumers' minds. The IAT uses a sequential standard protocol of seven sets of tasks. In each task, participants see stimuli that they must classify as quickly as possible by pressing on the keyboard with their left or right hand (see Table 1).

Table 1. Sequence of implicit association test tasks used.

Rounds	Tasks	Left-Assigned Answers	Right-Assigned Answers
1	Trial of concept discrimination	Organic food	Conventional food
2	Trial of attribute discrimination	Positive	Negative
3	Trial of combined tasks	Organic food + Positive	Conventional food + Negative
4	Test of combined tasks	Organic food + Positive	Organic food + Negative
5	Trial of reversed concept discrimination	Conventional food	Organic food
6	Trial of reversed combined tasks	Conventional food + Positive	Organic food + Negative
7	Test of reversed combined tasks	Conventional food + Positive	Organic food + Negative

This protocol presents a series of stimuli that combine words and images to elicit latent predispositions in consumers. In this study, the following stimuli were used:

- Words to describe "positive" concepts (items: better, fantastic, beneficial, good, pleasant, and healthy) and "negative" concepts (items: worse, horrible, harmful, bad, unpleasant, and unhealthy).
- Images of the products with different designs to differentiate between organic and conventional products.

The IAT measures the latency of the mental associations made by individuals. To do so, it measures the time it takes for each individual to assign one of the two opposite options in response to each stimulus that appears on the screen. The less time the individual takes to respond, the more automatic (and therefore the stronger) the association between the option and the stimulus is deemed to be. On the contrary, when individuals take longer to associate a stimulus with a response option, cognitive reasoning is considered to be greater, and the automatic or implicit association is deemed to be weaker. The rationale behind the IAT is that it is easier and faster to associate concepts that are consistent with one's way of thinking than to make associations with concepts with little coherence.

IAT scores are derived from the differences between the mean time between exposure to the stimulus and participants' responses. These scores are dimensionless and range from −2 to +2. They are comparable to Cohen's d statistic to measure effect size [67]. In this study, the D measure was applied [68], which was used for both the improved IAT and the subsequent Brief-IAT [69,70]. A positive D-score reflected an association between organic foods and positive attributes and between conventional products and negative attributes. A negative D-score reflected the opposite. IATs have been used to study attitudes as precursors to the choice of organic food [71], the halo effect of organic food [72], and attitudinal responses of consumers to organic wine [73], among other phenomena.

The literature shows that the IAT has good internal consistency (reliability of 0.70 to 0.90) [74] and predictive validity [75,76], offering a method with very high psychometric quality [77]. In the field of food, Richetin et al. [71] showed that it has predictive validity in the case of the choice of fruit versus snacks.

The IAT method is robust to the priming effect. For example, Degner [78] found that instructions prior to consumer responses can modify (increase or decrease) the possible priming effect, and Brunel et al. [79] showed that IATs are not related to explicit reasoning. Moreover, Bruni et al. [80] reported their robustness to framing effects and stimuli valence.

In relation to the order effect produced by the fixed position of the tasks (blocks), those performed first tend to interfere with subsequent tasks [66,70]. This order effect exists, and efforts have been made

to eliminate it [69,70]. In the present study, the software used to capture the online responses could not eliminate this effect. However, the phenomenon under analysis was of low emotional risk and did not involve placing individuals in situations of deep personal prejudice. Furthermore, it was considered that this effect tends to be small, both in general [81] and when individuals have little information [82], as is the case with organic products. Therefore, it was concluded that the order effect in this study would tend to be quite small.

3.2.2. Hedonic and Utilitarian Dimensions of Attitudes (HED, UTI)

Attitudes reflect the reasons that lead consumers to use products or services. Consumers search for gratification through affective and hedonic aspects while seeking utility for reasons of use [12]. Based on this premise, Voss et al. [13] developed an instrument to measure the hedonic and utilitarian dimensions of consumer attitude. Their proposal consists of 10 statements with a 7-point semantic differential format, where each attitudinal component (utilitarian and hedonic) has five items. In their original article, Voss et al. [13] reported a composite reliability of 0.92 for both attitudinal dimensions and reported multiple forms of validity. This measure, which was used for this study, has subsequently been shown to have high indicators of reliability and validity [83,84].

For the utilitarian dimension, the items that were used were as follows: (UTI1) Effective/Ineffective, (UTI2) Helpful/Unhelpful, (UTI3) Functional/Not functional, (UTI4) Necessary/Unnecessary, and (UTI5) Practical/Impractical.

For the hedonic dimension, the items that were used were as follows: (HED1) Not fun/Fun, (HED2) Dull/Exciting, (HED3) Not delightful/Delightful, (HED4) Not thrilling/Thrilling, and (HED5) Enjoyable/Unenjoyable.

3.2.3. Explicit Attitudes toward Organic Food (PRO)

In the area of organic food, very diverse measurements have been developed yet not applied beyond their use in seminal articles. The instrument developed by Gil et al. [85] is one of the few that has been widely used, although with disparate results. These authors developed a scale with nine items scored on a 7-point scale ranging from 1 (totally disagree) to 7 (totally agree). Several studies [86,87] have reported its reliability (Cronbach's alpha > 0.85) and convergent and discriminant validity. This measurement is only focused on organic food, and it does not introduce any comparison with conventional food. The items that were used were as follows: (PRO1) organic products (OP) are healthier, (PRO2) OP are higher quality, (PRO3) OP are a fraud, (PRO4) OP are tastier, (PRO5) OP are worse than conventional food, (PRO6) OP are more expensive, (PRO7) OP are more attractive, (PRO8) OP have no harmful effects, and (PRO9) OP are in fashion.

3.2.4. Predisposition to Buy Organic Food (PRE)

Bravo et al. [88] measured attitudes toward buying organic food as the perceived importance of this type of product. However, when consumers buy food, they choose between the conventional and organic products that are available. This choice is derived from a comparison between the perceived benefits and harms of buying organic products. Therefore, to measure this predisposition, the question raised in the questionnaire was "Buying organic products instead of conventional products is?" Items consisted of eight statements drawn from the proposals of Thøgersen et al. [1] and Berndsen and Van der Pligt [89], presented on 7-point semantic differential scales. Therefore, the instrument forced respondents to give a comparative response. The items that were used were as follows: (PRE1) Harmful/Beneficial, (PRE2) Foolish/Wise, (PRE3) Bad/Good, (PRE4) Unpleasant/Pleasant, (PRE5) Against/For, (PRE6) Unfavorable/Favorable, (PRE7) Negative/Positive, and (PRE8) Unattractive/Attractive.

3.3. Procedure

3.3.1. Questionnaire

The online questionnaire had three parts. The first part collected respondents' informed consent. The only respondents who proceeded to the second part were those who agreed to respond. They also stated that they had no visual problems that might prevent them from quickly seeing the stimuli on the screen or motor diseases such as a hand tremor preventing response to the subsequent IAT. The absence of mobility impairment in hands is essential so that the speed of response reflects the intensity of the association between stimuli and words or images and not the difficulty of physically responding.

The second part consisted of the IAT. The third part consisted of questions on the variables of interest (see Section 3.2). Respondents were informed that they could only respond from a desktop computer. Other terminals (smartphones or tablets) were not allowed because their use might have led to a high number of errors. The digital keys on these devices are so small that delays in response might have occurred because of unintentional movement of fingers on the screen and not because of the actual speed of response.

3.3.2. Products

Two questionnaires with the same instruments were developed for two products: a hedonic-oriented food and a utilitarian-oriented food. Individuals were randomly assigned to one of the two questionnaires. The criteria for deciding which products to consider were foods that (a) had organic and conventional alternatives, (b) would meet different consumption needs, (c) would be well known and easily identified by consumers, (d) would be bought frequently, and (e) would be discriminatory in relation to their usefulness and pleasure-seeking. Accordingly, chocolate was used as a hedonic-oriented food with predominantly pleasure-seeking motivations [52,55], and milk was used as a utilitarian-oriented food because the consumption motivation is nutrition based, and it is part of the basic shopping basket [56,90].

Figure 2 provides an example of the stimuli used for each product, differentiating between conventional and organic food. The twelve images used in the IAT were fictional and were developed exclusively for this study.

Figure 2. Examples of products designed for the Implicit Association Test.

A total of 271 respondents completed the hedonic-oriented food questionnaire, whereas 286 respondents completed the utilitarian-oriented food questionnaire.

3.4. Quantitative Methods and Software Used

The IAT was used as the method to measure implicit attitudes. The scores of the IAT were calculated using Greenwald et al.'s improved algorithm [68], and the software developed by Mason et al. [91] was employed to capture online responses.

To check the robustness of the instruments, a confirmatory factor analysis (CFA) was applied, which provides information to calculate the composite reliability (more robust than Cronbach's alpha) and the convergent and discriminant validities. CFA is a method that is universally used to check whether the items of instruments load on their respective constructs. These constructs are usually obtained previously by means of an exploratory factor analysis or from the analysis of the literature.

Multigroup analysis was applied to check whether the proposed attitudinal model works in the same way for the two types of products, or if the parameters of each specified model do not differ from each other. This statistical technique is a method for testing the differences between the groups, since it forces the measurement and structural coefficients in the two groups to be equal [92]. Regarding the multigroup analysis with moderation, EQS software version 6.1 was used [92].

4. Results

4.1. Validation of Model Assumptions

This section describes the validation of the instruments that were used, as well as validation of whether consumers perceived the chosen products (milk and chocolate) as different in terms of their utilitarian and hedonic dimensions.

4.1.1. Validation of Instruments

First, principal component analysis is applied to all items of the instruments for the overall sample. This analysis enables description of the latent variables (constructs) and offers clues about their structure. Despite a solution with high values in key statistics (Kaiser-Meyer-Olkin test = 0.92, Bartlett's sphericity test = 11,578.05, degrees of freedom (df) = 351, probability (p) < 0.00), some measures of sample adequacy (MSA) are lower than 0.60. Moreover, the results show that the items of the "attitude toward organic food" construct (denoted as PRO) form three components, which implies a lack of unidimensionality. The MSA scores for items PRO5 and PRO6 are less than 0.60, so they are excluded from further analyses.

Second, because all multi-item constructs are reflective, confirmatory factor analysis (CFA) is conducted to validate the instruments for the overall sample. This analysis excludes implicit attitudes, which is calculated using the D-scores described earlier. The solution has a high goodness of fit but lacks validity for some instruments. The robust Satorra–Bentler estimation method is used given the absence of multivariate normality (Mardia's test = 287.71 > 3): Satorra–Bentler scaled chi- square (SBSCS) = 883.95 (df = 269, p < 0.001), normed chi-square (NCS) = 3.28, Bentler–Bonett non- normed fit index (BBNNFI) = 0.91, comparative fit index (CFI) = 0.93, root mean square error of approximation (RMSEA) = 0.06, 90% confidence interval of RMSEA [0.06, 0.07]. However, the factor loadings (λ) of three items (PRO3, PRO8, and PRO9) are not acceptable due to $\lambda < 0.70$. After these items had been eliminated, the solution fit improved slightly: SBSCS = 708.76 (df = 203, p < 0.001), NCS = 3.49, BBNNFI = 0.92, CFI = 0.94, RMSEA = 0.07, 90% confidence interval of RMSEA [0.06, 0.07].

In this new solution, convergent and discriminant validities of the instruments are confirmed. Convergent validity is verified because all standardized factor loadings (λ) are greater than 0.60 and significant (p < 0.001), as shown in the Appendix A. Discriminant validity is verified because all values of the average variance extracted (AVE) are higher than 0.50 [93]. The confidence intervals of the Pearson's correlations between the instruments are used to verify discriminant validity. No interval contains a correlation equal to 1 [94,95]. The values obtained for each comparison are shown in Table 2.

Table 2. Discriminant validity of instruments.

Factors	Cov.	SE	CI of Corr.
UTI—HED	0.24	0.04	0.15, 0.33
UTI—PRO	0.18	0.05	0.09, 0.27
UTI—PRE	0.22	0.04	0.14, 0.31
HED—PRO	0.30	0.04	0.22, 0.38
HED—PRE	0.31	0.04	0.23, 0.39
PRO—PRE	0.83	0.02	0.80, 0.86

Cov. = covariance; CI = confidence interval; Corr. = correlation; SE = standard error; UTI = utilitarian attitude; HED = hedonic attitude; PRO = attitudes toward organic food; PRE = predisposition to buy organic food.

4.1.2. Validation of Differences between Chosen Products

To test whether the consumers really perceived milk as a utilitarian-oriented food and chocolate as a hedonic-oriented food, two analyses were carried out using *t* tests and Cohen's d indicator. First, milk and chocolate were compared to observe whether they differed in their scores. Table 3 shows the results. Regarding the hedonic dimension, chocolate has a significantly higher score than milk ($Mean_{chocolate}$ = 5.88, $Mean_{milk}$ = 4.79, t = 11.24, p = 0.00, Cohen's d = 0.95). In contrast, in relation to the utilitarian dimension, milk has a significantly higher score ($Mean_{chocolate}$ = 4.94, $Mean_{milk}$ = 5.91, t = −10.17, p = 0.00, Cohen's d = 0.85).

Table 3. Validation of the differences between products and dimensions.

Dimension	Mean (SD)		*t* Test				Cohen's *d*
	Milk	Chocolate		*t* Value	df	*p*	
Hedonic	4.79 (1.29)	5.88 (0.98)	Hedonic (Milk–Chocolate)	11.24 [a]	529.86	0.00	0.95
			Utilitarian (Milk–Chocolate)	−10.17 [a]	555	0.00	0.85
Utilitarian	5.91 (1.07)	4.94 (1.20)	Milk (hedonic–utilitarian)	−16.15 [b]	285	0.00	0.95
			Chocolate (hedonic–utilitarian)	14.20 [b]	270	0.00	0.86

SD = standard deviation; t = *t* test; CI = confidence interval; Corr. = correlation; F = ANOVA test; HED = Hedonic; UTI = Utilitarian; df = degrees of freedom; p = probability. Cohen's d > 0.8 denotes a large effect, a = *t* test for independent samples, b = *t* test for related samples.

Because the products were shown to have a defined orientation, tests were also conducted to observe whether consumers perceived each product as inherently utilitarian or hedonic. As expected, the two products have significant differences: For chocolate: $Mean_{hedonic}$ = 5.88, $Mean_{utilitarian}$ = 4.94, t = 14.20, p = 0.00, Cohen's d = 0.86; for milk: $Mean_{hedonic}$ = 4.79, $Mean_{utilitarian}$ = 5.91, t = −16.15, p = 0.00, Cohen's d = 0.95.

4.2. Descriptive Analyses

4.2.1. Participants

In total, 605 consumers were asked to participate, but 557 valid responses were retained (92.07%). In the valid sample, 48.7% were men, and the average age was 40.9 (standard deviation = 12.74, skewness = 0.13, kurtosis = −0.91). Regarding educational level, 40.4% had compulsory secondary education, 21% had post-16 education, and 38.6% had university studies.

4.2.2. Variables: Values and Distributions of Variables

After the psychometric properties of the instruments had been tested, descriptive statistics for the variables were calculated (Table 4). Implicit attitudes follow a normal distribution

(Kolmogorov–Smirnov's test = 0.02, df = 557, $p = 0.20$), although it is slightly biased toward high values. Accordingly, 48.8% of the sample associates organic food with positive attributes and conventional products with negative attributes, 21.8% does not express a specific association, and 29.4% associates conventional products with positive attributes and organic food with negative attributes. This bias in associating organic food with positive attributes is especially high (D > 0.65) for 13.5% of the sample, whereas only 7.2% strongly associates conventional products with positive attributes.

Table 4. Descriptive statistics.

Variables	Range	Mean (SD)	Skewness
IA	−2, +2	0.11 (0.50)	−0.18
HED	1–7	Global: 5.32 (1.27) Chocolate: 5.88 (0.98) Milk: 4.79 (1.29)	−0.75
UTI	1–7	Global: 5.44 (1.23) Chocolate: 4.94 (1.20) Milk: 5.91 (1.07)	−0.61
PRO	1–7	4.49 (1.43)	−0.41
PRE	1–7	5.11 (1.22)	−0.23

IA = implicit attitudes; HED = hedonic dimension; UTI = utilitarian dimension; PRO = attitudes toward organic food; PRE = predisposition to buy organic food.

The hedonic and utilitarian dimensions of attitudes have high average values, although they differ by type of product. Milk has higher values for the utilitarian dimension, and chocolate has higher values for the hedonic dimension, as expected. The respondents also report high values in general when expressing choices, which is indicative of the respondents' strong attitudes toward organic food.

