



Star Ratings in E-commerce

A Cross-Cultural Study on the Effect of Star Ratings on Consumers' Trust and Purchase
Intentions

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Preface

The C2C market was triggering my curiosity for a few years, especially recent trends such as sustainability in second-hand clothing interest me. Nowadays, there are lots of opportunities to buy second-hand products online, but there is still space for improvement. Especially the stress about trust between buyer and seller when buying second-hand products online, this feels like a big loss for the growth of a sustainable economy. This aspect is what triggered me to choose this topic related to trust and privacy in consumer-to-consumer marketplaces. I knew that this topic was going to keep my interest and focus high because of my affinity for this topic. With pride, I like to present my thesis, Star Ratings in E-commerce. This is a cross-cultural study of the effect of star ratings on purchase intention.

Peter Broeder made sure that I had to write something every week, he was the so-called Dutch saying: “the stick behind the door”. I would like to thank Peter Broeder for his support and feedback throughout this phase, this helped me a lot. Jan Engelen fluently took over the last mile of my thesis process without any delay. I would like to thank him for stepping in and giving his feedback in this last phase. I also want to give special attention to my family, friends, and boyfriend who helped me through writing my thesis. Especially my boyfriend for going with me to Lille to gather French respondents, and this helped a lot to collect enough French respondents. Finally, I would like to thank my thesis buddies, especially Nina Baars for making it possible to discuss everything and helping each other out. The process of writing this thesis taught me a lot about research in general and about my specific topic, which motivated me to look for a future job where sustainability plays an important role.

Aukje Meeuwesen

Tilburg, June 2022

Abstract

Online C2C marketplaces such as Vinted are becoming more popular and are not limited to the border of a country, which means that there is a (social) distance between seller and buyer, which could be reduced by user-generated feedback. This feedback, for example in the form of star ratings, has been researched widely, but only little research has been done on this effect within C2C platforms such as Vinted. This study aims to investigate the effect of star ratings on purchase intention while looking at the mediating role of trust and the moderating role of cultural background. For this research, 328 (Dutch and French) respondents participated in an experimental survey, as these two cultural groups participate in the same Vinted market, both nationally and cross-nationally. In one condition, the participants were shown an advertisement with a low one-star rating, and in the other condition, participants were shown a high five-star rating of a seller. The participants were asked questions about purchase intention, their attitude towards star ratings, trust, and uncertainty avoidance. The results of this study show that a high star rating influences the purchase intention positively, but that trust does not significantly mediate this relationship. This study also reveals that cultural background moderated the relationship significantly between star ratings and purchase intention. As expected, this effect was stronger among French respondents, which is reflected in higher uncertainty avoidance among French respondents.

The paper mainly contributes to two main concepts: the direct positive effect of star ratings on purchase intention, and the moderating effect of cultural background on this effect. Theoretical implications of these results are that star ratings also have a positive impact on purchase intention in the C2C market specifically. Moreover, cultural background is an important moderator on C2C platforms as well, where French respondents score higher on

uncertainty avoidance than Dutch. Future studies could build further upon the found effect of star ratings and the effects of cultural background.

Keywords: star ratings, purchase intention, trust, cultural background, e-commerce, Vinted, second-hand, C2C.

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1. Introduction

Shopping online is a global trend, where consumers have an unlimited variety of products available all over the world (Pappas, 2016). E-commerce has grown significantly in Europe since 2019, which is caused mainly by the COVID-19 pandemic (Campisi et al., 2021). This growth is especially visible in online consumer-to-consumer marketplaces, which will continue because people are becoming more aware of the importance of sustainability (Papadopoulou et al., 2021). C2C can be defined as the online transaction between two consumers via an online marketplace without the involvement of a third party. Nowadays, there are a lot of successful C2C online platforms such as eBay, Amazon, and Etsy, where buyers and sellers meet digitally (Traver & Laudon, 2018). Another well-known online marketplace in fashion, where members can buy or sell second-hand clothes is Vinted, which is also an app. This is the largest digital international C2C marketplace In Europe, with a 40% share of the second-hand market in Europe (Neerman, 2021). This study will investigate two large contributors to European C2C e-commerce: the Netherlands and France. In 2020, 91% of people from the Netherlands were e-shoppers, whereas 78% of people from France were e-shoppers (Lone et al., 2021). Besides the growth in e-commerce, m-commerce is growing rapidly due to the rapid development of mobile technology (Xu, 2017), which allowed the creation of functional mobile platforms including payments (Hu et al., 2022). The European e-commerce report by Lone et al., 2021 stated that consumers are starting to prefer purchasing via mobile devices. In Europe, 75% of activity on marketplaces takes place on mobile devices. This is higher than, for example, mobile app use among customers of retailers (40%) or even at general international webshops (60%). The mobile platforms also allow shopping internationally: over a period of 3 months, 27% of both French and Dutch consumers bought from sellers from other EU countries (Lone et al., 2021). The

significance of m-commerce compared to e-commerce can especially be found through apps such as Vinted. In February 2022, the second-hand clothing app Vinted was the most downloaded fashion app on mobile devices in France, with over 424,000 monthly downloads (Statista, 2022). The worldwide trend of the emergence of m-commerce (Aguilar-Illescas et al., 2020) is in line with the numbers of Vinted. Globally, 90% of the transactions on Vinted take place via mobile devices (Lemon Labs, 2022). Dutch Vinted members can only trade within the Netherlands, Belgium, France, Spain, and Luxembourg. Especially on C2C platforms, uncertainty avoidance and trust play a vital role due to the higher risks of scams and fraud compared to business-to-consumer markets (Leonard & Jones, 2021; Chen et al., 2019). There are numerous cases of scams between Dutch and French consumers (BNN VARA, 2020; RTL Nieuws, 2020), which could lead to more uncertainty avoidance and less trust.

When it comes to trading online between a seller and buyer, trust is essential. According to Leung et al. (2019), people will not intend to purchase a product if there is a lack of trust. Trust is an essential aspect of e-commerce because due to trust, a comfortable environment can be created, wherein consumers are less concerned about the risks (Lin et al., 2019). A way to create trust is with online reviews or ratings, which can be seen as the online replacement for traditional word-of-mouth marketing. Consumers rely on the feedback of others to minimize uncertainty.

E-commerce platforms often implement a system for users to give feedback, mainly in the form of rating systems or verbal reviews. Feedback is especially important in online marketplaces, where buyers and sellers need to trust each other. Within the EU, 59% of e-commerce platforms inserted a review feature on their website (Lone et al., 2021). Reviews are an important form of feedback and are used as an information source by potential buyers. In this

study, reviews refer to an online user-generated reputation, which could be a qualitative review such as verbal comments, or quantitative ratings such as stars. On Vinted, the first visible user-generated reputation is the star rating of the seller when clicking on an item for sale. Verbal reviews are only visible when clicking further to the profile of a seller.

Based on Vinted items for sale, this study will focus on the importance of cultural differences in star ratings, trust, and purchase intentions. Since activity among Dutch and French users on Vinted is high, and the two participate within the same Vinted market, the cultural difference between Dutch and French people will be investigated. According to Hofstede's paradigm of cultural dimensions (2022), the national cultures of the Netherlands and France differ in the degree of uncertainty avoidance. It reveals that the French people are more uncertainty avoidant than the Dutch people (Broeder, 2022). These cultural differences in uncertainty avoidance relate to how people deal with uncertain situations and circumstances outside their control. Individuals belonging to a cultural background with a higher level of uncertainty avoidance need more control compared to individuals belonging to a lower uncertainty avoidant culture. This might indicate that the influence of star ratings on purchase intention is stronger among French than among Dutch. The number of stars in a rating would thus be moderated by cultural background, as there could be a difference in the perception of one-star and five-star ratings between these cultures. Therefore, the scope of this research will be on advertisements of clothing as visible per mobile phone within the national limitations of this market. Hence, the following research question is formulated:

RQ: *“What is the effect of star ratings on Vinted on the online consumers’ trust and purchase intention, differentiated by cultural background?”*

2. Theoretical Framework

2.1 Star Ratings and Purchase Intention

Reputation systems such as star ratings have become an important aspect of decision-making in daily life. A reputation system collects user-generated feedback about the process between a buyer and a seller, which can be used by new potential buyers to gather information about the seller (Chen et al., 2019). New potential buyers rely on past reviews of a seller (Chehal et al., 2021). Star ratings are a visualization of how other users rated a product or service on online platforms (Willems et al., 2019). These ratings and other reputation systems are seen in many e-commerce platforms nowadays, especially in ‘sharing economy’ platforms such as eBay, Amazon, Airbnb, and others (Newlands et al., 2019). Star ratings are a standardized numeric representation of the experienced satisfaction between buyer and seller, mostly from one to five stars. In general, a higher score indicates greater satisfaction. However, a buyer’s perception of the meaning of star ratings can differ. A three-star rating, which is mostly classified as neutral, might be good enough for one buyer but not good enough for another (Lafky, 2014). Besides the quantitative star ratings, qualitative factors are also influential in the decision-making process (Roy et al., 2018).

On a second-hand platform such as Vinted, the reputation of a seller is publicly shown. According to Vinted, feedback is important for both buyers and sellers because it builds trust among Vinted members (Vinted, 2022). The reputation system on Vinted consists of star ratings and verbal reviews, which could only be given after the order process is completed. It is not possible to delete or edit the given feedback, nor for the automatic feedback given by Vinted. Vinted labeled its star ranking system with examples and tips to rate the purchasing process: for the buyer, 1-2 stars indicate, for example, that the buyer is unhappy with the order, the seller

never shipped, or the defects of the product were not mentioned. For the seller, 1-2 stars indicate, for example, that the buyer was unresponsive, canceled the order for no valid reason, or demanded a refund. 3 stars given for buyer and seller are indicated as neutral, only something may be improved. 4-5 stars for both buyer and seller indicate that the experience was very good or great and that the buyer loves the bought item (Vinted, 2022). In this way, Vinted has tried to tackle the bias around the interpretation of the number of stars, but the objective meaning of a certain number of stars remains questionable, due to personal interpretation.

Another phenomenon when a buyer interprets a star rating is the bandwagon effect, which is a cognitive bias that stimulates people to think or act in a certain way because they believe that others are thinking and acting in the same way (Kim & Gambino, 2016). Chou et al. (2016) define the effect as the individual adoption of something in proportion to others who have already done so. This has also been confirmed in the research by Sundar et al. (2008) where the star ratings are interpreted as cues designed to create a bandwagon effect among buyers. The results showed that higher star ratings indeed lead to higher bandwagon perceptions as a mediator, and to higher purchase intention. Nevertheless, the bandwagon effect was only proven in a constructive way where one would follow another's positive rating, but negative ratings or divergent ratings were not further investigated.