4.3. Hypothesis Testing

To test the first hypothesis (H1), it was necessary to check which model simultaneously had a better fit and was more parsimonious. Therefore, multigroup structural equation analysis was performed. The models shown in Figure 1 were run depending on whether the attitudinal dimensions were taken as independent or as having a mutual influence. Table 5 shows the results.

Table 5. Goodness of fit and entropy criterion for the hypothesized models.

Indicators	Independence (Model 1)	Dependence (Model 2)
Satorra–Bentler's scaled chi-square (SBSCS)	1041.433, df = 446, $p = 0.00$	1032.65, df = 444, $p = 0.00$
Normed chi-square (NCS)	2.33	2.33
Comparative fit index (CFI)	0.93	0.93
Root mean square error of approximation (RMSEA)	0.07	0.07
Confidence interval of RMSEA	0.06–0.08	0.06–0.07

These results show that both models have adequate levels of fit because all indicators meet the recommended values suggested in the literature [93]. The most parsimonious model was chosen. Neither the Bayesian Information Criterion (BIC) (the restricted model is nested in the unrestricted one) nor Akaike's Information Criterion (AIC) (both models have the same latent variables and structure) could be used. In this study, the likelihood ratio criterion of the normed chi-square (NCS) based on the Satorra-Bentler Scaled Chi-square (SBSCS) was used because there was no multivariate normality. However, both models had the same NCS ratio (see Table 5). Therefore, we followed Bentler's criterion, according to which, "simpler models are desired for reasons of parsimony" [92]. Consequently, the best solution was to consider that the hedonic and utilitarian dimensions were mutually independent.

To test the second hypothesis (H2), it was necessary to consider the loading coefficients in the two construct equations (one for chocolate as a hedonic-oriented food and one for milk as a utilitarian-oriented food). Each construct equation represents the construct pattern for one specific product type. Equality between the construct equations implies that the latent pattern is the same (they are from the same population). To check H2, two methods were applied. The first method was based on the chi-square difference between the non-constrained and constrained models. Here, ΔChi-squared = 33.01, with df = 14 ($p = 0.00$). Thus, it may be concluded that the restrictions lead to a worsening in the fit of the model. The second method was to apply a *t* test to calculate the significance of the difference for each pair of construct loadings [96]. Table 6 shows the coefficients (loadings) of each variable in the two samples, along with the robust standard errors (in parentheses).

Table 6. Equivalence of the construct coefficients.

Dependent Variable: Predisposition to Buy		Product		*t* Test		
		Chocolate *	Milk *	*t* Value	df	*p*
Independent variables	Implicit attitudes	0.26 (0.08)	0.14 (0.08)	1.06	551	0.14
	Utilitarian dimension	−0.10 (0.06)	0.11 (0.05)	2.58	551	0.01
	Hedonic dimension	0.25 (0.06)	−0.01 (0.04)	3.60	551	0.00
	Attitudes toward organic food	0.65 (0.05)	0.54 (0.04)	1.71	551	0.04

* coefficient (robust standard error).

Accordingly, H2 may be accepted (the two construct equations respond to different construct patterns) because the restrictions introduced significantly worsen the model fit, and the differences affect most of the model constructs.

To validate Hypothesis 3 (H3), the standardized coefficients of each equation were analyzed because they enabled comparison within the same equation. Table 7 shows this standardized solution. The following findings were observed:

- For chocolate, implicit attitudes (IA), the hedonic dimension of attitudes (HED), and explicit attitudes toward organic food (PRO) are significant, explaining a very high percentage of the predisposition to buy organic food ($R^2 = 0.84$). An increase of 1 unit in PRO implies an increase of 0.85 units in PRE, keeping the rest of the variables constant. Among the independent variables, PRO makes the greatest contribution, almost seven times greater than the contribution of IA and almost four times greater than the contribution of the HED.
- For milk, the utilitarian dimension is significant, but the hedonic dimension is not, as reported in the literature [56]. Explicit attitudes toward organic food significantly influence the predisposition to buy organic food. Contrary to the results obtained for chocolate, implicit attitudes are non-significant for the predisposition toward organic food. Here, the explanatory capacity for this product is weaker ($R^2 = 0.65$), although it is still high. PRO makes the greatest contribution (the increase of 1 unit in PRO implies an increase of 0.78 units in PRE), more than seven times greater than the contribution of the utilitarian dimension of attitudes (UTI). The coefficient of determination is 65.4%. This value is high considering that the equation has only two significant variables. However, 34.6% of the total variance is due to other factors, which is more than half of the value in the case of chocolate (15% of the variance is not explained).

In conclusion, H3 may be accepted because each type and attitudinal component has a different relative importance according to the type of food (hedonic-oriented or utilitarian-oriented).

Table 7. Standardized solution.

Dependent Variable: Predisposition to Buy		Product	
		Chocolate *	Milk *
Independent variables	Implicit attitudes	0.13 *	0.07
	Utilitarian dimension	−0.09	0.11 *
	Hedonic dimension	0.23 *	−0.01
	Attitudes toward organic food	0.85 *	0.78 *
	R^2	0.84	0.65

* $p < 0.01$.

5. Discussion and Implications

This paper explores the influence of implicit and explicit attitudes and the role of the hedonic and utilitarian dimensions on the predisposition to buy organic food. Multigroup structural equation models were run to analyze two independent samples referring to two types of products: chocolate (a hedonic product) and milk (a utilitarian product).

Regarding attitudinal dimensions and the different nature of products, as expected, the influence of each attitudinal dimension varies significantly depending on the nature of the product. For chocolate, the hedonic dimension significantly influences the predisposition to buy organic food. In contrast, for milk, the utilitarian dimension has a significant influence. This finding is consistent with Baltas et al. [55] and Parker et al. [57], who maintain that the utilitarian dimension is not significant for products associated with enjoyment and pleasure, and by Maehle et al. [56] who point out that the utilitarian dimension—not the hedonic one—is significant for utilitarian-oriented foods.

In relation to these attitudinal dimensions, the literature shows that the hedonic and utilitarian dimensions are crucial in the configuration of consumers' attitudes. This study shows that, at the attitudinal level, both dimensions seem to be independent of one another, so the possible transfer between utility and emotion in consumer evaluations is not considered relevant. This finding is in line with those of Avcilar and Özsoy [41] and Nystrand and Olsen [42] and does not confirm what is reported by Lee and Goudeau [43] and Nasir and Karakaya [47].

With regard to explicit and implicit attitudes, although it has been argued that implicit processes also influence the buying of food [97], the present results reveal two different scenarios: convergence between explicit and implicit attitudes when hedonic-oriented food is under consideration, and divergence in the case of utilitarian-oriented food. Thus, for chocolate (hedonic-oriented food) both types of attitudes influence the predisposition to buy organic food, but they do not do so in the case of milk (utilitarian-oriented food). This scenario of convergence or divergence between the two types of attitudes may be due to a lack of "associative coherence." In other words, implicit attitudes significantly influence hedonic-oriented foods as they connect better with the attributes of the food. Therefore, with this type of product, cognitive effort is not required to process information. Instead, associations emerge automatically. On the contrary, when dealing with the utilitarian-oriented food (milk), the cognitive elaboration requires attention and reflection. In this case, there is no coherence between the implicit associations and the nature of the product, so implicit attitudes do not have a relevant influence, at least according to the instrument using (IAT).

Regarding the practical implications of implicit and explicit attitudes, it must first be borne in mind that, for food, there is hardly any evidence of the role played by implicit attitudes, and sometimes this evidence is contradictory in relation to the explanatory power of implicit attitudes [98]. This study shows that for different types of products (hedonic-oriented, utilitarian-oriented) implicit attitudes play a different explanatory role. Therefore, it is proposed that future studies differentiate by type of product orientation in order to establish the role played by each type of attitude.

It is well known that implicit attitudes help to discover the automatic underlying feelings that cannot be identified with the classic attitudes stated by consumers [99]. Nevertheless, when analyzing published works on organic food, it is observed that most of the instruments used to measure attitudes

are focused on the cognitive aspects of organic foods. In addition, these are treated without focusing on the type of product or whether or not there is a predominance of one or another attitudinal dimension. Therefore, including both dimensions and differentiating between hedonic- and utilitarian-oriented foods can present an opportunity to improve our knowledge about how consumers choose what they buy.

The organic food industry tends to promote hedonic attributes, facilitating the tendency of consumers to make choices based on emotional criteria, which surpass the deliberative aspects (requiring less cognitive effort). Consequently, increasing consistency between product attributes and consumer desires may increase the likelihood that hedonistic individuals will buy organic food because they have a greater attribution of pleasure [100]. In order to define this "pleasurefication" strategy, the natural way would be to transform utilitarian into hedonic attributes. Thus, it would be necessary to know the role played by implicit attitudes, and the analysis of implicit attitudes should become increasingly important.

This study has some limitations. The first relates to the type of IAT technique used and the order effect in the first blocks because the software that was used in this study did not counterbalance those blocks. The use of the Brief-IAT technique, which does counterbalance the blocks, should be considered in future studies. The second limitation relates to the instrument used to measure explicit attitudes toward organic food. Although the final instrument used in this study had adequate psychometric properties, it only retained a small number of items from the original instrument proposed by Gil et al. [85]. Refinement of this instrument is needed to avoid potential content and convergent validity problems in future studies. The third limitation is that this study was only carried out in the United Kingdom. The United Kingdom has the sixth highest organic retail sales in the world [101] and a dynamic and growing organic market. However, the use of data from a single country prevents the generalization of results, so future research should compare countries with high and low demand for organic food. Such a comparison could help generalize the present findings. Additionally, overpricing, misgivings about the possibility of organic fraud, and the often unattractive appearance of organic food with respect to conventional food may reduce the likelihood that organic food is bought. Therefore, investigating how to overcome these and other barriers would be of great value to extend the present approach to the attitude–behavior discussion.

In summary, this study shows that different types of attitude play different roles depending on the nature of the product. Thus, differentiating between hedonic-oriented and utilitarian-oriented food products can improve the explanation of the predisposition to buy organic versus conventional food. In particular, implicit attitudes are useful to explain the predisposition to buy hedonic-oriented food, whereas explicit attitudes are effective in relation to food with a utilitarian-oriented nature. Companies can take advantage of this knowledge to design products or advertising. In addition, this study provides an understanding of how consumers perceive and are encouraged to make choices between organic and conventional products.

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Appendix A

Table A1. Items and their basic descriptive statistics.

Constructs and Items	M (SD)	λ	R^2	CR	AVE
Utilitarian attitude (UTI)				0.89	0.63
UTI1. Effective/Ineffective	5.66 (1.33)	0.75	0.56		
UTI2. Helpful/Unhelpful	5.42 (1.43)	0.78	0.60		
UTI3. Functional/Not functional	5.47 (1.53)	0.86	0.74		
UTI4. Necessary/Unnecessary	5.24 (1.63)	0.76	0.58		
UTI5. Practical/Impractical	5.43 (1.44)	0.81	0.65		
Hedonic attitude (HED)				0.93	0.73
HED1. Not fun/Fun	5.24 (1.61)	0.86	0.74		
HED2. Dull/Exciting	5.14 (1.49)	0.88	0.78		
HED3. Not delightful/Delightful	5.57 (1.42)	0.85	0.72		
HED4. Not thrilling/Thrilling	4.73 (1.60)	0.80	0.64		
HED5. Enjoyable/Unenjoyable	5.92 (1.29)	0.68	0.46		
Attitudes toward organic products—OP—(PRO)				0.91	0.67
PRO1. OP are healthier.	4.90 (1.70)	0.85	0.72		
PRO2. OP are higher quality.	4.65 (1.67)	0.93	0.86		
PRO3. OP are a fraud. (R)	deleted				
PRO4. OP are tastier.	4.20 (1.61)	0.74	0.55		
PRO5. OP are worse than conventional food. (R)	deleted				
PRO6. OP are more expensive. (R)	deleted				
PRO7. OP are more attractive.	4.19 (1.63)	0.74	0.54		
PRO8. OP have no harmful effects.	deleted				
PRO9. OP are in fashion.	deleted				
Predisposition to buy organic vs. conventional food (PRE)				0.96	0.76
PRE1. Harmful/Beneficial	5.30 (1.27)	0.82	0.67		
PRE2. Foolish/Wise	4.98 (1.44)	0.86	0.75		
PRE3. Bad/Good	5.28 (1.25)	0.90	0.81		
PRE4. Unpleasant/Pleasant	5.10 (1.30)	0.84	0.70		
PRE5. Against/For	4.95 (1.50)	0.88	0.77		
PRE6. Unfavorable/Favorable	5.06 (1.48)	0.91	0.83		
PRE7. Negative/Positive	5.22 (1.40)	0.92	0.84		
PRE8. Unattractive/Attractive	5.00 (1.37)	0.83	0.69		
Implicit attitude	0.11 (0.50)				

M = mean, SD = standard deviation, λ = standardized factor loading, R^2 = R-squared, CR = composite reliability, AVE = average variance extracted.

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4.4 A NEW ATTITUDINAL INTEGRAL-MODEL TO EXPLAIN GREEN PURCHASE INTENTION

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A New Attitudinal Integral-Model to Explain Green Purchase Intention

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Abstract: This study explores the relationship between different implicit and explicit attitudes and green purchase intention. A distinction is made between the cognitive and affective components of implicit attitudes. Negative-oriented attitudes such as cynicism and skepticism are also examined. The data collection process provided 724 responses to two online Implicit Association Tests, followed by a questionnaire on explicit attitudes. Two products (insecticide and toothpaste) in green and conventional formats were used. Each individual responded to a random choice of one of these two products. Structural equation modeling was used to test the research hypotheses. The cognitive and affective components of implicit attitudes were confirmed to be different constructs. Only the cognitive construct was observed to influence attitudes toward green products. Skepticism was observed to negatively influence attitudes toward green products, although it was not found to influence either attitudes toward purchasing green products versus conventional products or purchase intentions. This study offers an innovative approach by examining different types of attitudes that have never been analyzed together in the literature on green products.

Keywords: implicit attitudes; explicit attitudes; cognitive attitudes; green products; skepticism; cynicism; purchase intention

1. Introduction

Green products, which are also described as "sustainable," "environmentally friendly," "pro-environmental," and a host of other terms, have undergone considerable development in the last two decades. This development owes to an increase in consumer environmental awareness [1] and initiatives by industry and institutions [2,3]. However, it is still common to encounter contradictory behaviors in relation to the environment. For example, plastic bags are eschewed, while harmful pesticides and cleaning products are profusely used. Similarly, the separation of waste in the home has increased, yet products that are difficult to recycle are still popular.

The literature shows that attitudes, knowledge, values, environmental awareness, and perceived effectiveness are antecedents of green purchase intention [4–6]. However, in the case of attitudes, the literature scarcely addresses the role of implicit attitudes and negative-oriented attitudes in the development of green purchase intention. Although implicit attitudes affect almost all human behaviors [7], only a few studies have analyzed their influence on green purchase choice and behavior [8–10]. There is a rich literature on the role of cynicism and skepticism (as negative-oriented attitudes) in green purchase behavior [11,12], specifically in relation to green purchase intention [13–15].

Implicit attitudes are important because, unlike declared or conscious attitudes, they improve the prediction of behaviors that require little cognitive processing and are more spontaneous [16,17].

Likewise, cynicism and skepticism are relevant attitudes because they negatively influence purchase intentions [13,14] as a result of questioning the safety, functionality, and veracity of the claims made about green products. In short, there is a need to understand what types of attitudes shape green purchase intention. In contrast, seemingly no studies offer comprehensive analysis of all of these types of attitudes. This study fills this gap in the literature.

2. State of the Art

2.1. Green Purchase Intention

Purchase intention can be understood as the willingness to acquire a product in the future. Most of the literature presents purchase intention as a conscious plan to perform a future behavior (e.g., [18]), expressed as a subjective probability of what the consumer wishes to achieve [19]. Purchase intention has also been considered the result of a comparison between the attitudes, advantages, and perceived drawbacks of a product [20]. Kim and Ko [21] stressed its attitudinal nature, which combines consumers' interest in and predisposition toward making a future purchase, describing purchase intention as a measure of a consumer's future contribution to a product or brand. The intention to purchase also refers to the willingness to express emotions. Emotions play a key role in the desires of consumers and, therefore, in their predisposition to purchase [22]. Thus, although the rationalist approach is part of the equation to explain the human behavior, the predominance of rational mechanisms is surpassed. There is wide consensus that emotions are what really govern human behavior [23]. Also, in the field of marketing, we have moved from an approach based on supply and the rational study of the consumer to a marketing based on experiences and emotions [24].