Besides the bandwagon effect, the influence of star ratings and the various factors that determine their usefulness has yielded more interesting results. A study by Park and Nicolau (2015) is about consumers who seek heuristic information cues to simplify the information involved when making tourist decisions. They looked at the usefulness and enjoyment of review ratings of restaurants. The results showed that extreme positive or negative ratings are perceived as more useful. Furthermore, only these extreme ratings impacted consumer behavior (Park &

Nicolau, 2015). Specifically, the negative ratings get more attention to minimize losses instead of maximizing gains, also known as negativity bias. Therefore, the results of extreme ratings and focusing on negative ratings are two factors increasing the bias in ratings. Chua and Banerjee (2016) found similar results of extreme ratings in user-generated reviews on Amazon. The product types used in this study were search products (e.g., digital cameras) and experience products (e.g., books). They found that higher ratings are more appreciated by users for both product types. One star is seen as unfavorable, and five stars are seen as more favorable. Two to four stars are seen as mixed, just as with three stars.

De Pelsmacker et al. (2018) researched the influence of star ratings on review impressions and positive word-of-mouth via an experimental study using a search product (camera). They state that the readers, who are not fully paying attention to a website, will first look at peripheral cues such as star ratings. The ratings were two stars for the low condition and four stars for the high condition. They did not find a significant effect of star ratings on evaluative responses, and this was also not moderated by their level of involvement or susceptibility. Their motivation behind this contradictory result is that for search goods, central cues, where more cognitive effort on the specifications is required, have more influence than peripheral cues. For example, a written review would give more insight when buying search goods rather than experience goods. In similar literature, Chen and Chang (2018) tested if guest ratings on Airbnb impact the booking intention of other consumers positively. They did not find a significant effect of ratings on purchase intention, but there was an effect of star ratings on perceived value. Besides, a high star rating would make consumers consider the opportunity more. This shows similar results as the study of De Pelsmacker et al. (2018), where peripheral cues mainly affect experience goods (Airbnb).

Flanagin et al. (2014) studied the purchase intention for the average star rating on three types of products (camera, toothbrush, and luggage) using the platform Amazon. They found that the purchase intention increases for the camera and toothbrush if the number of stars increases. However, they did not find a difference between the number of ratings provided. Even when this difference in the number of ratings was extreme, there was no significant difference in the perceived quality and purchase intention. Therefore, the emphasis lies on the number of stars, rather than the number of total ratings provided.

According to Thomas et al. (2019), consumers rely on user-generated content when considering a purchase. They collected data from the review website Yelp and found that product and service ratings as a peripheral cue significantly influenced the credibility of online reviews, which leads to a higher purchase intention. This would indicate that peripheral cues (such as star ratings) have a dominant influence on taking the next step to read reviews. Vinted is set up so that a potential buyer first must click on the star rating to be able to read written reviews. Therefore, the significance of the star rating is not only on purchase intention, but also on the intention to further investigate a seller.

There are multiple studies whose findings are in line when it comes to positive online ratings and decision-making or purchase intention. The importance of written reviews next to the star ratings should not be overlooked. Nevertheless, most previous studies are about experience goods rather than search goods, or about search goods in a B2C context. With the upcoming trend of C2C marketplaces, it is useful to study if a high reputation star rating also has a positive effect on purchase intention in a C2C context. Therefore, the following hypothesis was formed:

H1: High star ratings have a positive impact on purchase intention on a C2C platform.

2.2 Star ratings and Consumers' Trust

Buying products online is not the same as buying products in a physical shop. In an online environment, consumers cannot physically assess the items before purchasing. The state of the quality of a product is hard to estimate when shopping online, therefore consumers are careful when buying online (Pappas, 2016). In C2C, trust is even more important than in B2C because people must trust the product, the platform, and the person they are in business with (Leonard & Jones, 2021). According to Pono et al. (2019), information quality provided by sellers, sellers' service quality, and sellers' reputation significantly lead to consumers' trust in sellers.

Multiple studies have proven that online reputation systems such as star ratings can solve the asymmetrical online communication and social distance (Zervas et al., 2021; Lin et al., 2019). Star ratings which form a reputation of a seller are often used to create trust in sharing economy platforms, such as Airbnb and Uber (Muchahari & Sinha, 2018).

Ratings or standardized reputation systems are important for reducing uncertainty avoidance in the online shopping environment. However, fraud is something that happens a lot in C2C environments, e.g., sellers who manipulate their own reviews, which results in fake reviews (Chen et al., 2019). Sellers are manipulating reviews, to boost their product sales because reviews do influence purchase decisions. Therefore, in C2C environments, it is extra important to a buyer to find reliable cues to trust a seller (Salamai, 2019). On Vinted, manipulating or falsifying reviews or ratings is prevented by limiting reviews and ratings to only after a product has been sold or purchased. Both are unable to delete or change the reviews or ratings (Vinted, 2022).

In 2008, Jones and Leonard researched trust in C2C e-commerce, they expected that

internal factors such as trust propensity and the perceived website quality, and external factors such as trust of other buyers and sellers and recognition of a third party would impact the trust of an individual in C2C e-commerce. In contradiction to their expectations, only the perceived website quality and third-party recognition were influencing an individual's trust. A replication of this study about ten years later revealed the opposite, that trust propensity and trust of other buyers and sellers does have a significant effect on trust (Leonard & Jones, 2021). However, in this replication, the perceived trust of an online platform had no significant effect on trust anymore. They explain this by the idea that people are more familiar nowadays with purchasing online and are looking for other cues to reduce their uncertainty. In other words, the two studies implicate that trust has become more dependent on trust propensity or online feedback from other consumers, rather than the perceived trust of an online platform itself.

Similarly, Ukpabi and Karjaluoto (2017) also revealed that consumers rely on other consumers when making travel choices because they perceive other consumers as honest and trustworthy. A second literature review study, by Ukpabi and Karjaluaoto (2018) on tourism and non-tourism journals, investigated the motivations of travelers to adopt user-generated content and found trust as the most important predictor of attitude towards UGC. Trust refers to the degree of valid assertions by the source, whereas attitude refers to the extent to which the UGC is seen as an influencing factor in information searches. The level of adoption, which is specified as their intention to use the content by other consumers, depends on several factors such as the user/seller, the source, the content, and response variables which were categorized by the ease of use and usefulness of the UGC.

An experiment by Furner et al. (2022) investigated the online review antecedents of trust, purchase intention, and recommendation intention for hotels and Airbnb. The results reveal that

there was a relationship between trust and purchase intention and recommendation intention. Furthermore, the hypothesis that people who score higher on uncertainty avoidance would have a lower level of trust was supported. Lastly, findings reveal that disposition to trust, education, uncertainty avoidance, and accommodation type influence trust significantly.

A study by van Helden (2020) researched the effect of a high average seller rating, which was a five-star rating, on perceived trustworthiness on the platform Marktplaats and found that a high star rating enhances the perceived trust of a seller.

Most studies have indeed found a significant effect of ratings on trust. However, most previous research on star ratings is about experience goods such as in the travel industry (Furner et al., 2022; Ukpabi & Karjaluoto, 2017). There is a lack of research on the effect of star ratings on trust in C2C platforms in the second-hand clothing industry, which led to the following hypothesis:

H2: High star ratings have a positive impact on consumers' trust on a C2C platform.

2.3 Consumers' Trust and Purchase Intention

It is proven by multiple studies (Lin et al., 2019; Lu et al., 2016) that trust is essential in buying services or products online. If consumers perceive trust, they are more willing to trade online (Azar et al., 2016). Trust is an important factor for trading successfully, for both sellers and buyers, on a C2C online platform (Lu et al., 2016). If there is a lack of trust in online retail environments, people are not willing to purchase a product (Broeder, 2020).

Trust can be measured and divided into three categories: initial trust, trustworthiness, and trust propensity (Broeder, 2020). Firstly, initial trust refers to the consumers' initial perceptions of the online shopping platform (Broeder & Schouten, 2022). It indicates a consumer's willingness to embrace vulnerability to an online shopping platform in return for positive

outcomes. It is a situationally personal subjective characteristic of a specific online platform judged by a consumer. In C2C platforms where e-consumers have not met, initial trust might be more important. The purchase intention can be assisted by implementing information such as customer service, a privacy statement, and product reviews from other consumers (Stouthuysen et al., 2018). Consumers' initial trust is important when it comes to shopping online, even more, when a consumer is unfamiliar with a website or the seller. Secondly, trustworthiness is the basis for consumers' familiarity with online transactions (Broeder & Schouten, 2022). It is based on prior experiences that a consumer has with shopping online and their positive or negative beliefs in e-commerce. Lastly, trust propensity is about personal traits, which can help customers to decide their beliefs of trust based on the information that they see, and it refers to the level of the tendency to trust others. Trust propensity is especially important in online C2C marketplaces because this refers to trust between persons, which depends on the situation, the person, and the shopping environment. Next to that, the initial perceptions of a platform or seller plays a vital role (Stouthuysen et al., 2018). This can be reflected in reviews or ratings and would create initial trust with a buyer as a first step.

McKnight and Chervany (2001) defined trust propensity (a disposition to trust) as the degree to which a person is inclined to rely on others and accept the information provided by others, which is especially important in C2C marketplaces, where a buyer and seller have to trust each other. A study investigating the moderating effects of trust propensity and gender on consumers' online shopping behavior found that trust propensity influenced purchase intention significantly (Chen et al., 2015). Another study by Gu et al. (2016) also found that trust propensity significantly influenced Chinese internet users in their intention to use wearable

commerce. Trust propensity in the form of reviews or ratings of others thus leads to more trust, which in turn leads to a higher purchase intention.

A study about second-hand fashion revealed that trust in the seller and trust in the platform both positively impact purchase intention on C2C online platforms (Rendel, 2021). However, trust in the online platform was a stronger predictor of purchase intention compared to trust in a seller itself. This was explained by the fact that privacy and security play an important role when purchasing products online. When there is no trust in the platform, people are not likely to share the information that is essential for buying second-hand products online (Rendel, 2021).

Hallem et al. (2021) researched if a seller's reputation positively affects trust in the seller and on the platform and if trust affects purchase intention, among respondents who made a second-hand purchase on two French websites. They found that the reputation of a seller leads to trust in the seller and the platform but did not significantly impact behavioral intentions. Furthermore, third-party recognition significantly affects trust in the platform, which impacts behavioral intention. However, they did not consider moderating factors, such as the behavioral intentions or preferences of consumers buying second-hand products. A study by Zahara and Sembiring (2021) also confirmed that among users of Tokopedia, a C2C e-commerce platform in Medan, the reputation of a seller leads to trust and in this case also has a significant effect on purchase intention. However, a limitation of his study is that they only focused on the platform Tokopedia. Another study by Luo et al. (2020) on the online second-hand platform Taobao, showed that the service quality of e-commerce, such as security assurance and the quality of the community had a direct and interaction effect on the perceived trust by the users, which influenced their purchase intention. The community in this study refers to an implemented

application in e-commerce sites where members can communicate with each other. A limitation is the lack of generalizability because this study is that the sample consists of users from one specific second-hand platform.

In C2C, trust is even more important than in B2C because people must trust the product, the platform, and the person they are in business with. Especially in this study including a second-hand platform, trust is expected to impact purchase intention positively because of the uncertainty involved when buying second-hand products online, as found in previous studies on similar second-hand platforms. Based on these findings, the following hypothesis was defined:

H3: Consumers' trust has a positive impact on consumers' purchase intention on a C2C platform.

2.4 Cultural Background

Because of the growing globalized trading opportunities, different cultural backgrounds on online platforms should be taken into account (Babenko et al., 2019). The online marketplace is not limited to the borders of a country, and therefore, people from various cultural backgrounds have the opportunity to trade with each other.

Hofstede (2001) explains the dimension of uncertainty avoidance as the degree to which individuals belonging to a culture feel threatened by uncertain or unexpected situations. The uncertainty avoidance index measures levels of uncertainty avoidance in countries, which indicates the degree to which someone feels uncomfortable with uncertainty and ambiguity. Higher uncertainty avoidance cultures are more likely to avoid uncertain situations and have a high need to look for a structure to make events interpretable and predictable.

Xin et al. (2015) found a relationship between uncertainty avoidance and trust and the intention to adopt mobile payment, controlled by culture. They found that a higher level of

uncertainty avoidance influences mobile payment trust negatively because consumers want to avoid risks. Consumers with a lower level of uncertainty avoidance are more willing to take risks and have a higher trust in mobile payment. Also, the disposition of trust in this study refers to an individual's capacity and willingness to general trust. The results show that general trust leads to a positive intention in the use of mobile payment. Besides, the reputation of a provider in mobile payment influences the trust in mobile payments the most. A limitation of this study is generalizability because it only focuses on consumers in New Zealand, as this does not contribute to explaining the effect of different cultural backgrounds. Another limitation is that they only used two items for measuring uncertainty avoidance. They only asked uncertainty avoidance questions about the need for structure, and not about the need to avoid uncertainty.

Cultures and individuals with lower uncertainty avoidance are more open to adopting new technologies and innovations compared to individuals with higher uncertainty avoidance (Leidner & Kayworth, 2006). Transactions in e-commerce involve more uncertainty compared to traditional transactions in real life. Cultures with high uncertainty avoidance perceive the trustworthiness of an online webshop less compared to cultures with lower uncertainty avoidance. Cultures with a higher uncertainty avoidance probably ask for information from peers, about the trustworthiness of a webshop (Srite & Karahanna, 2006). That's why these cultures might prefer webshops they are already familiar with compared to new webshops.

Previous research (Hallikainen & Laukkanen, 2018) about cultures and trust in e-commerce used Hofstede's five-dimension model (power distance, individualism, masculinity, uncertainty avoidance, and long-term orientation) to study the level of trust between different cultures. The two chosen countries (China and Finland) for this study were opposites in different aspects, and the chosen platform was an online bookstore. They revealed that culture explains

23% of the variance in the consumer's general disposition to trust. Trust disposition then has a direct effect on all three dimensions of trustworthiness: integrity, ability, and benevolence. Nevertheless, the hypothesis that cultural background is mediated by trust disposition in order to explain trustworthiness is too simplistic. In other words, there are direct effects of the five dimensions of Hofstede (2001) on trustworthiness, and only collectivism and long-term orientation are the dimensions that are proven to be mediated by trust disposition to explain trustworthiness (Hallikainen & Laukkanen, 2018). Interestingly, next to trust disposition, all three direct effects of uncertainty avoidance on trustworthiness are significant, although this is not highlighted in the discussion. It would thus be interesting to omit trust disposition as a mediator and see to what extent uncertainty avoidance explains the cultural difference towards factors such as trust or purchase intention. The researchers do reflect to be cautious about any situation-specific trustworthiness, rather than completely focusing on cultural effects only.

A lab study by Zhang et al. (2012) investigated whether mood and social presence, controlled by cultural dimensions, influence purchase intention in C2C e-commerce among Chinese people on the C2C platform Taobao and using clothing and shoes as testing products. The results showed that mood is an important factor in consumer purchase behavior and significantly affects the perceived benefits and purchase intention. Social presence moderates the effect between mood and perceived benefit, and between mood and purchase intention. Their controlling variables were the five cultural dimensions of Hofstede, and they found that individualism and uncertainty avoidance had a significant influence on purchase intention.

Srite and Karahanne (2006) stated that people with a high uncertainty avoidance level are more likely to rely on cues from their social network about the trustworthiness of a website and thus prefer known stores. Nowadays, C2C platforms provide cues such as star ratings to guide

people, which might mean that people with a higher uncertainty avoidance rely more on star ratings.

A study by Broeder and Remers (2018) investigates uncertainty and trust in the C2C e-commerce of Airbnb. They did an experiment to test whether eye contact in profile pictures among Dutch and French people increased booking intention. They found that a higher level of trust positively impacts booking intention. However, there was no effect found for uncertainty avoidance on booking intention, while the French scored higher on uncertainty avoidance compared to the Dutch.

As French and Dutch trade within the same market on Vinted, lots of purchases take place cross-nationally. This doesn't always end well, as multiple Dutch news items about fraud taking place between these nationalities on Vinted have been reported (BNN VARA, 2020; RTL Nieuws, 2020). This study investigates the difference in shopping on a C2C platform between Dutch people and French people. Hofstede's model of cultural dimensions (2022) states that the French score higher on uncertainty avoidance (86 out of 100) than Dutch (53 out of 100), which could result in the French relying more on star ratings than Dutch (with star ratings as a trust disposition within the concept of trust specifically). Multiple empirical studies revealed that cultures with a high degree of uncertainty avoidance are more precautionary with their behavior on online platforms, but for example, the study of Hallikainen and Laukkanen (2018) could not find the significant effect of the trust dispositions when comparing China and Finland. Therefore, this has led to the following hypothesis:

H4: Cultural background moderates the relationship between star ratings and purchase intention. Moreover, French individuals who score higher on uncertainty avoidance are more sensitive to star ratings compared to Dutch individuals who score lower on uncertainty avoidance.

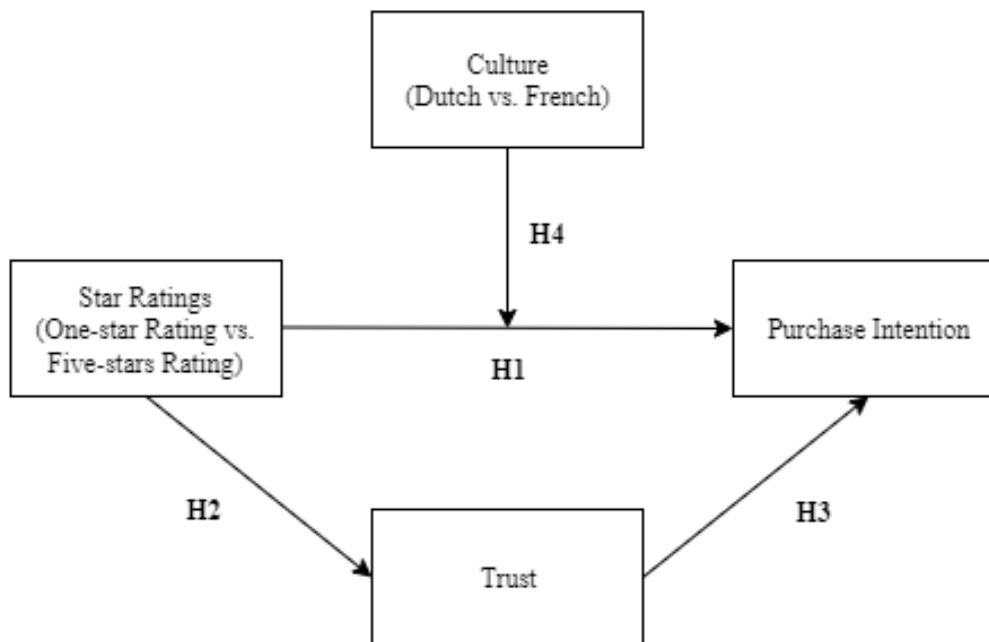
3. Method

3.1 Design

To investigate whether star ratings impact purchase intention, an online experiment with a 2x2 factorial between-subjects design was conducted with star ratings (one-star rating vs. five-star rating) as the independent variable, purchase intention as the dependent variable, culture differentiated by uncertainty avoidance as the moderating variable (cultural background: Dutch vs. French), and trust as a mediating variable (see Figure 1 for the conceptual model with the hypotheses).

Figure 1

The Conceptual Model



3.2 Stimuli

The designed stimuli for this research consisted of two variations (one-star rating vs. five-star rating). The two variations were almost identical, aside from the difference in the number of stars shown in the advertisement. In one condition, a seller with a low star rating is displayed

(see Figure 2) and in the other condition, a seller with a high star rating is shown (see Figure 3).

The presented stimulus was available in English. A pilot was set up to determine whether the stimulus was suitable for this study, and short pilots were performed with scientific experts and potential respondents, the pilot study can be found in Appendix A.