Purchase intention has proven to be a good general predictor of future behavior, with greater predictive capacity in the short term and under conditions that tend to be easily met [25]. Therefore, it has been used as the best proxy of future behavior both to predict the sales of existing products and to estimate the potential demand of new products [26]. In practice, purchase intention is a consumer's declaration of a predisposition to purchase, barring any significant contingencies in the market or the consumer's personal situation.

2.2. Attitudes as Antecedents of Green Purchase Intention

2.2.1. An Overview of Attitudes

All relevant explanatory models of purchase intention depict attitudes as an important antecedent [19,27]. Many approaches have been proposed to define and understand attitudes [28]. The most widespread conception is to consider them as a multifaceted phenomenon that expresses a tendency to act in a certain way. This tendency is derived from the overall evaluation of ideas, objects, or people and has three fundamental characteristics: Stability (unlike motivations, which are more short term), a relationship between the person and the object, and polarity (the person takes a favorable, unfavorable, or ambivalent stance toward the object [29]).

Attitudes are temporal constructions that stem from general evaluations based on cognitions and previous evaluations, although they are not stored in the minds of consumers [30]. Accordingly, the intensity and valence of an attitude are strongly associated with the idea that consumers have of the product at the time they make an evaluation. Because this evaluation is irreversible, it decays over time [28]. However, the literature also shows that there are highly persistent attitudes, including negative attitudes such as contempt and cynicism [31,32] and implicit attitudes that are rooted in early-life experiences [33].

Scholars have established the existence of a dual-attitude structure [34,35] that differentiates between implicit, or unconscious, attitudes and explicit, or conscious, attitudes. Whereas implicit attitudes are highly stable and resistant to change, explicit attitudes are more malleable and can change quickly [34,36]. Although it has been shown that the two types of attitudes might be different

manifestations of the same mental structure [37], low correlations between their measurements in a wide range of areas have been reported [38], and there is a long-established literature discussing their differences [38,39].

2.2.2. Implicit Attitudes

The general assumption is that implicit attitudes are "traces of past experience that mediate favorable or unfavorable feeling, thought or action" [40] with four fundamental characteristics: Unconscious intent, efficiency, lack of awareness, and lack of control [41]. Today, implicit attitudes are considered to form a fundamental part of the drivers of behavior and to be present in many kinds of behaviors, from behaviors related to health, product consumption, and news media to spontaneous affect in daily life [7,42].

As occurs with explicit attitudes, the cognitive and affective dimensions are essential to implicit attitudes [43,44]. These two dimensions reflect the inputs and mental processes related to stereotypes and prejudices. The affective dimension refers to implicit social archetypes, whereas the cognitive dimension refers to prejudices, since they stem from concepts and beliefs [45]. Similarly, recent advances in neuroscience [46] have shown that the models of automatic association (affective) and deliberation (cognitive) are useful to explain how implicit attitudes act. Moreover, Trendel and Werle [47] found that both attitudinal dimensions are constructed independently of overall implicit attitude. The following hypothesis is thus proposed:

Hypothesis 1 (H1). *The cognitive and affective dimensions of implicit attitudes are separate constructs.*

In relation to "green products," Vantomme et al. [8] reported that implicit and explicit attitudes may be dissociated, although they observed inconsistent results in terms of their role. Whereas one experiment showed that implicit attitudes toward green products are more positive than toward conventional products, another experiment did not show this difference. Regarding environmental attitudes, Levine and Strube [9] found that implicit and explicit attitudes are significantly related to one another. Along these lines, Pegan and Luca [10] found that the two types of attitudes are positively and significantly correlated. Because implicit attitudes may have separate affective and cognitive dimensions and certain findings indicate an inconsistent influence of implicit attitudes on explicit attitudes, the following hypotheses are proposed:

Hypothesis 2 (H2). *The cognitive dimension of implicit attitudes influences explicit (conscious) attitudes toward green products.*

Hypothesis 3 (H3). *The affective dimension of implicit attitudes influences explicit (conscious) attitudes toward green products.*

2.2.3. Consumer Cynicism and Skepticism

Attitudes refer to the evaluation of a phenomenon of a neutral or ambivalent nature (the perception of green products need not be good or bad per se). However, certain attitudes have a negative-oriented nature, referring to resistance, opposition, hostility, confusion, or mistrust regarding the true nature, attributes, and functionality of green products and the purchase of these products [1,31]. These attitudes are especially important because they are difficult to change and because they are a fundamental part of the comparative evaluations that consumers make in their decision processes. In practice, they can nullify purchase intention [48].

Cynicism is a multifaceted, complex phenomenon that manifests itself in a wide variety of areas of human activity, appearing in the form of political, psychological, societal, organizational, and consumer cynicism. Cynicism can be understood as a philosophy of life, a feeling, a stable dimension of human personality, or a manifestation of mistrust toward the motivations and actions of others [49]. Many

theories (e.g., social exchange theory, psychological contract theory, and frustration-aggression theory) support the idea that cynicism is an inextricable element of human behavior [50], with an extensive literature discussing its antecedents and consequences [51,52].

Cynicism is typically defined as a negative, stable, and learned attitude that consumers hold against markets, firms, or products because they perceive a widespread opportunism of firms that is to their detriment [53,54]. For most scholars, cynicism is a response based on a general mistrust that manifests itself in not believing in the goodness of human motives and actions. For example, based on Pollay's research [55], Odou and De Pechpeyrou [56] defined cynicism as a constant state of suspicion, used as a psychological weapon to neutralize the influence of marketing actions.

Unlike cynicism, skepticism may be considered a situational doubt, suspicion, or disbelief. It causes consumers to be averse to something in particular and is a primarily cognitive response to communication (advertising, claims made on packaging, etc.) that is influenced by context [57]. Although these concepts are closely linked and have been used indistinctly [11], there is empirical evidence that they are different constructs [48]. For example, Ryu and Jun [58] showed that skeptics doubt the facts and tend to seek information to discern the truth, whereas cynics not only fail to believe the facts but also tend to infer selfish hidden motives. Furthermore, Goh and Balaji [12] do not view skepticism as a stable long-term attitude but rather as a consumer response that may vary according to the context or situation.

Helm et al. [54] showed that both attitudes have a subtle yet widespread effect on consumer behavior. Accordingly, it is reasonable to deduce that this effect also occurs with green products and that the relationship between cynicism and skepticism is direct and positive. Therefore, the following hypothesis is proposed:

Hypothesis 4 (H4). *In reference to green products, cynicism is positively related to skepticism.*

The literature stresses the idea that skepticism has a significant impact on consumer attitudes and behaviors [15,59]. It has been shown that green consumers are especially skeptical with respect to advertising and claims, demanding extra information on green products as a strategy to alleviate their doubts [11]. Goh and Balaji [12] also report that the most skeptical consumers tend to have more negative attitudes toward the purchase of these products. Therefore, the following hypotheses are proposed:

Hypothesis 5 (H5). *Skepticism is negatively related to attitudes toward green products.*

Hypothesis 6 (H6). *Skepticism is negatively related to attitudes toward the purchase of green products.*

Hypothesis 7 (H7). *Skepticism is negatively related to green purchase intention.*

2.2.4. Explicit Attitudes toward Green Products and the Purchase of Green Products

The generation of attitudes toward green products and the predisposition to purchase these products are two distinct phenomena. Attitudes toward green products derive from a generic comparison of the superior qualities of these products without considering them a potential choice by the consumer. Nevertheless, the predisposition to purchase green products also entails emotional and functional antecedents [60,61] that affect a choice that is prior to purchasing, whereby the possibility of purchasing a green product is compared with that of purchasing another product that is not green.

Attitudes toward green products are known to be higher than attitudes toward conventional products [62], as is also the case in other positive-natured areas such as health, exercise, and food safety. However, there is also a gap between attitudes (toward a product) and their manifestation in the form of attitudes toward a purchase. Given that attitudes toward a product influence attitudes toward purchasing that product [63,64], the following hypothesis is proposed:

Hypothesis 8 (H8). *Attitudes toward green products influence attitudes toward the purchase of these products.*

The literature shows that, in general, attitudes are a solid antecedent of purchase intention. In reference to green products, Honkanen et al. [65] and Demirtas [66], among others, have shown a significant positive relationship between attitudes toward green products and the intention to purchase these products. Nevertheless, for certain aspects that are strongly related to attitudes, different relationships have been found. For example, D'Souza et al. [67] found a negative relationship between the general view of green products and purchase intention, and Wee et al. [68] did not find a significant effect of this perception on intentions to purchase organic food. Therefore, the following hypothesis is proposed:

Hypothesis 9 (H9). *Attitudes toward the purchase of green products influence future purchase intentions.*

The proposed empirical model appears in Figure 1.

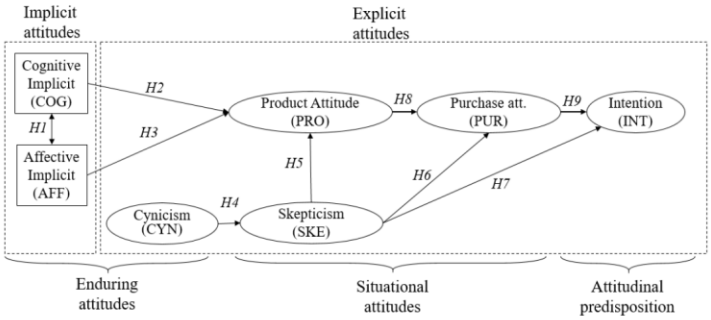

Figure 1. Proposed attitudinal model.

3. Method and Materials

3.1. Fieldwork and Participants

3.1.1. Fieldwork

Data were collected in May 2018 by recruiters who contacted participants to respond to an online questionnaire. There were five requirements to be invited to participate: (1) to be aged from 25 to 65 years, (2) to have a home Internet connection, (3) to be a Spanish resident and have a native level of the Spanish language (the questionnaire was in Spanish), (4) to have no mobility issues with hands or arms and have no disability that prevented the use of a computer keyboard and mouse to complete the online questionnaire, and (5) to be willing to collaborate in a scientific study. The recruiters explained that the questionnaire should be completed when the respondents had 15 minutes of time available at home rather than at work or while traveling to avoid distractions and that the respondents should complete the questionnaire alone from a desktop or laptop computer.

The participants were contacted personally by recruiters using systematic sampling in public places and on social media. The places to recruit participants were bus and train stations, and shopping malls. Each recruiter contacted every 10 minutes with those who passed by him/her (e.g., 18:00 h, 18:10, 18:20, 18:30). For social networks, each recruiter used the following system: (1) Visit profiles on Facebook, Instagram, Twitter, or LinkedIn (profiles contacted must alternate gender and age level); (2) request participation in the study by sending a private presentation message; and (3) after receiving each positive response, the web link was sent. Each recruiter verified that his/her sampling quotas

were fulfilled (Male = Female = 50%; Boomers = Generation X = Millennial = 33%), and each new participant resided in a different municipality. Likewise, each recruiter could choose the place and/or the social network. The people contacted received a message or physical card with the basic description of the study and the web link to access the online questionnaire.

The participants were informed that there would be no financial reward, that their participation would enable "research into an important complex phenomenon in green purchasing," (Different names were analyzed for the product categories: (Green; Environmental; Organic; Natural; Environmentally friendly; Sustainable) vs. (Non-green; Non-environmental; Non-organic; Chemical; Conventional; Non-sustainable)). In the Spanish questionnaire, these terms appeared as (*Ecológico*; *Ambiental*; *Orgánico*; *Natural*; *Respetuoso con el entorno*; *Sostenible*) vs. (*No ecológico*; *No ambiental*; *No orgánico*; *Químico*; *Convencional*; *No sostenible*). In Spain, the term "organic" ("*orgánico*") is hardly used by consumers. In this study, we used the term "green" ("*ecológico*") because it is more identifiable and commonly used. The respondents also were told the questionnaire do not collect any personally identifiable information.

3.1.2. Participants

In total, 841 consumers were contacted, and 724 valid responses were gathered (86.2%) from consumers in 62 cities in Spain. The sample is made up of a 50.3% of women, with age mean of 41.7 (SD = 11.6). By generation, the consumers belonged to the Baby Boomers (32.2%), X (29.7%), and Millennial (38.1%) generations. Regarding education, 4.6% had primary education, 12.2% lower secondary, 29.3% upper secondary, 12.6% undergraduate, and 41.4% postgraduate.

3.2. Instruments (Items of the Different Instruments are Detailed in the Results Section)

3.2.1. Green Purchase Intention (INT)

Lee's proposal [69] to measure "green purchase intention" was adopted. This proposal is based on studies by Kim and Pysarchik [70] and Chan [71]. The instrument is a four-item, 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). The item "I feel like buying a pro-environmental product [toothpaste/insecticide]" was discarded because during the pretest participants did not understand the concept of "I feel like buying ... " to evaluate products that are considered utilitarian. Instead, the item "Next time, I will show an interest in buying a green [toothpaste/insecticide]" was included.

3.2.2. Implicit Attitudes (COG; AFF)

The Implicit Association Test (IAT), which was developed by Greenwald et al. [72], was used. This test is valid for the measurement of individuals' implicit attitudes [73] and is widely used in the literature [74]. The IAT measures the intensity of the automatic associations between certain concepts. It is a measure of an individual's underlying predisposition toward an object or phenomenon. The IAT uses discrimination concepts, attributes, and stimuli that are combined, using a standard protocol, to produce a measure of the association that each individual makes between concepts and attributes. This test has been used to study implicit attitudes toward genetically modified food [75], the role of implicit attitudes in the choice of organic food [76] and the capacity of implicit attitudes to explain intentions to buy organic wine [77]. The IAT is considered a good predictor of actual behavior.

However, the IAT is unable to distinguish between the dimensions that contribute to general attitudes, offering only a single overall score that prevents discrimination between dimensions. This weakness was highlighted by Schnabel et al. [78], who noted that implicit associations may be subject to semantic interpretations. Therefore, adopting Gattol's et al. approach [79] to multidimensional IAT, this study differentiated between implicit attitudes where the emotional dimension is predominant (feelings) and implicit attitudes derived from cognitive processing (thoughts). However, this study did not use the D measure proposed by Gattol et al. [79] but rather the improved algorithm developed

by Greenwald et al. [80], using the script for R software [81]. Thus, two linked IATs were proposed: An initial IAT where the stimuli were only cognitive and a subsequent IAT where the stimuli were exclusively affective. Section 3.3 details the procedure used to build these two IATs.

The intensity of the association was calculated using the average time taken by the individuals to assign responses to the stimuli. This calculation provided a score that resembles the concept of effect size. This score is dimensionless and ranges from −2 to +2. To interpret this score, the same breakpoints as for Cohen's d statistic are usually used, namely 0.20 = small, 0.50 = medium, 0.80 = large, and 1.30 = very large [82]. The sign of the score indicates the type of association. Thus, a positive sign would imply that the concept "green" is associated with the positive attributes and that the concept of "non-green" is associated with the negative attributes. A negative sign would mean the opposite.

3.2.3. Explicit Attitudes toward Green Products (PRO)

Gil et al.'s [83] nine-item, 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) was used. This instrument was developed to measure individuals' predisposition toward organic food, but it can be used for any other type of product. The respondents were asked to "indicate your degree of agreement or disagreement with the following statements." Gil et al. [83] detected two factors (positive and negative aspects), and the scale has been used in previous studies, offering high levels of reliability (Cronbach's alpha > 0.8) and sufficient validity [84]. The original wording of the items was preserved, except that "Organic products" was changed to "*Los productos ecológicos*."

3.2.4. Explicit Attitudes toward Purchasing Green Versus Conventional Products (PUR)

An instrument consisting of items from the scales developed by Berndsen and Van der Pligt [60] and Thøgersen et al. [61] was used. The respondents were asked, "What is it like for you to buy green products instead of conventional products?" An eight 7-point semantic differential items were used. Each item was identified with a pair of opposite states: Harmful–Beneficial, Foolish–Wise, Good–Bad (reversed), Unpleasant–Pleasant, Against–For, Unfavorable–Favorable and Positive–Negative (reversed). An extra item extra was added with the states Unattractive–Attractive to give a greater balance between items of cognitive and affective natures.

3.2.5. Consumer Cynicism (CYN)

The eight-item 7-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree) proposed by Helm et al. [54] was used. The reliability reported by these authors was greater than 0.8, and the instrument met the criteria of convergent and discriminant validity. Swalwell [85] reported a reliability of 0.95 and mean inter-item correlation of 0.71 and indicated that the instrument met the validity requirements.