Figure 2

The one-star rating stimulus

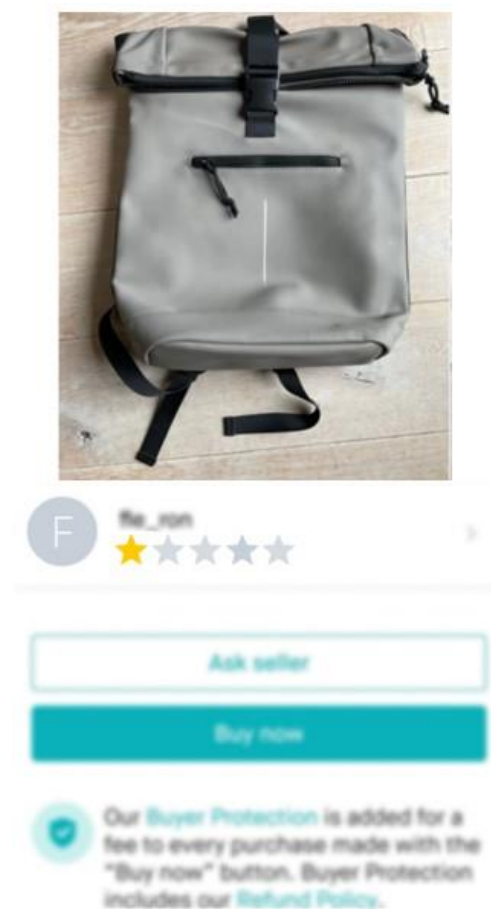
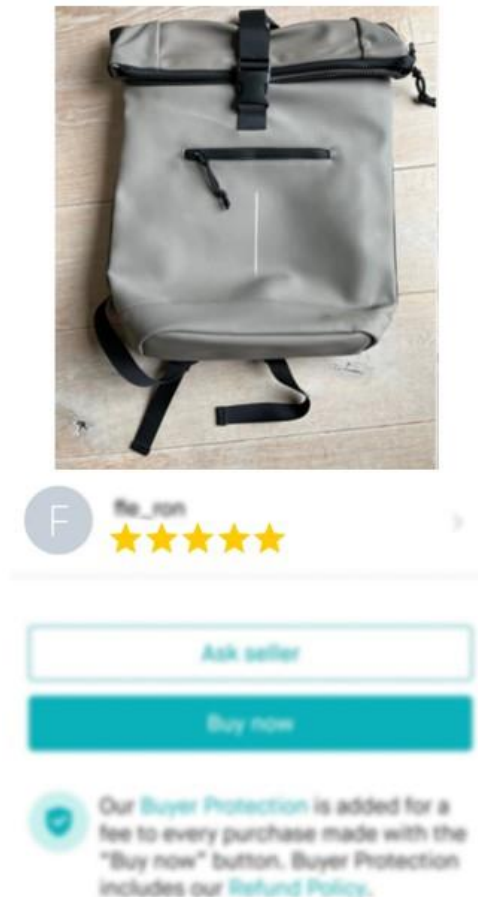


Figure 3*The five-star rating stimulus***Background**

The mobile app of Vinted was used as the background of the stimuli. The advertisement includes original symbols from the mobile app Vinted (i.e., account name, interaction buttons, and buyer protection statement) to keep the stimuli as realistic as possible. Some surrounding elements on Vinted could function here as a potential confounding variable (i.e., the name of the seller, the volume of reviews, and the price of the product), therefore some of these elements are

blurred and some are left out, to make sure the respondents focus on the important parts of the stimuli according to this study.

Product

The product chosen for this stimulus is a second-hand bag, since the pilot study pointed out that this item out of three options fits best for this study. It was also chosen as the most gender-neutral product according to the results of the pilot study. The background of the product is neutral, but it is still visible that it is a picture made by a seller on a marketplace.

Context information

The advertisement context varied in the number of star ratings (low vs. high star ratings). The stars are presented the same as in the actual Vinted advertisement of a product. The advertisement in the low star rating condition had a one-star rating, and the advertisement in the high rating condition included a five-star rating. This distinction was based on previous research that indicated one star as unfavorable and five stars as more favorable (Chua & Banerjee, 2016).

3.3 Participants

In total, 388 completely filled in the survey. The participants were collected via online and offline convenience sampling and snowball sampling, and the majority of the French people conducted the survey by random approach with a QR code in public. People were qualified to participate in the study if they were born in the Netherlands, identified themselves as Dutch, and lived in the Netherlands or if they were born in France, identified themselves as French, and lived in France. 36 participants were removed because they did not answer the three culture questions consistently with Dutch or French. Another requirement for participants was that they had to be between the age of 18-65, 3 participants were removed because their age fell out of this range. Participants who responded to the manipulation check incorrectly, which indicates that

they did not memorize the shown condition, were also deleted ($N = 17$). Besides, 4 participants were removed because they were seen as outliers because they gave the same answer to every question presented to them. This resulted in a final sample of 328 respondents, of which 181 were Dutch and 147 were French. The mean age among Dutch participants was 29.55 ($SD = 0.89$) and the mean age among French participants was 22.86 ($SD = 0.38$). The mean age of the total final sample was 26.55 ($SD = 9.97$). Moreover, there were more females than males in the total sample. Whereas, 221 indicated to be female (Dutch: $N = 141$, French: $N = 80$ French) and 107 indicated to be male (Dutch: $N = 40$, French: $N = 67$ French). The distribution of education levels can be seen in Table 1. As shown in the table, most participants completed university (44.2%) followed by higher education (29.3%).

Table 1

Educational level of Dutch and French participants

	Cultural background		
	Dutch	French	Total
Elementary school	2	0	2 (0.6%)
High school	14	20	34 (10.4%)
Middle level education	35	16	51 (15.5%)
Higher education	54	42	96 (29.3%)
University	76	69	145 (44.2%)
Total	181 (55.2%)	147 (44.8%)	328 (100%)

3.4 Instrumentation

The questionnaire was distributed to both cultures in English. Before respondents were asked to fill out a questionnaire, they were briefly informed about the purpose of the study, the time it would take, and that their data will be treated confidentially. After that, they were asked

to consent to participate in the research. Additionally, contact details of the researcher were provided in the introduction, and on the last page of the questionnaire, in case if participants had questions regarding the study. The complete questionnaire can be found in Appendix B. The respondents were asked several questions, which they had to respond to on a 5-point Likert-type scale (1 = *completely disagree* to 5 = *completely agree*).

Demographics and cultural background

The demographics consisted of six questions. The first three questions were related to gender, age, and educational level and the last three questions were about the cultural background of the respondents since this study focused on cultural differences. One question was related to the country of origin (“What country were you born in?”), the second was about the country they live in (“In what country do you live at the moment?”), and the last was about ethnical identification (“To what ethnic group do you belong?”) (Broeder, 2022).

Purchase intention

Purchase intention was measured with one item (“I would like to buy this product”). The mean score for this scale was 2.45 ($SD = 1.20$).

Attitude towards star ratings

The attitude towards star rating was measured using three items (e.g., “When I buy a product on Vinted, I always check the star rating of the seller”). This scale was adapted from Park and Kim (2008). The original scale was used to measure the subject’s attitude towards reviews, for this research one item was left out and the scale was adapted to measure the attitude toward star ratings. Originally this scale used a 7-point type scale but for this research, a 5-point Likert-type scale was used. The three items measuring the attitude towards star ratings had an acceptable reliability (overall $\alpha = .71$; one-star rating $\alpha = .70$; five-star rating $\alpha = .73$) and a mean

score of 3.97 ($SD = 0.66$).

Consumers' trust

Trust was measured on a similar scale used in a study by Broeder and Schouten (2022). The scale initially consisted of three types of trust: initial trust, trustworthiness, and trust propensity. Initial trust was measured with five items (e.g., “This website is trustworthy”) and had a good reliability (overall $\alpha = .84$, one-star rating: $\alpha = .86$, five-star rating: $\alpha = .83$). The mean score of initial trust was 3.54 ($SD = 0.63$). Trustworthiness was measured with one item (“Prior online purchase experiences from other websites make me feel comfortable in using this website”). The overall mean score of trustworthiness was 3.48 ($SD = 0.91$). Trust propensity was measured with one item (“It is easy for me to trust another person”). The mean score of trust propensity was 3.08 ($SD = 0.96$). The total reliability of all items was acceptable (overall $\alpha = .78$; one-star rating $\alpha = .79$; five-star rating $\alpha = .77$). The scale had a mean score of 3.47 ($SD = 0.55$). To ensure high content validity, the decision was made to exclude the two questions regarding trustworthiness and trust propensity, and to only use the five items about initial trust ($\alpha = .84$).

Uncertainty avoidance

The measurement scale for uncertainty avoidance was based on an existing scale from Broeder (2022). The scale consisted of six items (e.g., “I prefer structured situations to unstructured situations”) and had an acceptable reliability level ($\alpha = .72$). The measured mean score was 3.63 ($SD = 0.60$). A low score represented a low uncertainty avoidance, and a high score represented a high uncertainty avoidance on the scale.

Control questions

To check the effect of the stimuli used in this study, there were three control statements added (e.g., “I think this advertisement was realistic”).

Manipulation check

To check whether respondents saw the manipulation presented to them, they had to answer with yes or no to three statements; “The advertisement showed a high star ranking, including five stars”, “The advertisement showed a low star ranking, including one star” and “I saw a grey bag”.

3.5 Pilots

To test the stimuli and questionnaire, two pilots were done before the study. One pilot was conducted to test the stimuli, which can be found in Appendix A. There were 7 Dutch and 3 French participants in this pilot. After this study, there was a clear preference for the picture of the second-hand bag as a suitable product for this study. After discussing the stimuli with a professional, some additional changes were made, which resulted in the choices made in the final stimuli. The other pilot was to test the questionnaire. The final questionnaire was tested by five participants, on different devices, to test if it was clear on all devices. They were asked to fill in the questionnaire and to report if anything was unclear or not well-designed. Some small design improvements were made before distributing the questionnaire online.

3.6 Procedure

The questionnaire was developed with the online survey software Qualtrics. An anonymous link was used to distribute the questionnaire among Dutch and French people. The link was available for desktop and mobile, which allowed the participants to fill out the questionnaire at any moment and on any device. The survey took around 4 minutes to fill in completely. The collection of the participants was done via convenience sampling and snowball sampling. Also, a large part of the French respondents was collected by the researcher in Lille, by asking people to participate via a QR code. The questionnaire started with an introduction

where the participants had to give their consent to participate. Participants, who indicated that they were under 18 years old, were sent to the end of the survey. After that, the participants were asked questions about their cultural background. The participants were assigned randomly to one of the two conditions (one-star rating or five-star rating). The distribution of the participants across the conditions can be found in Table 2. The participants were asked to have a close look at the advertisement and to imagine that they were looking for a second-hand bag. After looking at the advertisement, the first statement was about purchase intention, the second statements were about their attitude towards star ratings followed by statements about consumers' trust. The advertisement with the assigned condition was added to all these statements, except for the questions about uncertainty avoidance. At the end of the survey, there were control questions and a manipulation check. After finishing the survey, the participants were thanked for their participation, and the researchers' contact details were provided.

Table 2

The distribution of participants across the one-star rating and five-star rating conditions

	Cultural background		
	Dutch	French	Total
1 star	94 (57.0%)	71 (43.0%)	165 (100%)
5 stars	87 (53.4%)	76 (46.6%)	163 (100%)
Total	181 (55.2%)	147 (44.8%)	328 (100%)

4. Results

4.1 Manipulation Check

In the last part of the questionnaire, respondents had to answer yes or no to three manipulation questions: (1) ‘The advertisement showed a high star ranking, including five stars’, (2) ‘The advertisement showed a low star ranking, including one star’ and (3) ‘I saw a grey bag’. The manipulation check showed that of the participants who were in the five-star condition, 98% answered that they indeed saw the five stars in the advertisement, while 2% of the participants answered that they did not see the five stars in the advertisement or answered incorrectly that they saw the one-star condition. 97.2% of the participants in the one-star condition answered correctly that they saw the one-star in the advertisement, and 2.8% indicated that they did not see the one-star or answered incorrectly that they saw five stars. The remainder of the respondents filling in the previous manipulation check correctly all filled in that they indeed saw a grey bag. The participants who failed ($N = 17$) to answer the correct questions belonging to the stimuli they saw, were excluded from the final sample. The high percentages of correct answers to the manipulation check indicate clarity of questions and sufficient attention of the respondents.