3.2.6. Consumer Skepticism (SKE)

The instrument proposed by Mohr et al. [57], which consists of four 7-point Likert-type items ranging from 1 (strongly disagree) to 7 (strongly agree), was used. For the original version, sufficient reliability was reported (0.79), and the instrument met the requirements for convergent and discriminant validity. Recent studies [86] have reported reliabilities of between 0.80 and 0.83 and have indicated that the instrument had convergent and discriminant validity. An additional item was added in the form of the statement, "I sometimes doubt that these messages are true," in reference to environmentally friendly claims.

3.3. Procedure and Questionnaire

3.3.1. Design of the IATs

The 6-stage procedure followed in this study is now described.

Stage 1. Establish the dimensions of each IAT. One IAT focused on the cognitive dimension, while the other focused on the affective dimension. For the cognitive dimension, the quality of "functionality" was chosen, whereas for the affective dimension, the quality of "favorability" was chosen. Whereas the first quality refers to rational perceptions, the second refers to feelings.

Stage 2. Establish the basic elements for each IAT. First, target concepts "Organic" vs. "Non-organic." These concepts were represented using images of the products and their packaging, which enabled differentiation between the concepts of "Organic" and "Non-organic." The cognitive and affective IATs presented the same target concepts. Second, discrimination attributes. They were the names used to express the positive and negative aspects of the attributes. For the cognitive IAT, the attributes were "Effective-Ineffective," and for the affective IAT, the attributes were "Favorable-Unfavorable."

Stage 3. Choose the stimuli for each attribute. A list of 15 words was prepared for each attribute. These words were voted on by two groups of university students (mean age of Group 1:22 years; mean age of Group 2:40 years). Each student chose a maximum of three stimuli that best evoked the attributes. Finally, the four words chosen the most for each item were kept.

Stage 4. Choose the products. The products had to have four characteristics:

1. Universal use so that all respondents were familiar with using these products.
2. No sex or age bias. For example, products such as hairspray (mainly for women) or hair gel (mainly for men) had to be avoided, as did products mainly consumed by a certain generation (e.g., wine, which is consumed mainly by older consumers).
3. Packaging that clearly displays differences between organic and non-organic versions.
4. Similar average price so that a large perceived difference in product price does not introduce uncontrolled bias.

Finally, a list of three products (insecticide, toothpaste, and shampoo) was prepared. Insecticide and toothpaste were chosen to prevent both products from belonging to the same product category (personal hygiene).

Stage 5. Choose images to be presented. A search for public images of products was conducted. Three were chosen for each target concept (organic and non-organic) and product. Some brands did not have any organic version, so the organic version was created by modifying the original image (for an example, see Appendix A). To avoid the possible effect of brand reputation, products that were not available in the Spanish market were chosen.

Stage 6. Choose instruments described in Section 4.2.

3.3.2. Questionnaire

A three-part online questionnaire was designed. The first part requested informed consent, indicating the scientific nature of the study, the voluntary nature of participation, and the fact that no personally identifiable information would be collected. The second part consisted of the two consecutive IATs. The first IAT comprised the cognitive attributes, while the second consisted of the emotional attributes. The third part included questions related to the variables of green purchase intention (both in general and for specific products), explicit attitudes, skepticism, cynicism, and basic sociodemographic variables (age, sex, and education).

The images did not contain details of textual information, initials, or symbols so that the images were clear, easy to visualize, and uncluttered. It was deemed that cluttered images could slow response times, transforming the responses to non-automatic responses. The IATs used images of packaging with real and dummy brands that were little known or unknown in the Spanish market. All images were public and high quality, and they were gathered from the Internet or created ad hoc.

The questionnaire was pretested with a group of 15 university students (mean age 22 years) and by three non-university participants aged over 50 years. Formal aspects (wording and layout), structural aspects (response time and dynamics), and content aspects (understanding) were assessed. Table 1

shows the sequence of tasks completed in the two IATs. Appendix A shows other relevant aspects of both IATs.

Table 1. Sequence of Implicit Association Test (IAT) tasks (for both IATs).

Round	Task	IAT	Assigned Answers	
1	Target concept discrimination	Both	Green	NGreen
2	Discrimination of attributes	IAT1	Func	NFunc
		IAT2	Favor	Unfavor
3	Trial of combined tasks	IAT1	Green and Func	NGreen and NFunc
4	Test of combined tasks	IAT2	Green and Favor	NGreen and Unfavor
5	Reversed target discrimination	Both	NGreen	Green
6	Trial of reversed combined tasks	IAT1	NGreen and Func	Green and NFunc
7	Test of reversed combined tasks	IAT2	NGreen and Favor	Green and Unfavor

Notes: NGreen = Non-green or conventional product, Func = Functional, NFunc = Non-functional, Favor = Positive or favorable emotions, Unfavor = Negative or unfavorable emotions, IAT1 = IAT of cognitive attributes (efficacy), IAT2 = IAT of affective attributes.

3.4. Methods

Back-translation was used to translate the items from instruments originally written in English but not adapted to Spanish [87,88]. The responses to online information were captured using the software developed by Mason, Allon, and Ozturk [89]. This software provides the degree of association using the speed with which the individuals respond to the presence of the stimuli (images and attributes/words).

All variables included in the model, except implicit attitudes, were calculated using the mean value of the items, subsequently normalized to the range (0,1) to enable better interpretation of the data. EQS Version 6.1 was used to perform the confirmatory factor analysis and the structural equation modeling (SEM), and SPSS V22 was used for all other analyses.

4. Results

First, the measurement model was validated using covariance-based confirmatory factor analysis (CFA) with maximum likelihood estimation. Next, the hypotheses were tested using SEM.

4.1. Validation of the Measurement Model

To confirm that the explicit attitudinal measures were suitable, CFA was conducted to check the fit of the data matrix to the structure of the proposed constructs, excluding the implicit attitudes because the D scores were calculated following the procedure described in Section 4.2. It was observed that Mardia's coefficient was 248.51. This value indicated the absence of multivariate normality and required the use of the robust estimation method. The fit was poor, as reflected by the following values: Satorra-Bentler chi-square (SBCS) = 1782.9 (df = 584, $p < 0.05$), normed chi-square (NCS) = 3.05, Bentler-Bonett non-normed fit index (BBNNFI) = 0.88, comparative fit index (CFI) = 0.89, and root mean square error of approximation (RMSEA) = 0.05 (RMSEA 90% CI = 0.05, 0.06). Although the values of the CFI and RMSEA were acceptable, the fit indices were below the values recommended in the literature, and the convergent validity of some instruments was not acceptable.

After eliminating items with low factor loadings ($\lambda < 0.70$) an acceptable solution is found: Mardia's coefficient = 140.62, SBCS = 680.39 (df = 241, $p < 0.01$), NCS = 2.82, BBNNFI = 0.94, CFI = 0.95, and RMSEA = 0.05 (RMSEA 90% CI = 0.05, 0.05). All instruments had sufficient reliability (composite reliability CR $\geq$ 0.78) and met the conditions of convergent and discriminant validity (see Tables 2 and 3). Convergent validity was verified by using the confirmatory factor loadings ($\lambda > 0.70$) and by checking that the fit indices were greater than 0.90 [90] and that the RMSEA was lower than 0.08. Discriminant validity was verified by using the average variance extracted (AVE) coefficients [91] and by inspecting the confidence intervals of the correlations between the instruments. No interval should contain a correlation value of 1 [92,93]. In this study, all AVE values were greater than 0.50, and no confidence interval of correlations contained the value 1.

Table 2. Instruments, items, factor loadings, reliabilities, and convergent validities.

Instruments and Items	M (SD)	λ	SE	R^2	CR	AVE
F1. Purchase intention (INT)					0.91	0.71
P1. I will definitely consider buying an X.	4.32 (1.71)	0.77	0.64	0.59		
P2. I will prioritize an X when shopping.	4.44 (1.81)	0.85	0.52	0.73		
P3. I will recommend an X to people around me.	5.00 (1.68)	0.86	0.50	0.75		
P4. Next time, I will show an interest in buying an X. (*)	4.76 (1.74)	0.86	0.50	0.75		
F2. Attitude toward green products (PRO)					0.81	0.68
G1. Green products are healthier.	5.57 (1.46)	0.82	0.579	0.66		
G2. Green products have superior quality.	4.99 (1.44)	0.83	0.555	0.69		
F3. Attitude toward purchasing green vs. conventional products (PUR)					0.93	0.66
H1. Harmful—Beneficial.	5.73 (1.15)	0.84	0.55	0.70		
H2. Foolish—Wise.	5.64 (1.18)	0.83	0.56	0.68		
H3. Good—Bad (Reversed).	5.84 (1.13)	0.78	0.63	0.61		
H4. Unpleasant—Pleasant.	5.38 (1.20)	0.82	0.58	0.67		
H5. Against—For.	5.51 (1.22)	0.77	0.64	0.59		
H6. Unfavorable—Favorable.	5.66 (1.16)	0.87	0.50	0.75		
H7. Positive—Negative (Reversed).	5.86 (5.86)	0.77	0.64	0.59		
F4. Skepticism (SKE)					0.78	0.55
I2. Because environmental claims are exaggerated, consumers would be better off if such claims on package labels or in advertising were eliminated.	3.69 (1.62)	0.70	0.71	0.49		
I3. Most environmental claims on package labels or in advertising are intended to mislead rather than to inform consumers.	4.04 (1.68)	0.79	0.62	0.62		
I5. Sometimes I doubt that these claims are true. (*)	4.36 (1.74)	0.70	0.71	0.49		
F5. Cynicism (CYN)					0.91	0.62
K2. Most businesses are more interested in making profits than in serving consumers.	5.24 (1.55)	0.81	0.58	0.66		
K3. Companies see consumers as puppets to manipulate.	5.07 (1.62)	0.85	0.53	0.72		
K4. Manufacturers do not care what happens once I have bought the product.	4.52 (1.71)	0.78	0.63	0.61		
K5. If I want to get my money's worth, I cannot believe what a company tells me.	4.36 (1.57)	0.71	0.71	0.50		
K6. Most companies will sacrifice anything to make a profit.	4.72 (1.60)	0.80	0.61	0.63		
K7. To make a profit, companies are willing to do whatever they can get away with.	5.00 (1.59)	0.76	0.65	0.58		

X = Green product: insecticide/toothpaste [1], M = mean, SD = standard deviation, λ = standardized factor loading, SE = standard error, R^2 = R-squared, CR = composite reliability, AVE = average variance extracted.

Table 3. Discriminant validity of the instruments.

Factors	Cov.	SE	CI of Cov.	CI of Corr.
INT–PRO	0.74	0.04	0.66, 0.81	0.66, 0.81
INT–PUR	0.45	0.03	0.39, 0.52	0.39, 0.52
INT–SKE	−0.16	0.04	−0.25, −0.08	−0.25, −0.08
INT–CYN	−0.02	0.04	−0.10, 0.07	−0.10, 0.07
PRO–PUR	0.63	0.03	0.57, 0.69	0.57, 0.69
PRO–SKE	−0.30	0.04	−0.38, −0.22	−0.38, −0.22
PRO–CYN	−0.07	0.04	−0.15, 0.02	−0.15, 0.02
PUR–SKE	−0.25	0.04	−0.33, −0.17	−0.33, −0.17
PUR–CYN	0.01	0.04	−0.08, 0.08	−0.08, 0.08
SKE–CYN	0.40	0.04	0.32, 0.47	0.32, 0.47

Cov. = covariance; CI = confidence interval, Corr. = correlation; SE = standard error.

4.2. Hypothesis Testing

H1 posits that cognitive implicit attitudes and affective implicit attitudes are different constructs. Pearson's correlation test showed that they share a significant association ($r = 0.52$, $n = 724$, $p < 0.05$, Cohen's $d = 1.22$) but are also different constructs. This is because the confidence interval of the

correlation did not contain the value 1 (95% CI = 0.45, 0.58; for 1000 bootstrap samples; SE = 0.03). The effect size was very large.

In relation to attitudes toward green products, a significant positive influence of cognitive implicit attitudes on attitudes toward green products was observed (β = 0.28; t = 2.33; $p < 0.05$; SE = 0.12). Skepticism also negatively influenced attitudes toward green products, as expected (β = −0.31; t = 5.98; $p < 0.01$; SE = 0.05). Affective implicit attitudes did not influence attitudes toward green products, contrary to what H3 posits (β = 0.04; t = 0.29; $p > 0.05$; SE = 0.15). Therefore, the results support H2 and H5. With respect to the relationship between cynicism and skepticism, a significant positive relationship was observed (β = 0.37; t = 8.22; $p < 0.01$; SE = 0.04), supporting H4. Considering attitudes toward the purchase of green versus conventional products, a positive relationship was observed between attitudes toward green products and attitudes toward the purchase of green versus conventional products, as posited by H8 (β = 0.51; t = 10.57; $p < 0.01$; SE = 0.05). In contrast, such a relationship was not observed for H6, which posits a relationship between skepticism and attitudes toward the purchase of green versus conventional products, because it cannot be considered different from zero (β = −0.05; t = 1.39; $p > 0.05$; SE = 0.03). Therefore, the results support H8, but H6 should be rejected.

Finally, with respect to purchase intentions, a significant positive relationship was observed between attitudes toward the purchase of green versus conventional products and purchase intentions, thereby supporting H9 (β = 0.61; t = 10.29; $p < 0.01$; SE = 0.06). In contrast, the relationship between skepticism and purchase intentions, posited by H7, was not significant (β = −0.06; t = 1.21; $p > 0.05$; SE = 0.05). Table 4 summarizes these findings.

Table 4. Hypothesis testing.

Hypothesis	β	Results	R^2	Verified/Not Verified
H1 [r (COG, AFF)]	r = 0.52	Cohen's d = 1.22 95% CI (0.45, 0.58)	–	Verified
H4 (CYN → SKE)	0.37	t = 8.22 **	0.15	Verified
H2 (COG → PRO)	0.28	t = 2.33 *	0.10	Verified
H3 (AFF → PRO)	0.04	t = 0.29 ^{ns}		Not verified
H5 (SKE → PRO)	−0.31	t = −5.98 **		Verified
H6 (SKE → PUR)	−0.05	t = −1.39 ^{ns}	0.40	Not verified
H6 (SKE → PUR)	0.51	t = 10.57 **		Verified
H7 (SKE → INT)	−0.06	t = −1.21 ^{ns}	0.21	Not verified
H9 (PUR → INT)	0.61	t = 10.29 **		Verified

B = Standardized estimates; * $p < 0.05$; ** $p < 0.01$; ns = not significant.

5. Discussion

The results support the majority of the hypotheses, reflecting the overall validity of the proposed attitudinal model. First, the results indicate that, as regards implicit attitudes toward green products, the cognitive component can be differentiated from the affective component, which is consistent with the ABC model of attitudes [94] and the findings reported by Trendel and Werle [47]. This finding implies that the preferences or evaluations that are generated outside cognitive processing also have a rational influence from what has been learnt subconsciously and what has been felt unconsciously.

Second, unlike in the study by Trendel and Werle [47], a significant effect was only observed for the effect of cognitive implicit attitudes on explicit attitudes. This finding stands to reason because these authors [47] analyzed responses to the choice of certain foods with a strong hedonic focus (e.g., chocolate). However, the green products considered in this study are functional, so the significance of the cognitive focus makes sense. This outcome is consistent with the findings reported by Maniatis [95],

according to whom the evaluation of organic aspects requires complex cognitive mental interactions that involve consciousness, knowledge, and commitment.

Third, the results confirm the influence of cynicism on skepticism and of skepticism on attitudes toward green products, which is consistent with the findings reported by Albayrak et al. [14]. This skepticism can act in a positive way (e.g., helping to reduce the impact of a potential disappointment and improving critical thinking) or negatively (e.g., generating tainted evaluations that encourage apathetic or non-environmentally friendly behaviors). Because attitudes toward green products are negatively influenced by skepticism, to improve the attitudes of skeptical consumers, it seems advisable to develop strategies that offer arguments designed to encourage consumers to investigate the advantages of green products. Skeptical individuals are characterized by being highly demanding, not accepting information without first questioning it, and having a certain degree of mistrust as a personality trait. Therefore, to elicit positive attitudes toward green products, it seems advisable to use strategies that encourage a favorable view of green products and underpin their credibility. One strategy that could be used is to increase the reputation via corporate social responsibility and to improve the visibility of green products through institutional campaigns focused on their environmental benefits. In addition, and not least, companies should seek ways to generate economies of scale and reduce the price differential between green and conventional products.

Fourth, purchase attitudes (when green products are compared with conventional products) and purchase intentions are not affected by skepticism. The literature here is ambivalent. For example, Goh and Balaji [12] showed that skepticism reduces purchase intentions (for green products in general), whereas Wei et al. [96] found that it does not influence attitudes or purchase intentions. The results of this study indicate that attitudes and purchase intentions are resistant to a certain degree of consumer prejudice, which is consistent with the findings reported by Wei et al. [96]. This finding could be due to the fact that the formation of attitudes is reinforced by the growing demand for green products in all countries and sectors, and by the consumer's fear of harmful chemicals (for example, pesticides). This may imply the perception that it is good to move away from conventional products, in addition to the fact that greater green awareness protects the willingness to buy.

Fifth and finally, although the explanatory capacity of the model (R^2) is 40% for attitudes toward purchasing green versus conventional products, h it is lower (R^2 = 20%) for purchase intentions. This difference might mean that attitudes explain a substantial part of the consumer's position when the consumer considers the dilemma of choosing between a green and a conventional product, even though attitudes are incapable of encouraging future purchase decisions with respect to functional products. For consumers, the prospect of functionality is likely to be more relevant for a conventional product than for a green product. Notably, this result is not comparable with other R^2 values that have been reported (e.g., for upcycled products, [97]) because the model presented in this paper is solely attitudinal and does not include other perceptual variables. Further research is needed on this crucial point.

The results presented here should be considered in the light of two potential limitations. The first is methodological and is associated with the cognitive and affective IATs, which were presented in the same order to all participants. This procedure might have created an order bias because the software that was used prevented the randomization of the questionnaire blocks. Although there is evidence to suggest that the order in which the IATs are presented does not influence (or has only a minor influence) on the results [98], eliminating this order bias would be advisable in future studies. The second limitation refers to how the sample was drawn. All participants were residents in a country where the green market has grown massively in recent years, placing Spain among the top 10 countries with the highest organic consumption worldwide [99]. The replication of this study in countries with more or less development in the green sector would enable confirmation that the results reported here may be generalized and would allow evaluation of possible moderation by degree of development of the green market.

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Appendix A

Table A1. Target concepts, attributes, and stimuli for IATs.

Target Categories for Products (Insecticide and Toothpaste)			
Target Concept: Green		**Target Concept: Non-Green**	
Images used and their characteristics			
3 images of insecticide: Image.Green1. Real product in foreign market. Image.Green2. Dummy product in domestic market. Image.Green3. Real product in domestic market. 3 images of toothpaste: Image.Green4. Real product in foreign market. Image.Green5. Real product in foreign market. Image.Green6. Real product in domestic market.		3 images of insecticide: Image.NGreen1. Real product in foreign market. Image.NGreen2. Dummy product in domestic market. Image.NGreen3. Real product in foreign market. 3 images of toothpaste: Image.NGreen4. Real product in foreign market. Image.NGreen5. Real product in foreign market. Image.NGreen6. Real product in domestic market.	
Example of dummy green product		**Example of dummy non-green product**	
			
IAT-1: Functional attributes		**IAT-2:** Affective attributes	
Positive (Effective)	Negative (Ineffective)	Favorable	Not favorable
(Spanish Term Used in Italics)			
Convenient (*Conveniente*) Functional (*Funcional*) Useful (*Útil*) Practical (*Práctico*)	Inconvenient (*Inconveniente*) Not functional (*No funcional*) Useless (*Inútil*) Unnecessary (*Innecesario*)	Respectful (*Respetuoso*) Protector (*Protector*) Satisfactory (*Satisfactorio*) Trustworthy (*Confiable*)	Harmful (*Dañino*) Enemy (*Enemigo*) Unsatisfactory (*Insatisfactorio*) Questionable (*Cuestionable*)

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4.5 ATTITUDES TOWARD ORGANIC PRODUCTS. A CROSS-NATIONAL COMPARISON AND SCALE VALIDATION

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Attitudes toward organic products: a cross-national comparison and scale validation

Actitudes hacia los productos orgánicos. Una comparación y validación internacional de una escala

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Abstract

Purpose This study aims to examine the formal and metric properties of Gil *et al.'s* (2000) scale of attitudes toward organic products, which is the most popular scale to measure these attitudes.

Design/methodology/approach The sample consisted of 4,992 household shoppers living in Hong Kong, Germany, Norway, Spain and the UK. The questionnaire was distributed using a third-party consumer panel, and the fieldwork was conducted using computer-assisted Web interviewing. The approach was based on confirmatory factor analysis and measurement of invariance, as well as format analysis using a wording-syntactic and semantic descriptive method.

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Findings The scale reflects an attitude-toward-object model approach. Its use has been heavily varied (in terms of wording, item semantics and the attributes to be measured). A two-factor structure that meets the metric conditions (reliability and validity) is found. However, the analysis of invariance shows that the scale behaves differently in different countries.

Research limitations/implications This scale offers a good starting point for measuring attitudes toward organic products. However, it requires refinement to adapt to consumer evolution and improve its metric validity. Verification of its applicability in cross-national studies is recommended.

Originality/value To the best of the authors' knowledge, this is the first study that assesses the format and quantitative characteristics of this scale on a cross-national level. For scholars and companies with international interests, preventing the use of scales with poor properties at the transnational level can improve the design of future studies and save money through a more informed choice of attitudinal scale.

Keywords Cross-national study, Measurement, Attitudes, Organic products, Scale validation, Invariance, Confirmatory factor analysis

Paper type Research paper

Resumen

Resumen Propósito Este estudio examina las propiedades formales y métricas de la escala de actitudes hacia los productos orgánicos de Gil *et al.* (2000), que es la escala más popular para medir estas actitudes.

Metodología La muestra incluye 4.992 compradores principales en hogares de Hong Kong, Alemania, Noruega, España y el Reino Unido. El cuestionario se distribuyó utilizando un panel de consumidores, y el trabajo de campo se llevó a cabo mediante entrevistas online asistidas por ordenador. El enfoque se basó en un análisis factorial confirmatorio y en la invariancia de las medidas, así como en un análisis del formato utilizando un método descriptivo de redacción-sintáctico-semántico.

Hallazgos La escala refleja un enfoque de actitud basada en el objeto. Su uso ha sido muy variado (en redacción, semántica de sus redacciones y los atributos que mide). Se encuentra una estructura de dos factores que cumple con las condiciones métricas (fiabilidad y validez). Sin embargo, el análisis de invariancia muestra que la escala se comporta de manera diferente en distintos países.

Limitaciones/implicaciones de la investigación Esta escala ofrece un buen punto de partida para medir las actitudes hacia los productos orgánicos, pero requiere un refinamiento para adaptarse a la evolución del consumidor y para mejorar su validez métrica. Se recomienda verificar su aplicabilidad en los estudios internacionales comparados.

Valor Este es el primer estudio que evalúa el formato y las características cuantitativas de esta escala a nivel internacional. Para los académicos y las empresas con intereses internacionales, evitar el uso de escalas con propiedades deficientes a nivel transnacional puede mejorar el diseño de futuros estudios y ahorrar dinero a través de una elección más informada de la escala actitudinal.

Palabras clave Actitudes, productos orgánicos, estudio transnacional, análisis factorial confirmatorio, validación de la escala, Cross-national study, Measurement, Attitudes, Organic products, Scale Validation, Invariance

Tipo de trabajo Artículo de investigación.

1. Introduction

Over the past two decades, the organic product market has grown considerably year on year across all countries. There are two reasons for this growth. First, there is growing consumer interest in a cleaner, healthier form of consumption that also provides greater well-being (Hughner *et al.*, 2007; Apaolaza *et al.*, 2018). Second, a growing number of producers are abandoning standard products in favor of new products such as functional foods (Küster-Boluda and Vidal-Capilla, 2017) or organic products (Willer and Lernoud, 2019).

Despite this increasing demand for organic products, consumers are bombarded by conflicting information and negative news. Accordingly, organic products may be portrayed as a fraud (Miller, 2018) or equally as offering major benefits (Organic Trade Association, 2019). Likewise, there are varied, periodic reports of fraud in relation to these products

(Pomranz, 2018; European Law Monitor, 2019), which has raised doubts over organic products' added value with respect to conventional products (Yu *et al.*, 2018). This situation has also consistently elicited skepticism (Olson, 2017). In particular, this skepticism influences the attitudes that are a key antecedent to purchase intentions (Fishbein and Ajzen, 2010).

Attitudes are important because they help explain why consumers develop preferences. Similarly, they shed light on the precursors of consumers' willingness to embrace organic products. Attitudes also have implications in marketing and communication. In both cases, attitudes help predict future behavior and aid our understanding of how to drive changes in current behavior to increase the consumption of organic products (Thomas *et al.*, 2015) or reduce the consumption of non-organic products (Peattie and Peattie, 2009). Given these implications and the fact that the phenomenon of organic products is evolving, it is important to measure attitudes toward organic products using a sound and cohesive method (Gerbing and Anderson, 1988). Doing so is especially important in areas such as consumer behavior, where the wide range of available theories allows for different ways of tackling and measuring the same phenomenon.

There is a proliferation of scales to measure attitudes toward organic products (Zotos *et al.*, 1999; Gil *et al.*, 2000; Onurlubaş and Öztürk, 2015; Oroian *et al.*, 2017), many of which have been used only once. However, this proliferation of measurement systems has been criticized (Bruner, 2003) both methodologically and practically. Methodologically, all measures must meet the requirements of validity and reliability (Nunnally and Bernstein, 1994). On a practical note, measuring phenomena in a simple, effective and precise manner is crucial because the measures applied to do so are used to evaluate the market and provide the basis for commercial and marketing decisions (Taticchi *et al.*, 2010).

The scale developed by Gil *et al.* (2000) is the most widely used to measure attitudes toward organic products. This scale has been denoted as popular in relation to food (Mata *et al.*, 2010). However, very few papers provide details of its nature, properties, validity and application. In addition, the literature shows that its use has not been systematic, and, to the best of our knowledge, no study seems to have undertaken cross-national validation of the scale. This issue is critical for transnational companies and cross-national academic studies. In both areas, valid and reliable instruments are required to measure consumer attitudes and other phenomena of interest because it is vital to design and control marketing strategies based on a realistic image of consumers. Moreover, it is crucial to make good comparisons in cross-national studies. For these reasons, testing the quality of measurement instruments is essential to avoid design problems and unreliable results. Therefore, the present study examines the formal and metric properties of Gil *et al.*'s (2000) scale. The research question or aim of this study is to ascertain whether this scale may be applied with a sufficient degree of confidence.

1.1 Attitudes toward organic products

Attitudes are an essential construct for understanding consumers' decision-making processes (Ajzen, 2008). According to functionalist theory (Argyriou and Melewar, 2011), attitudes can be understood as a person's evaluations, feelings and tendencies toward an object, which entails the associations that the individual makes between that object and the evaluation of the object. There are several ways to approach the nature of attitudes. For example, they are formed through cognitive learning (Eagly and Chaiken, 1993) or are an adaptive system derived from contextualized assessments (Schwarz, 2007). They may also refer to a predisposition toward stable cognitive behavior over time (Hawkins and Mothersbaugh, 2013) or maybe conceived as

a mental state, due to similarity with the explanatory, predictive and evaluative capacity of individual traits (Bunge, 2017).

The literature offers different ways of measuring attitudes, and two types of models are highlighted, namely, the multi-attribute attitude model and the ABC model. In the first model, a person's attitudes toward an object can be expressed as a function of the perceptions and beliefs about the attributes of the object, as well as the degree of importance that individuals attach to each of these attributes (Fishbein and Ajzen, 2010). In the ABC model, which is also known as the tripartite model of attitudes (Rosenberg and Hovland, 1960), attitudes are depicted as comprising affective, behavioral and cognitive components. This model is more flexible than the multi-attribute model because it allows more diverse relationships, whereas the multi-attribute model is restricted to a linear compensatory assumption.

In the study of organic products, most of the literature reports a significant direct or indirect effect of attitudes on purchase intentions (Thøgersen, 2009; Chen, 2009; Yadav and Pathak, 2017; Scalco *et al.*, 2017) and purchasing behavior (Varela-Candamio *et al.*, 2018). However, studies have also shown that the relationship between attitudes and actual behavior is not well established (Chen and Chai, 2010). For example, Gupta and Ogden (2009) showed that many consumers are reluctant to buy organic products, despite being highly concerned about environmental problems.

1.2. Gil et al's scale of attitudes toward organic products

1.2.1 Characteristics of the scale. In light of the important role that organic products are beginning to play, Gil *et al.* (2000) developed an instrument to measure attitudes toward such products. The proposed instrument has nine Likert-type items measured on a seven-point scale. Seven of these items express positive perceptions, and two items express negative perceptions. The original items (in English and Spanish) appear in the Appendix. In their seminal work, Gil *et al.* (2000) tested these items using a stratified random sample of 800 people from two Spanish cities. A different factor structure was found for each sample, with three factors found for one sample and four factors found for the other sample. The percentage of variance explained by these factors was 53 and 62 per cent, respectively.

One defining characteristic of a scale is whether it is reflective or formative (Diamantopoulos, 2008). Reflective scales mean that the underlying phenomenon exists *per se*, and the direction of causality runs from the construct to the measures (items). In contrast, formative scales are applied when the construct is a conceptual creation. The causality is inverse because the attributes (items) are what form the construct. In the case of this scale, no study has been identified that explicitly addresses this issue. However, several scholars (Chen, 2007; Braga Junior *et al.*, 2014; Rojas–Méndez *et al.*, 2015) have reported reliability scores that are greater than 0.70. These findings suggest that the scale is reflective because calculating reliability or convergent validity when using a formative approach does not make sense (Coltman *et al.*, 2008). Scholars have also reported that the scale has convergent and discriminant validity (De Magistris and Gracia, 2008; Teng and Wang, 2015), but most studies have not confirmed these metric properties. Table I summarizes 15 studies that have directly used the scale or some of its items.

1.2.2 Translations of the scale. The original version of the scale was published in Spanish by Sánchez García *et al.* (1998), focusing on organic foods. It was subsequently published by the same authors in English (Gil *et al.*, 2000), this time focusing on organic products in general. However, the initial Spanish and English versions (Sánchez García *et al.*, 1998; Gil *et al.*, 2000) are not exactly equivalent. Although the number of items and the structure are the same, the meaning of two items was modified in the second version. The

Authors	Sample size and country	Metric properties: Items	α/CR	CV	DV	Factors	Observations
De Magistris (2004)	n = 200 Italy	9	n/a	n/a	n/a	2	Items in Italian Likert-type 1-5
Radman (2005)	n = 179 Croatia	3 +2 outer	n/a	n/a	n/a	n/a	Items reworded Likert-type 1-5
Chen (2007) Chen (2009)	n = 470 Taiwan	9	0.75	n/a	n/a	1	Likert-type 1-7[a]
De Magistris and Gracia (2008)	n = 200 Italy	3	0.65	Yes	Yes	1	Items reworded Likert-type 1-5
Ureña *et al.* (2008)	n = 464 Spain	9 +2 outer	n/a	n/a	n/a	n/a	Items reworded Likert-type 1-5
Ventura-Lucas *et al.* (2008)	n = 214 Portugal n = 205 Germany	9	n/a	n/a	n/a	n/a	Items reworded Likert 1-5
Stolz *et al.* (2011)	n = 886 Germany	2 +1 outer	n/a	n/a	n/a	2	Items reworded Likert 1-5
Ventura-Lucas and Marreiros (2013)	n = 214 Portugal	8	n/a	n/a	n/a	3	Items reworded Likert 1-5
Braga Junior *et al.* (2014)	n = 60 Brazil	4	0.88	Yes	Yes	1	Items in Portuguese Likert-type 1-7
Mehra and Ratna (2014)	n = 94 India	2 +3 outer	n/a	n/a	n/a	2	Items reworded Likert 1-5
Teng and Wang (2015)	n = 693 Taiwan	4	0.87	Yes	n/a	1	Items reworded Likert-type 1-7
Attieh (2015)	n = 372 Lebanon	9	n/a	n/a	n/a	n/a	Original items[a] Likert-type 1-5
Rojas–Méndez *et al.* (2015)	n = 137 Canada	4	0.82	n/a	n/a	1	Likert-type 1-7
Drugova (2019)	n = 1,009 USA	7	n/a	n/a	n/a	2	Items reworded Likert 1-5

Notes: N = sample size; α = Cronbach's alpha; CV = convergent validity; DV = discriminant validity; CR = composite reliability; outer = external items; n/a = not available; [a]the scale was administered in other languages
Source: Compiled by the authors

Table I. Summary of studies that use (or are based on) Gil *et al.*'s (2000) scale

Spanish scale has been used in its full form (Attieh, 2015) and a version with only basic descriptive words (Sánchez García *et al.*, 1998; Rivera and Brugarolas, 2003). The scale has been administered in several languages such as Portuguese (Braga Junior *et al.*, 2014) and Italian (De Magistris, 2004). However, it cannot be found in full in the languages in which it has been administered (Taiwanese/Chinese, Lebanese/Arabic and Croatian).