4.2 Preliminary Analysis

To test if there was a difference in attitude towards star rating between the one-star condition and five-star condition, a Factorial ANOVA was performed with star ratings (one-star vs. five-stars) and cultural background (Dutch vs. French) as independent variables, and attitude towards star rating as the dependent variable. The Factorial ANOVA showed no significant main effect of star rating, $F(1,324) = 0.20$, $p = .652$. The attitude towards star ratings was more positive among participants shown five stars ($M = 3.95$, $SD = 0.05$) compared to participants shown one star ($M = 3.98$, $SD = 0.05$), but the difference was not significant. There was a

significant main effect of cultural background on attitude towards star rating, $F(1,324) = 5.53$, $p = .019$, $\eta_p^2 = .020$ (small effect). French participants scored higher on attitude towards star ratings ($M = 4.06$ $SD = 0.06$) than Dutch participants ($M = 3.89$, $SD = 0.05$).

There was no significant interaction effect, $F(1,324) = 1.39$, $p = .239$, $\eta_p^2 = .004$ (small effect). In summary, the main effect between cultural background showed a significant but small effect on attitude towards star rating. French participants have an attitude in which they rely more on the star rating than Dutch participants when considering a purchase, despite the number of stars shown in the condition variable (one star shown vs. five stars shown).

In addition, the respondents were asked to answer three control questions which indicated how the manipulation was perceived. Three separate Factorial ANOVA analyses were performed with cultural background and star ratings (one-star vs. five-stars) as independent variables, and each of the control questions as dependent variables (see results in Table 3). On the question whether the advertisement was realistic, only the difference of cultural background was significant, $F(1, 324) = 7.46$, $p = .007$, $\eta_p^2 = .023$ (small effect). The French scored significantly higher ($M = 3.99$, $SD = 0.06$) than Dutch ($M = 3.76$, $SD = 0.05$). The question regarding familiarity with purchasing products online, led to no significant effects on cultural background and star ratings, nor was a significant interaction effect found. Regarding the question about the likability of the bag, only cultural background had a significant effect, $F(1, 234) = 17.45$, $p < .001$, $\eta_p^2 = .051$ (small effect). The French ($M = 2.86$, $SD = 0.10$) scored significantly higher than the Dutch ($M = 2.34$, $SD = 0.08$). Table 3 shows the results of the mean scores and standard deviations of the control statements divided by culture and condition.

Table 3

Means on a 5-point Likert-type scale (1 = Min. “Completely disagree”, 5 = Max. “Completely agree”) and standard deviations of the control statements, divided by cultural background and condition (N = 328)

	Cultural background								
	Dutch (N = 181)			French (N = 147)			Dutch & French (N = 328)		
	1 star	5 stars	Total	1 star	5 stars	Total	1 star	5 stars	Total
I think the advertisement was realistic	3.65 (0.08)	3.87 (0.06)	3.76 (0.05)**	4.00 (0.10)	3.97 (0.08)	3.99 (0.06)**	3.80 (0.07)	3.92 (0.05)	3.86 (0.75)
I am familiar with purchasing products online	4.22 (0.08)	4.17 (0.08)	4.20 (0.06)	4.15 (0.09)	4.11 (0.10)	4.13 (0.07)	4.19 (0.06)	4.14 (0.06)	4.17 (0.78)
I like the bag that I saw	2.34 (0.11)	2.34 (0.10)	2.34 (0.08)***	2.70 (0.15)	3.01 (0.14)	2.86 (0.10)***	2.50 (0.09)	2.66 (0.09)	2.58 (1.14)

Note. ** The effect is significant at the 0.01 level (2-tailed). *** The effect is significant at the 0.001 level (2-tailed).

4.3 Descriptive Statistics

As can be seen in Table 4, both cultures score higher on purchase intention in the five-star condition (Dutch: $M = 2.53$, $SD = 0.11$, French: $M = 3.51$, $SD = 0.13$) compared to the one-star condition (Dutch: $M = 1.94$, $SD = 0.10$, French: $M = 1.87$, $SD = 0.12$). In total, French ($M = 2.72$, $SD = 0.11$) score higher on purchase intention compared to Dutch ($M = 2.22$, $SD = 0.08$). On the attitude towards star ratings also both cultures scored higher in the five-star condition (Dutch: $M = 3.87$, $SD = 0.07$, French: $M = 4.12$, $SD = 0.07$) compared to the one-star condition (Dutch: $M = 3.91$, $SD = 0.06$, French: $M = 4.00$, $SD = 0.09$), and on average the French ($M =$

4.06, $SD = 0.06$) also scored higher than Dutch ($M = 3.89$, $SD = 0.05$). On trust both cultures also scored slightly higher in the five-star condition (Dutch: $M = 3.59$, $SD = 0.06$, French: $M = 3.55$, $SD = 0.07$) compared to the one-star condition (Dutch: $M = 3.56$, $SD = 0.06$, French: $M = 3.48$, $SD = 0.08$), and the total score was higher for the Dutch participants ($M = 3.47$, $SD = 0.04$) compared to the French participants ($M = 3.52$, $SD = 0.05$).

Table 4

Means on a 5-point Likert-type scale (1 = Min. “Completely disagree”, 5 = Max. “Completely agree”) and standard deviations of the main variables, divided by cultural background and condition (N = 328)

	Cultural background								
	Dutch (N = 181)			French (N = 147)			Dutch & French (N = 328)		
	1 star	5 stars	Total	1 star	5 stars	Total	1 star	5 stars	Total
Purchase Intention	1.94 (0.10)	2.53 (0.11)	2.22 (0.08)	1.87 (0.12)	3.51 (0.13)	2.72 (0.11)	1.91 (0.07)	2.99 (0.09)	2.45 (1.20)
Attitude Star Rating	3.91 (0.06)	3.87 (0.07)	3.89 (0.05)	4.00 (0.09)	4.12 (0.07)	4.06 (0.06)	3.95 (0.05)	3.99 (0.05)	3.97 (0.66)
Trust	3.56 (0.06)	3.59 (0.06)	3.57 (0.04)	3.48 (0.08)	3.55 (0.07)	3.52 (0.05)	3.53 (0.05)	3.57 (0.05)	3.55 (0.63)

4.4 Test of Hypotheses

To test the hypotheses, a moderation and mediation analysis was performed using Hayes' PROCESS macro tool with 5000 bootstrapped samples (model 5). The model with star ratings (one-star vs. five-star) as independent variable, trust as a mediator and cultural background as moderator to predict purchase intention was an improvement to the null model ($R^2 = 0.29$, $F(4, 322) = 32.20$, $p < .001$ (see output in Appendix C). The full conceptual model can be found in Figure 4.

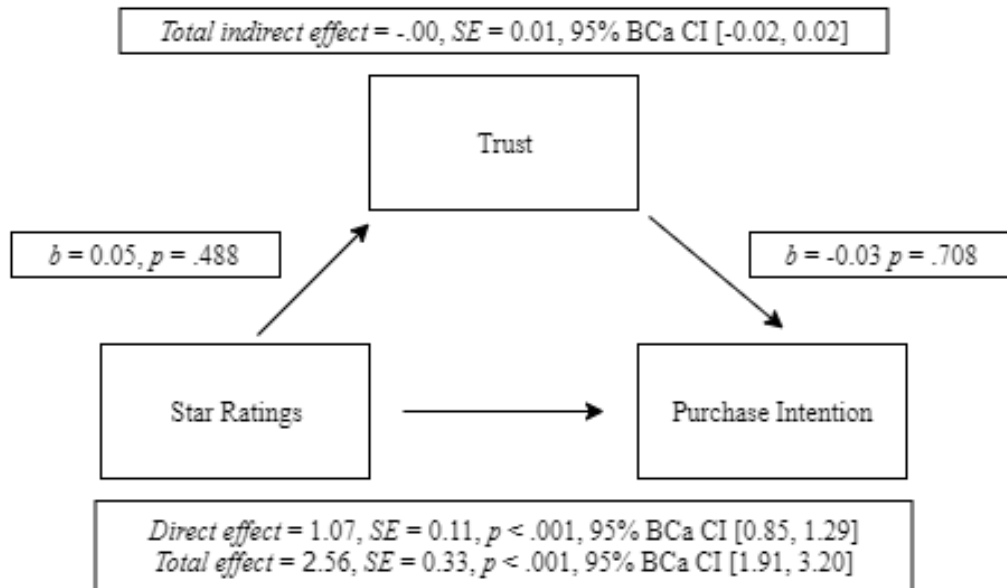
4.4.1. The Effect of Star Ratings on Purchase Intention, Mediated by Trust

There was a significant total effect of star ratings on purchase intention ($b = 2.56$, 95% BCa CI [1.91, 3.20], $SE = 0.33$, $p < .001$). The purchase intention was significantly higher in the five-star condition ($M = 2.99$, $SD = 0.09$) than in the one-star condition ($M = 1.91$, $SD = 0.07$). There was also a significant direct effect of star ratings on purchase intention ($b = 1.07$, 95% BCa CI [0.85, 1.29], $SE = 0.11$, $p < .001$), supporting hypothesis 1. There was no significant indirect effect of star ratings on purchase intention ($b = -.00$, $SE = 0.01$, 95% BCa CI [-0.02, 0.02]).

The effect of star ratings on trust was not significant ($b = .05$, 95% BCa CI [-0.09, 0.18], $SE = 0.07$, $p = .488$). Even though there was a small numerical difference in the level of trust between the one-star condition ($M = 3.53$, $SD = 0.66$) and the five-star condition ($M = 3.57$, $SD = 0.59$), hypothesis 2 is not supported. There was no significant effect of trust on purchase intention ($b = -0.03$, 95% BCa CI [-0.21, 0.14], $SE = 0.09$, $p = .708$). Higher trust is not significantly associated with higher purchase intention. Moreover, the effect of star ratings on trust was also not significant (hypothesis 2), therefore hypothesis 3 is not supported and trust does not mediate the effect of star ratings on purchase intention. To conclude, hypothesis 1 was supported and hypotheses 2 and 3 were not supported. Thus, an advertisement with a higher star rating leads to a higher purchase intention, but trust does not mediate this effect.

Figure 4

The conceptual model of the mediation analysis



4.4.2. The Moderating Effect of Culture

With hypothesis 1 being supported, where star ratings have a significant effect on purchase intention, the same model was used to test the moderating effect of cultural background. In Table 5 can be seen that there was a significant effect of cultural background on purchase intention ($b = 0.45, 95\% \text{ BCa CI } [0.23, 0.68], SE = 0.11, p < .001$). There was also a significant interaction effect between star ratings and cultural background ($b = 1.04, 95\% \text{ BCa CI } [0.59, 1.49], SE = 0.23, p < .001$). To conclude, the purchase intention of French participants is significantly higher than of Dutch participants, especially in the five-stars condition (see Figure 5). Next to that, the moderating effect of cultural background was significant on the star ratings predicting the purchase intention. Therefore, hypothesis 4 is supported.

Table 5

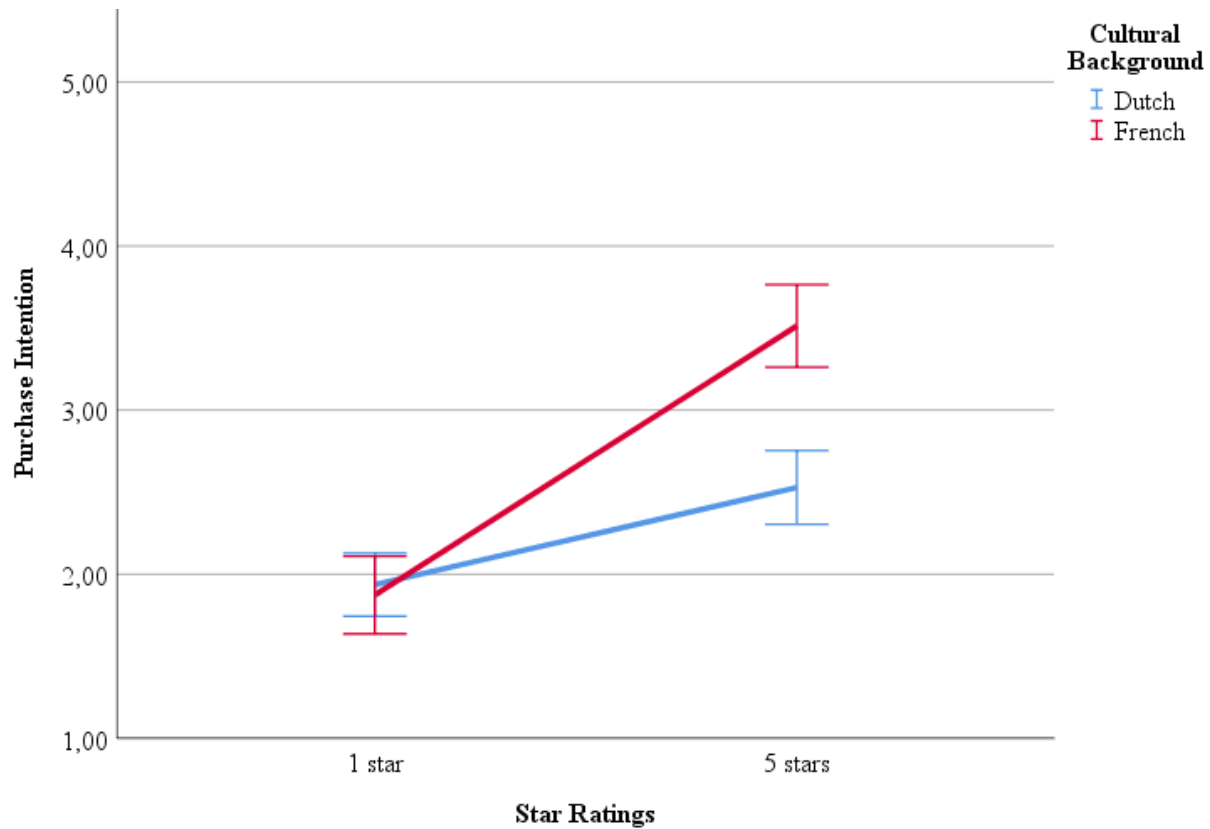
Results of the moderated mediation analysis for the effect of star ratings on purchase intention, moderated by cultural background

	<i>b</i> [95% CI]	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	2.56 [1.91, 3.20]	0.33	7.81	$p < .001$
Star Ratings	1.07 [0.85, 1.29]	0.11	9.42	$p < .001$
Trust	-.03 [-.21, 0.14]	0.09	-.37	$p = .708$
Cultural Background	0.45 [0.23, 0.68]	0.11	3.95	$p < .001$
Star Ratings x Cultural Background	1.04 [0.59, 1.49]	0.23	4.57	$p < .001$

Note. $N = 328$. Bootstrap sample size = 5,000.

Figure 5

Means on purchase intention for star ratings, divided by cultural background



A follow-up analysis was performed to shed more light on whether this cultural difference comes from uncertainty avoidance. The same analysis with Hayes' PROCESS macro tool with 5000 bootstrapped samples (model 5), was performed, but with uncertainty avoidance instead of cultural background as moderator (see output in Appendix C). The overall model was significant ($R^2 = 0.24$, $F(3, 322) = 26.09$, $p < .001$). Furthermore, as can be seen in Table 6, again, star ratings have a significant effect on purchase intention ($b = 1.08$, 95% BCa CI [0.85, 1.31], $SE = 0.12$, $p < .001$) (H1). Besides, uncertainty avoidance showed no significant effect on purchase intention ($b = 0.14$, 95% BCa CI [-0.05, .33], $SE = 0.10$, $p = .157$). There was a significant interaction effect between star ratings and uncertainty avoidance ($b = 0.79$, 95% BCa CI [0.41, 1.18], $SE = 0.20$, $p < .001$). The significant interaction effect of star ratings and

uncertainty avoidance on purchase intention indicates that the moderating effect of cultural background is mainly driven by uncertainty avoidance.

Table 6

Results of the moderated mediation analysis for the effect of star ratings on purchase intention, moderated by uncertainty avoidance

	<i>b</i> [95% CI]	<i>SE</i>	<i>t</i>	<i>p</i>
Constant	2.63 [1.97, 3.30]	0.34	7.83	$p < .001$
Star Ratings	1.08 [0.85, 1.31]	0.12	9.21	$p < .001$
Trust	-.08	0.09	-.61	$p = .541$
Uncertainty Avoidance	0.14 [-0.05, .33]	0.10	1.42	$p = .157$
Star Ratings x Uncertainty Avoidance	0.79 [0.41, 1.18]	0.20	4.04	$p < .001$

Note. $N = 328$. Bootstrap sample size = 5,000.

5. Discussion and Limitations

The aim of this study was to examine the effect of star ratings on Vinted on consumers' trust and purchase intention differentiated by cultural background (Dutch vs. French). A summary of the hypotheses, including the outcomes can be found in Table 7.

Table 7

The tested hypotheses including the outcomes

Hypotheses	Outcomes
H1: High star ratings have a positive impact on purchase intention on a C2C platform	Supported
H2: High star ratings have a positive impact on consumers' trust on a C2C platform	Not supported
H3: Consumers' trust has a positive impact on consumers' purchase intention on a C2C platform	Not supported
H4: Cultural background moderates the relationship between star ratings and purchase intention. Moreover, French individuals who score higher on uncertainty avoidance are more sensitive to star ratings compared to Dutch individuals who score lower on uncertainty avoidance.	Supported

5.1 Findings and Theoretical Implications

As can be seen in Table 7, hypothesis one was supported. This hypothesis stated that high star ratings have a positive impact on purchase intention. A five-star rating advertisement led to a more positive purchase intention compared to a one-star rating in both cultures. De Pelsmacker et al. (2018) did not find an effect of star ratings as a peripheral cue on the purchase intention of a camera, which was categorized as a search good. Their explanation was that central cues seem more important for search goods and that peripheral cues have more influence on experience

goods. Second-hand clothing would be categorized as a search good. Although one could argue that the product could not be evaluated precisely before buying (experience good), the features and functions are relatively clear. Flanagan et al. (2014) found a positive effect of an increase in star ratings on purchase intention, however, this study was focused on star ratings of new products. Furthermore, Thomas et al. (2019) also found a positive effect of star ratings on purchase intention, however, this study focused on rating a product or service on a review website. Park and Nicolau (2015) investigated how extreme ratings would impact customer behavior, especially negative ones. The previous studies were aligned on the effect of star ratings on purchase intention but were limited to either experience goods or new products. This study contributes to the existing literature by finding that high star ratings have a positive impact on purchase intention in the specific context of a C2C second-hand platform.

Contrary to expectations, the second hypothesis, stating that high star ratings have a positive impact on consumers' trust, was not supported. However, multiple studies found that reputation systems such as star ratings have a positive effect on trust (Pono et al., 2019; Zervas et al., 2021; Lin et al., 2019). Ukpabi and Karjaluoto (2017) found that several factors such as the seller, source, and content influence the adoption of user-generated content. An explanation could thus be that other aspects are leading to an increased trust, such as written reviews, which therefore might be taken into account for future research.

The third hypothesis stating that consumers' trust has a positive impact on purchase intention was not supported. Hallem et al. (2021) and Rendel (2021) found that the reputation of a seller enhances trust, but only the reputation of the platform increased purchase intention, suggesting that higher initial trust would lead to a higher purchase intention. Nevertheless, the effect was not significant in this study. An explanation could be that only initial trust was

measured, focusing on trust in the platform itself. According to Chen et al. (2015) trust propensity positively influences purchase intention. Gu et al. (2016) found a similar effect of trust propensity on the intention to use a product. For theoretical implications, more emphasis could be put on a seller's reputation or trust in another person rather than trust in the platform to find more details on the effect of trust on purchase intention.

The last hypothesis, stating that cultural background moderates the relationship between star ratings and purchase intention was supported. Cultural background was investigated, and the results revealed that French scored significantly higher than Dutch on uncertainty avoidance. These differences in uncertainty avoidance in this study are in line with Hofstede's (2022) index and the results in studies of Broeder and Remers (2018) and Broeder (2022). Even though French scored higher on purchase intention when ruling out the star rating, a strong moderating effect was found, meaning that cultural background (Dutch or French) moderates the effect of star ratings on purchase intention. In this study, French participants are more sensitive to star ratings with respect to purchase intention compared to Dutch. Broeder and Remers (2018) did find significant differences between Dutch and French on uncertainty avoidance, but not a significant effect of uncertainty avoidance on booking intention. To ensure that uncertainty avoidance was the driver behind the cultural difference, a follow-up test was performed. Uncertainty avoidance moderating the effect of star ratings on purchase intention was found to be significant. Next to that, French scored significantly higher on uncertainty avoidance, confirming the findings of Broeder and Remers (2018). Hallikainen and Laukkanen (2018) measured the effect of all dimensions of Hofstede (2001) on trustworthiness, mediated by trust disposition. The direct effect of uncertainty avoidance on trustworthiness was significant. This study intended to fill the gap in these studies to find out what effect uncertainty avoidance has on purchase intention

specifically. This study has successfully found the effect of the differing levels of uncertainty avoidance among two cultures as a moderator on the effect of star ratings on purchase intention.