Given this situation, the research question investigated in this paper is whether the scale under analysis has adequate formal and metric properties for the cross-national application.

2. Materials and methods

2.1 Participants and fieldwork

Participants. The participants were 4,992 adults aged 18 years or older who were responsible for household shopping. The participants resided in Germany (n = 838; 57.6 per cent women;

age M = 36.08 years, SD = 12.79), Hong Kong Special Administrative Region (SAR)-China (n = 1200; 55.1 per cent women; age M = 36.86 years, SD = 11.68), Norway (n = 840; 45.8 per cent women; age M = 37.24 years, SD = 13.53), Spain (n = 1011; 48.7 per cent women; age M = 36.76 years, SD = 10.86) and the UK (n = 1103; 54.1 per cent women; age M = 40.55 years, SD = 15.58). The study examined the main household buyers using Cint consumer panels for each country under analysis. Cint specializes in online surveys and computer-assisted Web interviews (CAWI). To increase the representativeness of the sample, the origin of the subjects was randomized within each country, maintaining proportionality by population size. Quotas of age, sex and population of origin were used. Likewise, the size of the target sample was increased in each country to reduce the probability of Type II error (i.e. false negatives).

Data gathering. CAWI was used because of its high coverage, ease of use and low cost of gathering responses. The countries where the data were collected had household internet penetration between 84 per cent in Germany and 97 per cent in Norway (The World Bank, 2019). Fieldwork was carried out between March and September 2019. During this period, no target country had campaigns that might have had a favorable or unfavorable effect on the image of organic products. Therefore, no information was considered to condition consumer attitudes (either generally or asymmetrically).

Target countries. The target countries were chosen because of their position in the organic food sales ranking (Willer and Lernoud, 2019). Three of the top 10 countries were selected: Germany (2nd), the United Kingdom (7th) and Spain (10th). Two countries outside the top 10 were also chosen: Norway and Hong Kong SAR-China. In Norway, the market share of organic products is 1.7 per cent, and there is poor awareness of organic labels (Siiskonen, 2015). In Hong Kong, educational programs on organic products have been implemented, and over 40 per cent of consumers claim that they buy organic products (Hong Kong Organic Resource Centre, 2012).

2.2 Questionnaire

Questionnaire. The core questionnaire included the items presented by Gil *et al.* (2000). All items were scored using the same seven-point Likert scale. Data on country of residence, age and sex were also collected. No personally identifiable information was gathered.

Translation of the scale. The core questionnaire was translated into traditional Chinese, Norwegian and German following a two-stage process. Using the original scale presented by Gil *et al.* (2000), professional translators were hired to translate the items into the target languages. Second, two bilingual experts, who were independent of the authors, and translators evaluated the equivalence of the items in each given language and the items in the English version (Harkness and Schoua-Glusberg, 1998). Two different experts were used for each language. They were asked the following question: "Considering each pair of statements in English and in your native tongue, to what extent do you think they are equivalent? (0 = *not at all*; 10 = *completely*)."

The Kendall concordance coefficient and the average scores given to the translations were used to analyze the agreement between translators. The results for the Kendall test were W = 0.13 and Chi-square = 8.30 (df = 9, p = 0.31). Therefore, no differences between the independent experts were observed. The scores for the average degree of equivalence were as follows: 10 points for English-Spanish, 9.7 for English-Norwegian, 9.8 for English-German and 9.6 for English-Traditional Chinese. Therefore, the translations were accepted. Notably, no score for any item was lower than 8 out of 10.

2.3 Nature of the scale

Prior to the analyses, it was necessary to establish the measurement perspective that should be adopted when analyzing the scale under consideration. This issue is important because the correct choice can help to prevent Type I and Type II errors (Diamantopoulos and Siguaw, 2006) and can determine the type of analyses to perform. According to Coltman *et al.* (2008), the theoretical considerations are:

- the nature of the construct;
- the direction of causality; and
- the characteristics of the items used.

From an empirical perspective, the considerations are:

- correlation among items;
- similar sign and significance with the precursors and effects; and
- the need to identify measurement error.

The first consideration is met because Gil *et al.*'s (2000) scale intend to measure the latent construct of attitude (toward organic products). This attitude exists (it is not a formal construct that uses indicators), and it is widely recognized as a basic psychological construct. Thus, attitude toward any object (organic products) is independent of perception, measurement and interpretation by any researcher. It is also a latent construct because it is not possible to measure and understand it directly, depending on the methodological approach followed (Park and MacInnis, 2006) and the accuracy and validity of the instrument used to quantify it.

Regarding the second consideration (direction of causality), at least three criteria must be examined: association, temporal priority and non-spuriousness (Chambliss and Schutt, 2006). "Association" implies that there must be an empirical relationship between the measurement of an attitude and the actual situation of that attitude. In other words, the two objects must co-vary. "Temporal priority" means that the phenomenon under study must exist before its measurement and not as a consequence of its measurement. Finally, "non-spuriousness" means that the relationship of attitude with other phenomena must not be due to shared common causes. Attitude meets these criteria (Edwards and Bagozzi, 2000), and the psychology literature uses this construct as an antecedent of behavior and a consequence of many variables such as culture, perceptions and socialization, among others (Albarracin *et al.*, 2005; Haugtvedt *et al.*, 2008).

Regarding the third theoretical consideration (characteristics of the items), all are common to the theme of organic products, and adding or removing an item should not introduce changes in the conceptual domain of the theoretical construct (Coltman *et al.*, 2008). The state-of-the-art presented earlier shows that authors who used attitudinal items removed and/or added items, but the construct was the same. This is because characteristics of organic products define and describe aspects of that product category.

In empirical analyses, it is necessary to test whether there is a correlation among items and measurement error. It was not possible to consider their sign and significance with the precursors and effects cited previously because the scale was analyzed without considering antecedents or effects.

3. Results

An analysis of the format and content of the scale is presented first. This analysis is followed by quantitative analysis of the metric properties: inter-country factor dimensionality and stability, reliability and convergent and discriminant validity.

3.1 Format and content analysis

The scale has been used in a range of ways, although it has always been scored on a Likert-type scale with five or seven points (Table I). The number of items has ranged from nine (as in the original scale) to two. The wording of the items has varied considerably. Whereas some studies have worded them as statements (Chen, 2007; Chen, 2009; Attieh, 2015), others have used keywords (Ventura-Lucas *et al.*, 2008; Ventura-Lucas and Marreiros, 2013; Teng and Wang, 2015; Drugova, 2019). Synonyms have also been used for the keywords of each item. For example, the term "fraud" in item IT3 has been replaced by "cheating" or "fraudulent" in some cases. Similarly, for item IT8, the expression "not harmful effects" has been replaced by "safer" or "not harmful to the environment" in other cases. The same is true of most items on the scale. In addition, items have been worded using positive and negative constructions in different studies.

The original scale is not consistent in terms of the syntax of the items. Most items (IT1, IT2, IT4, IT6 and IT7) are written in the incomplete comparative form (e.g. "organic products are healthier"), but the object, the organic products are compared with, is not explicitly stated. This issue does apply to item IT5, which compares organic products with conventional products. Items IT3, IT8 and IT9 are not comparative statements. Moreover, the items vary with respect to the comparative form. For example, for IT1, Teng and Wang (2015) and Rojas–Méndez *et al.* (2015) wrote "healthier than conventional ones", whereas Ventura-Lucas and Marreiros (2013) removed the comparison by writing "are good for health". The latter wording appears in the first version of the scale in Spanish (Sánchez García *et al.*, 1998). Likewise, with respect to item IT5, which uses the comparison "are worse than the conventional ones", Braga Junior *et al.* (2014) replaced the term "conventional" with "traditional", implying that the two terms are synonyms. In reality, however, these terms may have a different or even opposite meaning (Gliessman, 1998).

Finally, the scale is not coherent with an ABC attitudinal model because no item refers to affective or behavioral themes. Instead, the scale is coherent with a multi-attribute model because it measures individuals' beliefs about organic products, which corresponds to an attitude-toward-object model. In this model, attributes should be sufficient and relevant. However, Gil *et al.*'s (2000) scale seem to be incomplete because there are numerous attributes that are not considered by the authors (Table II). No information regarding the relevance of the attributes in the scale was found.

Table II. Included and not included attributes in Gil *et al.* (2000) scale

Included attributes	Not included attributes
Health benefit	Long shelf-life (Radman, 2005)
Quality	Nice appearance (Radman, 2005)
Fraud	Less residues (Ureña et al., 2008)
Tasty	Certified products (Ventura-Lucas and Marreiros, 2013)
Worse than conventional ones	Good value for money (Mehra and Ratna, 2014)
Expensive	Small variety of organic products (Mehra and Ratna, 2014)
Attractive	Fresh (Rojas–Méndez *et al.*, 2015)
No harmful effects	Security (Stolz *et al.*, 2011; Drugova, 2019)
Fashion	Not beneficial to local farmers (Drugova, 2019)

Source: Compiled by the authors

3.2 Metric analysis of the scale

The literature reflects an absence of consensus on the factor structure of the scale, and the authors of the scale themselves found a different number of factors (three or four) depending on which sample they considered. Thus, the analysis presented in this paper followed four steps:

(1) analyze the dimensionality of the overall sample;

(2) use covariance-based confirmatory factor analysis (CFA) to check whether the general structure is the same for each country;

(3) check the reliability and validity of each factor; and

(4) check whether the scale is invariant in terms of its form and factor loadings.

Previously, it was necessary to debug the database. To do so, the items were normalized so that they were uniform. Accordingly, items IT3 and IT5 were recoded. Then, following Osborne (2012), the next step was to delete five cases with missing data, 93 cases with straightlining as an indicator of low-quality responses (Zhang and Conrad, 2014), and 114 outliers based on the criterion of Mahalanobis distance. A case was considered an outlier if its distance had a p-value such that $p \leq 0.001$. Following this data cleaning process, the effective sample for the analysis was reduced to 4,780 cases (95.75 per cent of the initial sample).

3.2.1 Dimensionality of the overall sample. A principal axis factoring was first applied to find the smallest number of factors that explain the shared variance of the items. This method revealed that the Kaiser-Meyer-Olkin coefficient was 0.81, the Bartlett test was significant (Chi-squared = 14211.61, $p < 0.00$), and the determinant (Δ) was 0.05. Only 3 of the 36 correlation coefficients were observed to have $p > 0.05$, which suggests an association among the items of the scale. Errors (considering six of the empirical characteristics of a reflective model) were calculated using the residuals among the observed correlations and those reproduced by common factor analysis or principal axis factoring. No non-redundant residual was obtained with an absolute value greater than 0.05. These values were sufficient to consider the scale to be reflective and to form factors because, from an exploratory perspective, the data seem to fit a model with latent factors. Three factors were found: Factor 1 (IT1, IT2, IT4, IT7 and IT8), Factor 2 (IT3 and IT5), and Factor 3 (IT6 and IT9), with an overall percentage of explained variance of 52.25 per cent.

Applying CFA to this factor structure revealed the absence of multivariate normality (Mardia Test = 17.82), which led to the application of the robust Satorra–Bentler Chi-squared (SBCS) test = 455.86 (df = 24, p = 0.00, normed chi-square = 18.99). The comparative fit index (CFI) = 0.96 and root mean square error of approximation (RMSEA) = 0.06, 90 per cent confidence interval (CI) = (0.06, 0.07), showed that despite the significance of the chi-square test (due to the large sample size), the fit indicators were satisfactory. Both met the recommendations stipulated in the literature (Hair *et al.*, 2006), indicating that the fit was acceptable. The three factors are shown in Table III.

The first factor comprises items IT1, IT2, IT4, IT7 and IT8. These items relate to positive aspects that arouse desire (e.g. "tasty" or "attractive") and relate to basic consumer needs (e.g. healthy, safe and food). Therefore, this factor is related to the intrinsic "Desirability" of its attributes. The second factor, denominated "Hoax", comprises items IT3 and IT5, which reflect negative aspects related to possible fraud in the production of organic products. The third factor, denominated "Trend", comprises items IT6 and IT9, both of which relate to style in the form of price and trendiness. Factors 2 ("Hoax") and 3 ("Trend") had some problems. In both cases, half of the items had factor loadings of less than 0.70. However, the

Items	Statements	Keywords	Factor loading
Factor 1: Desirability (CR = 0.86 and AVE = 0.56)			
IT1	Organic products are healthier	Health	0.79
IT2	Organic products have superior quality	Quality	0.84
IT4	Organic products are more tasty	Tasty	0.77
IT7	Organic products are more attractive	Attractive	0.74
IT8	Organic products have not harmful effects	Innocuous	0.56
Factor 2: Hoax (CR = 0.80 y AVE = 0.67)			
IT3(R)	Organic products are a fraud	Fraud	1.00
IT5(R)	Organic products are worse than the conventional ones	Worse	0.59
Factor 3: Trend (CR = 0.63 y AVE = 0.53)			
IT6	Organic products are more expensive	Expensive	0.26
IT9	Organic products are in fashion	Fashion	1.00

Notes: (R) = reversed item; CR = composite reliability; AVE = average variance extracted

Table III. Initial structure and metrics for factors in general sample

average factor loading for Factor 2 was greater than 0.7, Factor 3 did not have sufficient reliability in any sample. Therefore, in this step, Factor 3 was eliminated, and the remaining steps were performed for Factors 1 and 2.

3.2.2 Checking the structure for each country. Step 3. CFA was performed five times (once per country) using the two-factor structure. Table IV shows the results. All coefficients used to estimate multivariate normality were high (Mardia Test > 3). Therefore, this absence of multivariate normality necessitated the use of robust estimates (Bentler and Wu, 2005). With the exception of Germany, all SBCS scores were significant, primarily due to the large sample sizes. The relative normed chi-square indicator had acceptable values for Germany and the UK, but not for the other countries. Regarding the goodness-of-fit indices, Hair *et al.* (2006) report that the CFI should be greater than 0.95 for models with fewer than

Statistics and indicators	CN	GE	NO	SP	UK
Step 3					
Mardia's Test	12.58	11.52	5.25	11.36	10.01
Satorra–Bentler's chi-squared (df = 13)	134.37*	17.41 ^{ns}	134.26*	76.96*	41.42*
Normed chi-squared (< 5)	10.33	1.33	10.32	5.92	3.18
CFI	0.93	0.99	0.93	0.97	0.99
RMSEA	0.09	0.02	0.11	0.07	0.05
90% CI of RMSEA	0.08, 0.10	0.00, 0.04	0.09, 0.12	0.06, 0.08	0.03, 0.06
Step 4					
Factor 1: CR	0.85	0.86	0.83	0.84	0.89
Factor 1: AVE	0.53	0.56	0.52	0.52	0.62
Factor 2: CR	0.76	0.68	0.72	0.83	0.80
Factor 2: AVE	0.64	0.52	0.56	0.72	0.68
Pearson correlation between factors	0.11	0.71	0.54	0.25	0.34
95% CI for Pearson correlation	0.03, 0.19	0.65, 0.77	0.47, 0.60	0.17, 0.32	0.27, 0.41

Notes: CN = Hong Kong-China; GE = Germany; NO = Norway; SP = Spain; UK = United Kingdom; *significant at $p < 0.01$; ns = not significant

Table IV. Results of CFA for each country (two factors)

12 variables when $n > 250$. The values for Hong Kong-China and Norway did not meet this threshold. Finally, their RMSEA indices (i.e. absolute fit of the error in terms of the population rather than a sample) must be less than 0.07 (Hair *et al.*, 2006). The same countries also failed to meet this condition.

3.2.3 Testing the reliability and validity of each factor. After Hong Kong-China and Norway were removed from the analysis, the reliability and validity of the two factors were checked (Table IV). For the remaining three countries, Factor 1 had a composite reliability score of more than 0.8, which is the recommended threshold to define scales with five to eight items (Netemeyer *et al.*, 2003). Factor 1 had convergent validity because all of the average variance extracted (AVE) scores were greater than 0.5.