5.2 Practical Implications

Besides the valuable results of this study for the theoretical field, there are several practical implications in this study that can be useful. Firstly, the study shows that a higher star rating positively impacts the purchase intention, therefore it might be interesting for C2C online platforms such as Vinted, to motivate their members to rate if they are happy with their purchase, to increase the purchase intention of other potential buyers. The study also revealed that cultural background moderated the relationship between star ratings and purchase intention, and this was linked to the difference in uncertainty avoidance between the two cultures. Therefore, it might be good to take into account differences between cultures on C2C platforms. For one culture, a (high) rating can lead more effectively to a purchase intention than for another culture. Specifically for platforms such as Vinted where Dutch and French purchase from one another, this is very relevant, but the proof of how cultural background could moderate the effect of star ratings on purchase intention could imply that this is relevant to other cultures as well.

5.3 Limitations and Future Research

While this research shows some very useful insights, it should be noted that conclusions should be interpreted with caution, as some limitations might hinder the generalizability of the findings. The hypothesis that high star ratings have a positive impact on trust was not supported. Normally, a Vinted advertisement also includes the number of reviews and when visiting the profile of a seller, buyer's previous reviews could be seen. For this study, the number of reviews were blurred as this study focused on the effect of the star ratings only. Therefore, for future research, it might be interesting to investigate if additional factors such as profile picture, verbal

reviews, or the number of reviews lead to trust or purchase intention. The hypothesis that trust has a positive impact on purchase intention was also not confirmed. Future research might look at other aspects to investigate if trust only leads to a certain attitude and which factors impact the purchase intention.

The variable ‘trust’ used in the statistical analyses did not include the two items for trustworthiness and trust propensity, even though these were initially conceived as part of the scale. After a critical reflection, it was found that these questions do not measure the difference between trust on star ratings. Trust propensity is about the level of trusting another person in general, but it is expected that this is not changing because of star ratings. Trustworthiness is about feeling comfortable using the website because of prior online purchase experiences, this is also not applicable to star ratings. The Cronbach’s alpha of trust in general was increased from acceptable to good reliability, when deleting trustworthiness and trust propensity, especially without trust propensity. Initial trust was also about the trustworthiness of the website, but for future research, it might be interesting to change ‘website’ to ‘seller’.

A limitation might be the age difference since the average age differed by almost seven years (Dutch: $M = 29.55$, $SD = 11.95$, French: $M = 22.86$, $SD = 4.62$, $Mdiff = 6.70$). The younger group of French respondents could have impacted the outcome. Broeder (2022) researched the moderating effects of age on the relationship between culture and uncertainty avoidance. For both French and Dutch, there was no significant main effect on age. The assumption that older people are more uncertainty avoidant compared to younger people was not supported. However, in another study, Broeder (2020) did find a significant effect of age on purchase intention, where younger participants scored higher. Therefore, the age difference in this study should be interpreted with caution. Future studies could control the variable age to rule this out completely.

Furthermore, the stimuli used for this research were tested with a pilot study. Out of three products, the bag was chosen as the best fitting gender-neutral product for this study. However, products like these are sensible for personal taste and the star ratings could influence liking the bag or not. Therefore, a control question on the likability of the bag was included, and the difference in liking the bag between one star and five stars was not significant ($Mdiff = .16$, $p = .747$). Thus, the influence of personal likability does not significantly affect the results.

Another possible limitation could be that the questionnaire was in English, but this was not the native language for both Dutch and French participants. However, it was expected that the population for this study would have an acceptable level of English. Still, there might be participants who did not fully understand the questionnaire, and this might have influenced their given answers. However, translating the instruments of a survey could let to multiple sorts of bias (Jain et al., 2016), which is why the chosen language of this survey was English.

Next to this, the assumption was made that especially uncertainty avoidance as a cultural difference would lead to a difference in purchase intention among French and Dutch. Although this effect was found to be present in a follow-up study for hypothesis 4, there could be more cultural factors moderating the effect of star ratings on purchase intention. There could even be factors moderating the effect of cultural background on uncertainty avoidance, such as level of education. Since there can be many explanations, further research is recommended to find out the contribution of all cultural factors, such as the remaining dimensions of Hofstede's (2001) model, to explain its moderating effect on star ratings explaining purchase intention.

5.4 Conclusion

This study aimed to investigate the effect of low vs. high star ratings on purchase intention. Next to that, the mediating effect of trust and moderating effect of cultural background

was investigated. This study reveals that a high star rating has a positive effect on purchase intention on a second-hand fashion platform. This is not mediated by trust, but the moderating effect of cultural background was found to be significant. As expected, French score significantly higher on uncertainty avoidance than Dutch, and the cultural background moderates the effect of star ratings on purchase intention. Thus, French are more sensitive to star ratings than Dutch when intending to purchase a product on a second-hand platform. This is explained by French scoring higher on uncertainty avoidance than Dutch. Therefore, in times of globalization and making use of international platforms, the effects of differences in cultural background on the perception of star ratings should not be underexposed.

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Appendix A

Pilot stimuli

The pilot for the stimuli was conducted to test the stimuli for this study. Three gender-neutral and second-hand products were presented to the participants of the pilot study (i.e., beanie, sunglasses, and a backpack, see pictures of the products below). The participants ($N = 10$) consisted of Dutch ($N = 7$) and French ($N = 3$) respondents, of which 4 were male and 6 females. The age ranged from 18 to 54 years old. Some participants were spoken in real life and some online via WhatsApp and Zoom. The pilot study was a semi-structured interview, including predefined statements to gain deeper insights into the answers of the participants.

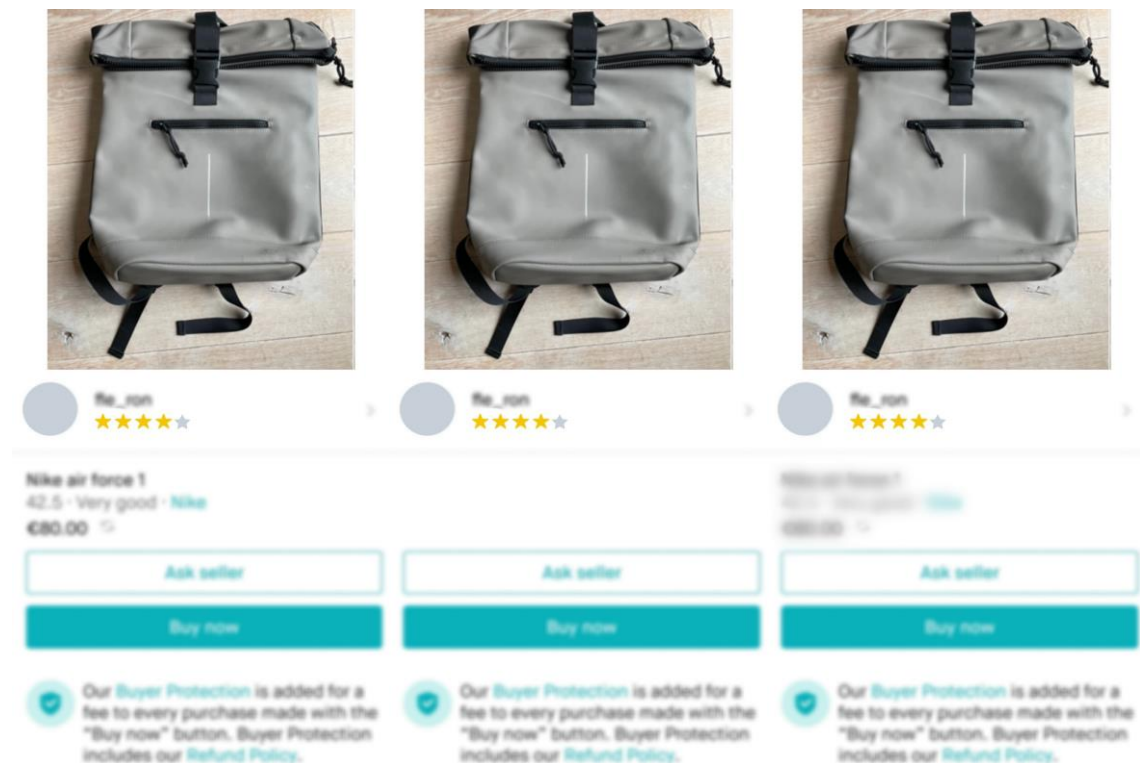


Three product options for the stimuli.

First, the three product options were shown to the participants, after seeing the pictures, they were asked to give their preference of a second-hand product that they found most suitable for this study. They were also asked which product they considered the most gender-neutral product because the product used in the stimuli should be suitable for all genders. Secondly, the participants and experts were shown three potential versions of the stimuli (see pictures below)

which were slightly different from each other. During the presentation of the stimuli options, there were statements that the participant had to answer. The statements were as follows:

1. This Vinted advertisement looks realistic.
2. This Vinted advertisement and product make me likely to purchase.
3. The background components of the advertisement take my attention away from the product.
4. I am aware of the star ratings.



The three versions for the stimuli (1, 2, 3)

- 1) Blurred, the text is still visible
- 2) Blurred, part of the text is deleted (product name, product information, price)
- 3) Completely blurred with text not visible

Background: The background of the stimuli was discussed with the respondents. Most of the respondents noted that out of the three versions, they preferred version 2 for this study. They said that versions 1 and 3 are more distracting because parts of the text were still visible. The first version didn't distract them too much from the star ratings. Even if parts were blurred more (version 3) they were still trying to read the text of the blurred parts. They also said that the advertisement would still look realistic in version 2 without the text including the name of the product, product details, and the price.

Product: 9 out of 10 respondents noted that the backpack is the most suitable product for this study. The backpack was chosen as the most gender-neutral and most neutral in taste. A respondent also noted that the picture was a good representation of a self-made picture on a second-hand platform.

Context information: The respondents were aware of the star ratings. Only two respondents noted that the stars might be designed larger because they are relatively small in these versions.

Appendix B

Questionnaire

Introduction

This study is about shopping on Vinted. I would like to ask you some questions about online shopping and your preferences. This short questionnaire will take around 5 minutes.

Voluntary participation

Your participation in this survey is completely voluntary. You have the right to withdraw from the research study at any time. To have your response included, please click the “submit” button at the end of the survey.

Confidentiality

Your answers will be stored anonymously. You do not have to fill in your name or address. In order to protect the anonymity of your responses, no IP addresses, e-mail addresses, or identifying information will be collected.

Thanks in advance!

Research group Online consumers, Tilburg University.

Aukje Meeuwesen

a.t.h.meeuwesen@tilburguniversity.edu

Do you consent to participate?