Factor 2 did not meet the recommended composite reliability level of 0.8 for the German sample, but it did for the Spanish and British samples. However, convergent validity was observed to hold in all three countries. Finally, the existence of discriminant validity was verified using the CI criterion because no CI contained the value 1.

3.2.4 Testing invariance. Step 5. Only the Spanish and British samples met all the criteria of fit, reliability and validity for a two-factor structure. To determine whether the scale has the same form in both countries, the invariance of the structure was analyzed. The SBCS test yielded a value of 93.96, df = 26, normed Chi-square = 3.61, CFI = 0.98, RMSEA = 0.05, 90 per cent CI (0.04, 0.06), which indicates an adequate fit to the two-factor model in both countries.

Next, to check for equal factor loadings (i.e. metric invariance), equal load restrictions for both samples were applied. The results were as follows: Mardia test = 5.25, chi-square = 155.49, df = 33, normed chi-square = 4.71, CFI = 0.97, RMSEA = 0.06, 90 per cent CI (0.05, 0.07). Although the fit is not poor, the increase in the chi-square statistic (155.49 – 93.96 = 61.53), df = 33 – 26 = 7, is notable, which implies $p < 0.01$. The conclusion is that the model fit worsens significantly when equal load restrictions are imposed. Therefore, invariance does not exist because the factor loadings of the items are not equal in both samples.

These results confirm that the scale under analysis may not be applied in cross-national studies due to its inherent weaknesses.

4. Discussion

Careful, accurate measurement of phenomena is fundamental in any science. Measurement is particularly important in marketing, an area where many phenomena are intangible and/or latent (Kumar, 2018) This paper analyzes Gil *et al.*'s (2000) scale, which is the most widely used scale to measure the latent phenomenon of attitudes toward organic products. Nevertheless, few studies have applied it exactly as it was designed. Most studies have instead used reformulated versions of the original items or have selected certain items, adding others that did not appear on the original scale.

In relation to the formal aspects of the scale, the scale has been applied in a haphazard manner. This application is reflected by the fact that the items have been presented in different formats using different wordings, often modifying the scale's original semantics. For example, items IT4 and IT8 have each been worded seven different ways with different meanings (e.g. IT4: "do not taste better", "more flavorful", "tastier"; IT8: "without adverse effects", "better for the environment", "have not harmful effects"). This lack of consistency hinders the scale's replicability, threatening the standard use of the scale (Boateng *et al.*, 2018) by failing to ensure objectivity, replicability and ease of use (Sauro and Lewis, 2016). To take another example, the English and Spanish versions of IT5 use the original adjective "conventional", but the Portuguese translation changes this term to "traditional", introducing a potential source of content bias. Although certain consumers may consider the

two terms equivalent, the adjective "traditional" has a cultural and generational connotation that is not associated with "conventional", which refers more to what is done and expected in the present. This distinction also arises in other areas such as teaching and medicine. Because organic production may become widespread in the near future (i.e. becoming "conventional"), the recommendation is to avoid the terms "traditional" and "conventional". Instead, "organic production" and "non-organic production" should be used.

Regarding the scale type, the scale contains several comparisons that relate to cognitive attributes (e.g. "superior quality", "no harmful effects" and "more expensive") rather than comparisons associated with emotions or lifestyle-related attributes. However, consumers of organic products tend to have an active lifestyle (Irene Goetzke and Spiller, 2014). The scale's lack of attributes related to the way consumers conceive their lives (in general) and the products they consume (in particular) may create biases in the measurement of attitudes. Therefore, including lifestyle-related attributes would be advisable to enhance the scale. Likewise, since the 1990s, new attitudinal models that consider consumers' automatic and unconscious responses (implicit attitudes) have emerged. These attitudes have often helped explain the gap between reported intentions and actual behavior. Therefore, considering implicit attitudes when measuring attitudes toward organic products is advisable too.

The scale also has weaknesses in terms of metrics. The Hong Kong-Chinese and Norwegian samples considered in this study were rejected because of poor fit in terms of error (excessively high RMSEA), and the German sample had very low reliability for one of the factors. Moreover, metric invariance was not observed for the Spanish and British samples. These results imply that the scale behaves differently depending on the country, which raises doubts about its applicability for cross-country comparisons (at least for the countries analyzed in this study).

The general conclusion is that Gil *et al.*'s (2000) scale provides a good basis, but it needs to be improved in terms of metrics and content. Two practical implications may be derived from this study.

The first implication is scholarly and refers to an interest in checking the metric properties of any measurement instrument. Beyond any methodological issues, scales that allow cross-national comparisons are vital. In fact, it is the only way to obtain accurate and comparable knowledge of consumers. The second implication is for companies. The use of inappropriate measures can generate losses when such measures are used in market research questionnaires. Bad measurements not only play a more prominent role than they should but also have a high opportunity cost for companies. These questionnaires are often short and do not provide alternatives to reduce the impact of the failure of some measurements. Therefore, when cross-national studies are carried out, verified measures are needed.

The findings of this study must be viewed in light of some limitations, three of which are highlighted. The first is the lack of budget, which prevented the inclusion of a greater number of countries. For example, the US market, which is the largest in the world, was not considered. This is because the USA requires special treatment since it is not a single market but five regions with very different behaviors (Driscoll and Ichikawa, 2017). The second limitation is that research has focused on creating new measures without providing analyses of their suitability. This is especially true in the analysis of the format in which scales are administered because it is rarely accounted for, nor is its influence on respondents' answers considered. The third limitation is that no in-depth analyses have been undertaken and no consideration has been given to the influence of background variables such as culture or stage of development. This gap represents a future line of research.

The choice of the language in which the questionnaire was administered in Hong Kong was an important issue. The present study used traditional Chinese, even though some people regularly use Cantonese and simplified Mandarin in this region. Traditional Chinese was chosen because 89 per cent of households speak Cantonese and use traditional characters (not the simplified characters used on the continent). Mandarin has expanded significantly since 1997, although it is used fluently by fewer than 20 per cent of Hong Kong households.

Finally, the literature shows a natural tendency to create new measures but not to revise existing ones. This trend produces an inflation of measurements without studies that support their metric and utility properties. As Bruner (2003) and Bearden *et al.* (2011) point out, it is necessary to improve the methodological toolbox. Doing so would allow both firms and scholars to have reliable instruments at their disposal to measure phenomena of common interest. In the long run, this would mean that results would be comparable. Analysis in this area offers an interesting line of future research.

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Appendix

Language	Statement/item
EN	Indicate your level of agreement or disagreement with the following statements (where 1 is "strongly disagree" and 7 is "strongly agree")
SP	Indica en qué medida está de acuerdo o en desacuerdo con todas las siguientes frases (siendo 1 "Totalmente en desacuerdo" y 7 "Totalmente en acuerdo")
NO	Angi i hvilken grad du er enig eller uenig i følgende utsagn (der 1 er «helt uenig» og 7 er «helt enig»)
GE	Beschreiben Sie den Grad der Ablehnung oder Zustimmung mit den folgenden Sätzen (wobei 1 "starke Ablehnung" und 7 "starke Zustimmung" bedeutet)
TC	請以1-7分表示您對以下句子的同意程度,1代表非常不同意,7代表非常同意。
EN	IT1. Organic products *are healthier*
GE	Bioprodukte sind gesünder
NO	Økologiske produkter er sunnere
SP	Los productos ecológicos son más saludables
TC	有機產品更健康
EN	IT2. Organic products *have superior quality*
GE	Bioprodukte haben eine hervorragende Qualität
NO	Økologiske produkter er av bedre kvalitet
SP	Los productos ecológicos son de una calidad superior
TC	有機產品有很高質素
EN	IT3. Organic products *are a fraud*
GE	Bioprodukte sind ein Betrug
NO	Økologiske produkter er en svindel
SP	Los productos ecológicos son un fraude
TC	有機產品是個騙局
EN	IT4. Organic products *are more tasty*
GE	Bioprodukte sind schmackhafter
NO	Økologiske produkter smaker bedre
SP	Los productos ecológicos son más sabrosos
TC	有機產品更美味
EN	IT5. Organic products *are worse than the conventional ones*
GE	Bioprodukte sind schlechter als konventionelle Lebensmittel
NO	Økologiske produkter er verre enn konvensjonell mat
SP	Los productos ecológicos son peores que los convencionales
TC	有機產品比傳統產品更差
EN	IT6. Organic products *are more expensive*
GE	Bioprodukte sind teurer
NO	Økologiske produkter er dyrere
SP	Los productos ecológicos son más caros
TC	有機產品更貴
EN	IT7. Organic products *are more attractive*
GE	Bioprodukte sind attraktiver
NO	Økologiske produkter er mer tiltalende
SP	Los productos ecológicos son más atractivos
TC	有機產品更吸引
EN	IT8. Organic products *have not harmful effects*
GE	Bioprodukte haben keine schädlichen Auswirkungen
NO	Økologiske produkter har ingen skadevirkninger
SP	Los productos ecológicos no tienen efectos perjudiciales
TC	有機產品沒有有害的影響
EN	IT9. Organic products *are in fashion*
GE	Bioprodukte sind in Mode
NO	Økologiske produkter er modern
SP	Los productos ecológicos están de moda
TC	有機產品很時尚

Table AI. Question statements and items (IT) of the scale in five languages

Notes: EN = English; GE = German; NO = Norwegian; SP = Spanish; and TC = Traditional Chinese
Source: Compiled by the authors

5 DISCUSIÓN DE RESULTADOS

5.1 INTRODUCCIÓN

En esta sección se muestran los resultados y se comparan con los obtenidos en otras publicaciones académicas. La discusión se ha separado en diferentes epígrafes siguiendo el orden de las publicaciones, pero teniendo en cuenta que el conjunto de artículos configura un único tema de investigación: la relación existente entre los diferentes tipos de actitudes y la intención de compra de productos ecológicos.

5.2 EL ROL DE LAS ACTITUDES IMPLÍCITAS EN LA INTENCIÓN DE COMPRA DE VINO ECOLÓGICO

Hasta donde sabemos, esta publicación ha sido la primera que repara sobre la posible influencia de las actitudes implícitas y explícitas en la intención de compra de vino ecológico, llevando a cabo una segmentación de actitudes. Cabe destacar cuatro contribuciones importantes.

En primer lugar, se ha descubierto que sólo las actitudes explícitas influyen significativamente en la intención de compra de vino ecológico. Por el contrario, las actitudes implícitas no son predictoras significativas de esta intención. A pesar de que los consumidores asocian de manera no consciente el vino ecológico con los aspectos positivos y el vino convencional con los negativos, esto no implica una mayor intención de compra de vino ecológico. Este hallazgo puede denotar que la predisposición que los consumidores tienen es principalmente reflexiva, una actitud consciente que requiere una conciencia ecológica y una voluntad meditada para pagar más por vino ecológico.

En segundo lugar, desde un punto de vista empresarial, dado que las actitudes implícitas están ligadas a aspectos emocionales (no conscientes) y no

contribuyen a explicar la intención de compra, parecería que el precio psicológico, el diseño del producto o una estrategia de comunicación emocional no son apropiados. Esto es coherente con Vriens *et al*. (2016), que indican que, en el caso de la baja importancia de los factores implícitos y la alta importancia de los explícitos, es más aconsejable utilizar los que activan explícitamente al comprador. En particular, parece interesante considerar los atributos intrínsecos del vino ecológico, los niveles de implicación (*engagement*) y de activación (*arousal*) frente al producto. Estos factores deben ser abordados por los productores y comercializadores de forma conjunta para construir una estrategia de marketing coherente. Los productores deben trabajar en mejores atributos intrínsecos (productos más saludables, de mayor calidad y más agradables al paladar), mientras que los comercializadores deberían mejorar el posicionamiento trabajando en las actitudes explícitas.

Tercero, la asociación entre el concepto de vino ecológico y los atributos positivos vinculados con la categoría de productos ecológicos es significativa pero no es intensa. Esto puede deberse a la doble reputación del vino en España (Nielsen & OeMv, 2011). En primer lugar, el vino se percibe como un producto con un importante componente cultural (aspecto positivo). Sin embargo, se considera un producto elitista con bajo relevo generacional, alto contenido de alcohol y se produce utilizando pesticidas y aditivos. Estos elementos generan una imagen poco atractiva del producto. Además, la situación se ve agravada por el hecho de que hay consumidores que no comprenden lo que significa "ecológico" (Kuchler *et al*., 2018) ni pueden distinguir entre las diversas etiquetas ecológicas existentes (Delmas & Lessem, 2017), por lo que no reconocen los beneficios del vino ecológico.

Por último, los consumidores potenciales de vino ecológico pueden dividirse en un segmento pro-ecológico (que no presenta una alta intención de compra) y un segmento apático (y numeroso) con baja intención de compra. Estos consumidores, sin embargo, viven en un país con una larga tradición vinícola, que posee una elevada producción de vino ecológico y bajo consumo del mismo. Esta situación puede deberse a que quienes tienen una actitud positiva hacia el vino ecológico no pueden comprarlo debido a la dificultad de cambiar sus hábitos de compra y al uso ineficiente de las herramientas de marketing. Así, en el mercado español es difícil

encontrar vinos ecológicos en las estanterías de los supermercados, y también es muy probable que los consumidores no vean el beneficio real de consumir vino ecológico en comparación con los vinos convencionales. La primera cuestión está en consonancia con Vermeir y Verbeke (2006) que señalan que la baja disponibilidad percibida de productos sostenibles puede actuar como un inhibidor de las intenciones de compra. El segundo tema también ha sido citado en la literatura como una situación generalizada en muchos países (Ogbeide *et al*., 2015).

5.3 EXPLICACIÓN MULTIFACÉTICA DE LA PREDISPOSICIÓN A COMPRAR ALIMENTOS ECOLÓGICOS

En este apartado se discute la influencia de las actitudes implícitas y explícitas y el papel de las dimensiones hedónica y utilitaria en la predisposición a comprar alimentos ecológicos. Se realizaron modelos de ecuaciones estructurales multigrupo para analizar dos muestras independientes referidas a dos tipos de productos: el chocolate (producto hedónico) y la leche (producto utilitario).

En lo que respecta a las dimensiones de la actitud y la naturaleza diversa de los productos, como era de esperar, la influencia de cada dimensión varía significativamente según la naturaleza del producto. En el caso del chocolate, la dimensión hedónica influye significativamente en la predisposición a comprar alimentos ecológicos. En cambio, para la leche, la dimensión utilitaria tiene una influencia significativa. Este hallazgo es coherente con Parker *et al*. (2006) y Baltas *et al*. (2017), que sostienen que la dimensión utilitaria no es significativa para los productos asociados con el disfrute y el placer, y por Maehle *et al*. (2015) quienes señalan que la dimensión utilitaria es importante para los alimentos que tienen una orientación funcional y práctica.

La literatura muestra que las dimensiones hedónica y utilitaria son cruciales en la configuración de las actitudes de los consumidores. Los resultados muestran que, a nivel actitudinal, ambas dimensiones parecen ser independientes entre sí, por lo que la posible transferencia entre utilidad y emoción en las evaluaciones de los consumidores no se considera relevante. Este hallazgo se encuentra en línea con

los de Avcilar y Özsoy (2015) y Nystrand y Olsen (2019) y no confirma los aportes de Nasir y Karakaya (2013) y Lee y Goudeau (2014).

En cuanto a las actitudes explícitas e implícitas, aunque se ha argumentado que los procesos implícitos también influyen en la compra de alimentos (Kakoschke *et al.*, 2017), los resultados revelan dos escenarios diferentes: convergencia entre las actitudes explícitas e implícitas cuando se consideran los alimentos de orientación hedónica, y divergencia en el caso de los alimentos de orientación utilitaria. Así, en el caso del chocolate ambos tipos de actitudes influyen en la predisposición a comprar alimentos ecológicos, pero no lo hacen en el caso de la leche. Este escenario de convergencia o divergencia entre los dos tipos de actitudes puede deberse a la falta de coherencia asociativa. En otras palabras, las actitudes implícitas influyen significativamente en los alimentos de orientación hedónica, ya que conectan mejor con los atributos del alimento. Por lo tanto, con este tipo de producto, no se requiere esfuerzo cognitivo para procesar la información. En su lugar, las asociaciones surgen automáticamente. Por el contrario, cuando se trata de un alimento de enfoque utilitario, la elaboración cognitiva requiere atención y reflexión. En este caso, no hay coherencia entre las asociaciones implícitas y la naturaleza del producto, por lo que las actitudes implícitas no tienen una influencia relevante, al menos de acuerdo con el instrumento de medición empleado (Test de Asociación Implícita).

5.4 UN NUEVO MODELO PARA EXPLICAR LA INTENCIÓN DE COMPRA DE PRODUCTOS ECOLÓGICOS

Los resultados de esta publicación indican que las dos componentes de las actitudes implícitas (afectiva y cognitiva) son percibidos como distintas por los consumidores de productos ecológicos, lo que es coherente con el modelo de actitudes ABC (Jain, 2014) y con los resultados reportados por Trendel y Werle (2016). Este hallazgo implica que las preferencias o evaluaciones que se generan fuera del procesamiento cognitivo también tienen una influencia racional a partir de lo que se ha aprendido subconscientemente y de lo que se ha sentido inconscientemente.

En segundo lugar, a diferencia del estudio de Trendel y Werle (2016), se observó un efecto significativo del efecto de las actitudes implícitas de componente cognitiva sobre las actitudes explícitas. Este hallazgo es razonable porque estos autores analizaron las respuestas a la elección de ciertos alimentos con un fuerte enfoque hedónico (por ejemplo, el chocolate). Sin embargo, los productos ecológicos considerados en este estudio son funcionales y prácticos, por lo que la importancia del enfoque cognitivo tiene sentido. Este resultado es consistente con los hallazgos reportados por Maniatis (2016), según los cuales la evaluación de los aspectos ecológicos requiere interacciones cognitivas mentales complejas que involucran la conciencia, el conocimiento y el compromiso.

En tercer lugar, los resultados confirman la influencia del cinismo en el escepticismo y del escepticismo en las actitudes hacia los productos ecológicos, lo que concuerda con los hallazgos de Albayrak *et al*. (2011). Este escepticismo puede actuar de manera positiva (por ejemplo, ayudando a reducir el impacto de una posible decepción y mejorar el pensamiento crítico) o de manera negativa (por ejemplo, generando evaluaciones contaminadas que fomenten comportamientos apáticos o no respetuosos con el medio ambiente). Debido a que las actitudes hacia los productos ecológicos están influenciadas negativamente por el escepticismo. Con el propósito de cambiar las actitudes de los consumidores escépticos, parece aconsejable desarrollar estrategias que animen a los consumidores a conocer las ventajas de este tipo de productos. Este grupo de consumidores se caracteriza por ser muy exigente, no aceptar la información sin antes cuestionarla, y tener un cierto grado de desconfianza como rasgo de personalidad. Por lo tanto, para generar actitudes positivas hacia los productos ecológicos, es recomendable utilizar estrategias que fomenten una visión favorable hacia estos productos y que refuercen su credibilidad. Una estrategia que podría utilizarse consistiría en mejorar la reputación a través de la responsabilidad social de las empresas y mejorar la visibilidad de los productos ecológicos mediante campañas institucionales centradas en los beneficios ambientales.

Cuarto, las actitudes de compra (cuando se comparan los productos ecológicos con los convencionales) y las intenciones de compra no se ven afectadas por el escepticismo. La literatura aquí es ambivalente. Por ejemplo, Goh y Balaji

(2016) demostraron que el escepticismo reduce las intenciones de compra (de productos ecológicos en general), mientras que Wei *et al*. (2017) encontraron que no influye en las actitudes o las intenciones de compra. Nuestros resultados indican que las actitudes y las intenciones de compra son resistentes a cierto grado de prejuicio del consumidor, lo que concuerda con las conclusiones comunicadas por Wei *et al*. (2017). Este hallazgo podría deberse al hecho de que la formación de actitudes se ve reforzada por la creciente demanda de productos ecológicos en todos los sectores, y por el temor del consumidor a los productos químicos nocivos (por ejemplo, los plaguicidas). Esto puede implicar la percepción de que es bueno alejarse de los productos convencionales, además del hecho de que una mayor conciencia ecológica protege la intención de compra de este tipo de productos.

5.5 VALIDACIÓN INTERNACIONAL DE LA ESCALA DE MEDIDA DE ACTITUDES EXPLÍCITAS

La medición cuidadosa y precisa de los fenómenos es fundamental en cualquier ciencia. La medición es particularmente importante en Marketing, un área en la que muchos fenómenos son intangibles y/o latentes (Kumar, 2018). En este artículo se analiza la escala de Gil *et al*. (2000), que es la escala más utilizada para medir el fenómeno latente de las actitudes hacia los productos ecológicos. Sin embargo, pocos estudios la han aplicado exactamente como fue diseñada. La mayoría de los estudios han utilizado versiones reformuladas de los ítems originales o han seleccionado ciertos ítems, añadiendo otros que no aparecían en la escala original.

En relación con los aspectos formales, la escala se ha aplicado de manera descuidada y azarosa. Esta aplicación se refleja en el hecho de que los artículos han sido presentados en diferentes formatos usando diferentes formulaciones, a menudo modificando la semántica original de la escala. Esta falta de coherencia dificulta la replicabilidad de la escala, amenazando el uso estándar de la misma (Boateng *et al*., 2018) al no asegurar la objetividad, la replicabilidad y la facilidad de uso (Sauro & Lewis, 2016).

En lo que respecta al tipo de escala, ésta contiene varias comparaciones relacionadas con atributos cognitivos (por ejemplo, "calidad superior", "sin efectos

nocivos" y "más costosa") en lugar de comparaciones asociadas con emociones o con atributos relacionados con el estilo de vida. Sin embargo, los consumidores de productos ecológicos tienden a tener un estilo de vida activo (Irene Goetzke & Spiller, 2014). La falta de atributos relacionados con la forma en que los consumidores conciben sus vidas (en general) y los productos que consumen (en particular) puede crear sesgos en la medición de las actitudes. Por lo tanto, sería aconsejable incluir atributos relacionados con el estilo de vida para mejorar la escala. Asimismo, desde el decenio de 1990, los nuevos modelos de actitud consideran las respuestas inconscientes de los consumidores (actitudes implícitas). Estas actitudes a menudo explican la brecha entre las intenciones reportadas y el comportamiento real. Por lo tanto, también es aconsejable tener en cuenta las actitudes implícitas en la medición de las actitudes hacia los productos ecológicos.

La escala también tiene debilidades en términos de métrica. Las muestras de Hong Kong y de Noruega consideradas en este estudio fueron rechazadas debido a su mal ajuste en términos de error (RMSEA excesivamente alto), y la muestra alemana tenía una fiabilidad muy baja para uno de los factores. Además, no se observó invariancia métrica para las muestras de España y Reino Unido. Estos resultados implican que la escala se comporta de manera diferente según el país, lo que plantea dudas sobre su aplicabilidad para las comparaciones entre países (al menos para los países analizados en este estudio).

La conclusión general es que la escala de Gil *et al*. (2000) proporciona una buena base, pero necesita mejorar en términos de métrica y contenido.

6 CONCLUSIONES, LIMITACIONES Y FUTURAS LÍNEAS DE INVESTIGACIÓN

6.1 CONCLUSIONES

Este trabajo de investigación tiene por objeto explorar la relación entre dos tipos de actitudes y la intención de compra de productos ecológicos. Cada artículo que forma parte del compendio muestra las conclusiones específicas para cada modelo planteado. No obstante, teniendo en cuenta dichas conclusiones, puede extraerse otras más generales.

La primera se refiere a que las actitudes implícitas pueden desempeñar un papel activo sobre la intención de compra de productos ecológicos. Este papel parece variar en función de la naturaleza de los productos bajo análisis. Nuestros resultados verifican la influencia de las actitudes implícitas sobre la intención de compra en tres de los cinco productos analizados (dentífrico, insecticida y chocolate). Esto no ocurre en el caso de otros productos (vino y leche). Llama la atención la gran diversidad de productos dentro de cada grupo, lo que indica cierta falta de estabilidad y coherencia en los hallazgos.

La segunda conclusión general se refiere a que, bien sea por influencia directa o indirecta sobre las variables dependientes, las actitudes implícitas tienen una influencia limitada sobre la intención de compra de productos ecológicos. Una primera razón que puede explicar este fenómeno es que el calificativo ecológico de los productos es un atributo que responde a una fuerte componente racional y reflexiva. Una segunda razón, asimismo relevante, que puede explicar esta influencia es la posible existencia de disonancias cognitivas en los consumidores hacia los productos ecológicos. Esta desarmonía puede producirse por un conflicto entre lo que se espera de un producto ecológico y el objetivo de la categoría la que pertenezca el producto. La desarmonía, aunque no referida a aspectos emocionales o racionales específicos, puede también responder a una discrepancia entre las

componentes racional y emocional de la propia intención o predisposición del consumidor.

La tercera conclusión se refiere a que actitudes explícitas e implícitas son congruentes entre sí. Se ha encontrado que para tres productos (chocolate, insecticida y dentífrico) ambos tipos de actitudes tienen una relación positiva sobre la intención/predisposición. Y aunque esto no se encuentre para los otros dos productos (vino y leche), la influencia de las actitudes implícitas es nula pero no negativa, por lo que no se contrapone a la influencia de las actitudes explícitas.

6.2 LIMITACIONES DEL ESTUDIO

Como todo trabajo científico, la presente tesis doctoral tiene algunas limitaciones de carácter general y otras que son específicas de los artículos que forman el compendio. Algunas de estas limitaciones se refieren a aspectos instrumentales (IAT y escala de actitudes explícitas) y otras a decisiones tomadas en el desarrollo empírico de la tesis (muestreo y productos considerados).

La primera limitación de carácter general está relacionada con el tipo de técnica IAT utilizada y el efecto de orden en los primeros bloques, porque el software que se ha empleado no contrabalancea dichos bloques. La técnica Brief-IAT, que sí neutraliza el efecto de orden de los bloques, debería ser empleada en futuros estudios. Aunque hay pruebas que sugieren que el orden en que se presentan los bloques del IAT no influye (o sólo tiene una influencia marginal) en los resultados (Nosek *et al*., 2005). En esta misma cuestión, no hay que olvidar que el IAT es una de las posibles técnicas para acercarnos a las actitudes implícitas.

La segunda limitación se refiere a la debilidad del instrumento utilizado para medir las actitudes explícitas hacia los productos ecológicos. Pese a ser un instrumento con elevado número de ítems, los problemas de validez implicaron reducir de forma importante los ítems considerados, traduciéndose en una amenaza a la validez de constructo y en una debilidad de la forma de medir dichas actitudes. Aunque el instrumento final utilizado en nuestros artículos tenía propiedades psicométricas adecuadas, sólo conservaba un pequeño número de

ítems de la escala original propuesta por Gil *et al*. (2000). Si bien se ha pretendido paliar esta situación (realizando un análisis en profundidad de la escala en cinco países y con una muestra de varios miles de individuos), lo planteado sigue siendo una limitación a considerar.

Aunque se ha intentado trabajar sobre un gran abanico de productos (vino, leche, chocolate, pasta dentífrica e insecticida) todos ellos son productos de gran consumo y no hemos considerado otros productos relacionados con el ocio, el turismo o el lujo, entre otros. De la misma manera, hay que tener en cuenta que esta tesis se ha focalizado en comparar productos ecológicos versus convencionales. Esto significa que los productos ecológicos tienen una fuerte carga cognitiva, por lo tanto, son menos susceptibles a que las actitudes implícitas desempeñen un rol significativo en su intención de compra.

Las limitaciones específicas hacen referencia al limitado alcance de algunos de los estudios planteados. En particular, los tres primeros artículos que componen el compendio se llevaron a cabo en un único país. El uso de datos de un solo país impide la generalización de los resultados, por lo que investigaciones futuras deberán comparar países con diverso nivel de desarrollo del mercado ecológico. Tal comparación podría ayudar a generalizar los resultados de la presente tesis.

6.3 FUTURAS LÍNEAS DE INVESTIGACIÓN

Teniendo en cuenta los artículos de investigación presentados y las limitaciones señaladas, se proponen a continuación algunas ideas que pueden ser relevantes para ser desarrolladas en futuros trabajos complementarios.

Desde la perspectiva metodológica una primera línea de trabajo se centraría en emplear otras técnicas para medir las actitudes implícitas (por ejemplo, la técnica de primado o el Brief-IAT) para confirmar los resultados obtenidos. El uso conjunto de dos o más técnicas permitirá determinar la técnica *Gold Standard* para medir dichas actitudes. Una segunda línea de trabajo está relacionada con las actitudes explícitas, ya que es necesario perfeccionar un instrumento que evite posibles problemas de validez convergente y de contenido en diferentes tipos de muestras.

Desde el punto de vista empírico, planteamos la necesidad de continuar analizando el rol de las actitudes implícitas sobre la intención de compra con una mayor variedad de productos, esto permitirá confirmar si los resultados de esta tesis son generalizables.

Desde el punto de vista de las decisiones de marketing, será interesante que futuros trabajos aborden tres cuestiones importantes relacionadas con el consumo de productos ecológicos. En primer lugar, es necesario conocer como la desconfianza de los consumidores puede afectar a la intención de compra. En segundo lugar, dada la aparición de la pandemia (Covid-19) también será interesante conocer cómo evoluciona el valor que otorgan los consumidores a las innovaciones dentro del campo de la ecología (actualmente, el problema de la sostenibilidad ha pasado a un tercer lugar dado que los problemas sanitarios y de recesión económica tienen un papel protagonista). En tercer y último lugar, consideramos fundamental analizar que influencia pueden tener condicionantes externos como el tiempo disponible y la importancia del producto en las actitudes implícitas.

7 REFERENCIAS BIBLIOGRÁFICAS

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8 APÉNDICE

En este apartado se detallan los datos relativos a la calidad de las revistas académicas y de los artículos científicos que forman el compendio de publicaciones de la presente Tesis doctoral:

1. **Sarabia-Andreu, F.** and Sarabia-Sánchez, F. (2018). Do implicit and explicit attitudes explain organic wine purchase intention? An attitudinal segmentation approach. *International Journal of Wine Business Research*, *30* (4), 463-480. doi: 10.1108/IJWBR-09-2017-0063.

    - Indizada en Emerging Sources Citation Index y en Scopus.
    - SJR (2018) – Factor de Impacto: 0,46 (Q2). Índice H: 29 (2018).
    - ICDS: 9,5 (2018).
    - CiteScore: 1,92 (2018).
    - Número de citas en junio 2020: 4 (Google Scholar)
    - Más información disponible en: http://bit.ly/328TMne

Adicionalmente este artículo recibió en 2019 el *"Highly Commended Award"* por parte de la editorial Emerald Publishing.

2. **Sarabia-Andreu, F.**, Sarabia-Sánchez, F. J., Parra-Meroño, M. C., & Moreno-Albaladejo, P. (2020). A multifaceted explanation of the predisposition to buy organic food, *Foods*, *9*(2), 197. doi: 10.3390/foods9020197.

    - Indizada en Science Citation Index Expanded y en Scopus.
    - JCR (2020)- Factor de Impacto: 4.092 (Q1).
    - SJR (2019) - Factor de Impacto: 0,661 (Q2). Índice H: 11 (2019).
    - ICDS: 10,4 (2019).
    - CiteScore: No disponible.
    - Número de citas en junio 2020: 1 (Google Scholar).
    - Más información disponible en: http://bit.ly/37JPZ0O

3. **Sarabia-Andreu, F.**, Sarabia-Sánchez, F. J., & Moreno-Albaladejo, P. (2019). A new attitudinal integral-model to explain green purchase intention. *Sustainability*, *11*(22), 6290. doi: 10.3390/su11226290.

    - Indizada en Science Citation Index Expanded y en Scopus.
    - JCR (2019)- Factor de Impacto: 2.592 (Q2).
    - SJR (2019) - Factor de Impacto: 0,581 (Q2). Índice H: 68.
    - ICDS: 10,5 (2019).
    - CiteScore: 3,2 (2019).
    - Más información disponible en: http://bit.ly/2uja9Bc

4. **Sarabia-Andreu, F.**, Sarabia-Sanchez, F., Parra-Meroño, M. C., & Moreno-Albaladejo, P. (2020). Attitudes toward organic products: A cross-national comparison and scale validation. *Spanish Journal of Marketing - ESIC*, *24*(1), 115-132. doi:10.1108/SJME-10-2019-0084.

    - Indizada en Emerging Sources Citation Index y en Scopus.
    - SJR (2019) – Factor de Impacto: 0,512 (Q2). Índice H: 7.
    - ICDS: 9,9 (2019).
    - CiteScore: 3,9 (2020).
    - Más información disponible en: http://bit.ly/2vSxTww