- ☐ Yes
- ☐ No

What is your gender?

- ☐ Male
- ☐ Female

What is your age in years? _____

What country were you born in?

- ☐ The Netherlands
- ☐ France
- ☐ Other, please specify _____

In what country do you live at the moment?

- ☐ The Netherlands
- ☐ France
- ☐ Other, please specify _____

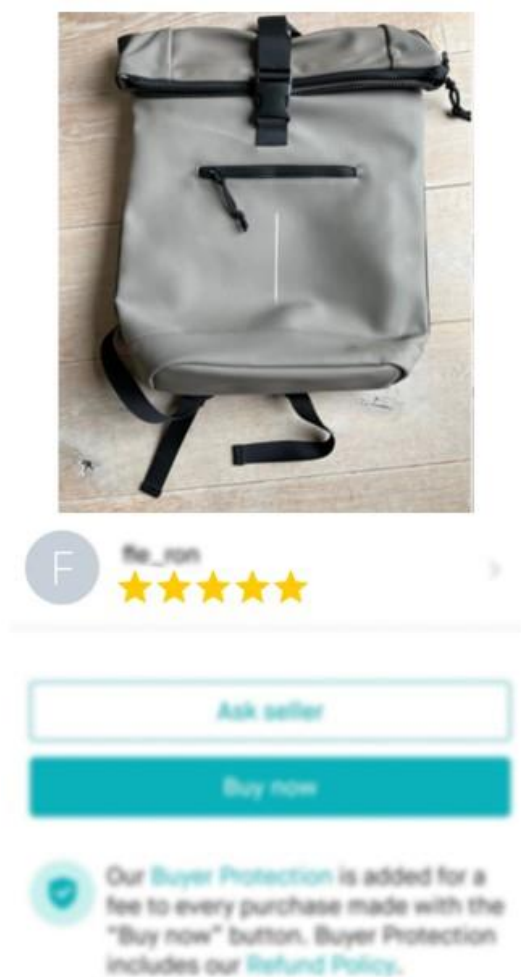
To what ethnic group do you belong?

- ☐ Dutch
- ☐ French
- ☐ Other, please specify _____

What is the highest level of education you have completed?

- ☐ Elementary school
- ☐ High school
- ☐ Middle level education
- ☐ Higher education
- ☐ University

Have a close look at the advertisement below. Imagine you are looking for a second-hand bag.



Please indicate to what extent you agree with the following statement:

	Completely disagree	Disagree		Agree	Completely agree
I would like to buy this product	☐	☐	☐	☐	☐



Re_non



Ask seller

Buy now



Our Buyer Protection is added for a fee to every purchase made with the "Buy now" button. Buyer Protection includes our [Refund Policy](#).

Please indicate to what extent you agree with the following statements:

	Completely disagree	Disagree		Agree	Completely agree
When I buy a product on Vinted, I always check the star rating of the seller	☐	☐	☐	☐	☐
When I buy a product on Vinted, the ratings presented about the seller are helpful for my decision-making	☐	☐	☐	☐	☐
When making online purchases on Vinted, I trust the star ratings by other members to guide my decisions	☐	☐	☐	☐	☐



Re_non



Ask seller

Buy now



Our [Buyer Protection](#) is added for a fee to every purchase made with the "Buy now" button. Buyer Protection includes our [Refund Policy](#).

Please indicate to what extent you agree with the following statements:

	Completely disagree	Disagree		Agree	Completely agree
This website is trustworthy	☐	☐	☐	☐	☐
This website is honest	☐	☐	☐	☐	☐
This website keeps my best interests in mind	☐	☐	☐	☐	☐
This website is secure	☐	☐	☐	☐	☐
This website is reliable	☐	☐	☐	☐	☐
Prior online purchase experience from other websites makes me feel comfortable using this website	☐	☐	☐	☐	☐
It is easy for me to trust another person	☐	☐	☐	☐	☐

Please indicate to what extent you agree with the following statements:

	Completely disagree	Disagree		Agree	Completely agree
I prefer structured situations to unstructured situations	☐	☐	☐	☐	☐
I prefer specific instructions to broad guidelines	☐	☐	☐	☐	☐
I tend to get anxious easily when I don't know an outcome	☐	☐	☐	☐	☐
I feel stressed when I cannot predict the consequences	☐	☐	☐	☐	☐
I believe that trust rules should not be broken for merely pragmatic reasons	☐	☐	☐	☐	☐
I don't like ambiguous situations	☐	☐	☐	☐	☐

Please indicate to what extent you agree with the following statements:

	Completely disagree	Disagree		Agree	Completely agree
I think the advertisement was realistic	☐	☐	☐	☐	☐
I am familiar with purchasing products online	☐	☐	☐	☐	☐
I like the bag that I saw	☐	☐	☐	☐	☐

Finally, please answer the following statements with yes or no:

	Yes	No
The advertisement showed a high star ranking, including 5 stars	☐	☐
The advertisement showed a low star ranking, including 1 star	☐	☐
I saw a grey bag	☐	☐

You have completed this survey. If you have any further questions or you would like to be kept informed about the results of this study, please send an e-mail to:

a.t.h.meeuwesen@tilburguniversity.edu

Aukje Meeuwesen

Appendix C

Output moderation and mediation analysis (model 5, cultural background)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.1 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 5
Y : M_PI
X : Con_1_5
M : M_iTr
W : Ethnic

Sample
Size: 327

OUTCOME VARIABLE:

M_iTr

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,0384	,0015	,3917	,4811	1,0000	325,0000	,4884

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,5498	,0346	102,5641	,0000	3,4818	3,6179
Con_1_5	,0480	,0692	,6936	,4884	-,0882	,1842

Covariance matrix of regression parameter estimates:

	constant	Con_1_5
constant	,0012	,0000
Con_1_5	,0000	,0048

OUTCOME VARIABLE:

M_PI

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,5345	,2857	1,0488	32,2043	4,0000	322,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,5573	,3275	7,8092	,0000	1,9130	3,2015
Con_1_5	1,0685	,1134	9,4182	,0000	,8453	1,2917
M_iTr	-,0341	,0909	-,3748	,7080	-,2128	,1447
Ethnic	,4510	,1141	3,9539	,0001	,2266	,6753
Int_1	1,0423	,2279	4,5738	,0000	,5940	1,4907

Product terms key:

Int_1 : Con_1_5 x Ethnic

Covariance matrix of regression parameter estimates:

	constant	Con_1_5	M_iTr	Ethnic	Int_1
constant	,1072	,0015	-,0293	-,0017	,0004
Con_1_5	,0015	,0129	-,0004	-,0005	,0000
M_iTr	-,0293	-,0004	,0083	,0005	-,0003
Ethnic	-,0017	-,0005	,0005	,0130	-,0002
Int_1	,0004	,0000	-,0003	-,0002	,0519

Test(s) of X by M interaction:

F	df1	df2	p
,0713	1,0000	321,0000	,7896

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0464	20,9196	1,0000	322,0000	,0000

Focal predict: Con_1_5 (X)

Mod var: Ethnic (W)

Conditional effects of the focal predictor at values of the moderator(s):

Ethnic	Effect	se	t	p	LLCI	ULCI
-,4495	,5999	,1528	3,9249	,0001	,2992	,9006
,5505	1,6422	,1691	9,7091	,0000	1,3095	1,9750

***** CORRELATIONS BETWEEN MODEL RESIDUALS *****

	M_iTr	M_PI
M_iTr	1,0000	,0000
M_PI	,0000	1,0000

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Conditional direct effect(s) of X on Y:

Ethnic	Effect	se	t	p	LLCI	ULCI
-,4495	,5999	,1528	3,9249	,0001	,2992	,9006
,5505	1,6422	,1691	9,7091	,0000	1,3095	1,9750

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
M_iTr	-,0016	,0083	-,0211	,0151

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
M_iTr	-,0014	,0069	-,0176	,0126

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

NOTE: The following variables were mean centered prior to analysis:
Ethnic Con_1_5

NOTE: Standardized coefficients not available for models with moderators.

----- END MATRIX -----

Output moderation and mediation analysis (model 5, uncertainty avoidance)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 4.1 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2022). www.guilford.com/p/hayes3

Model : 5
Y : M_PI
X : Con_1_5
M : M_iTr
W : Mean_UA

Sample
Size: 327

OUTCOME VARIABLE:

M_iTr

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,0384	,0015	,3917	,4811	1,0000	325,0000	,4884

Model

	coeff	se	t	p	LLCI	ULCI
constant	3,5498	,0346	102,5641	,0000	3,4818	3,6179
Con_1_5	,0480	,0692	,6936	,4884	-,0882	,1842

Covariance matrix of regression parameter estimates:

	constant	Con_1_5
constant	,0012	,0000
Con_1_5	,0000	,0048

OUTCOME VARIABLE:

M_PI

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,4947	,2448	1,1090	26,0890	4,0000	322,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,6330	,3365	7,8250	,0000	1,9710	3,2950
Con_1_5	1,0755	,1168	9,2050	,0000	,8456	1,3053
M_iTr	-,0571	,0934	-,6119	,5411	-,2409	,1266
Mean_UA	,1393	,0982	1,4188	,1569	-,0539	,3324
Int_1	,7949	,1966	4,0438	,0001	,4082	1,1816

Product terms key:

Int_1 : Con_1_5 x Mean_UA

Covariance matrix of regression parameter estimates:

	constant	Con_1_5	M_iTr	Mean_UA	Int_1
constant	,1132	,0014	-,0309	,0006	,0010
Con_1_5	,0014	,0137	-,0004	-,0008	-,0002
M_iTr	-,0309	-,0004	,0087	-,0002	-,0005
Mean_UA	,0006	-,0008	-,0002	,0096	,0019
Int_1	,0010	-,0002	-,0005	,0019	,0386

Test(s) of X by M interaction:

F	df1	df2	p
,3069	1,0000	321,0000	,5800

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0384	16,3524	1,0000	322,0000	,0001

Focal predict: Con_1_5 (X)
Mod var: Mean_UA (W)

Conditional effects of the focal predictor at values of the moderator(s):

Mean_UA	Effect	se	t	p	LLCI	ULCI
-,6376	,5686	,1720	3,3068	,0011	,2303	,9069
,0291	1,0985	,1169	9,3947	,0000	,8685	1,3286
,6957	1,6285	,1792	9,0857	,0000	1,2759	1,9811

***** CORRELATIONS BETWEEN MODEL RESIDUALS *****

	M_iTr	M_PI
M_iTr	1,0000	,0000
M_PI	,0000	1,0000

***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****

Conditional direct effect(s) of X on Y:

Mean_UA	Effect	se	t	p	LLCI	ULCI
-,6376	,5686	,1720	3,3068	,0011	,2303	,9069
,0291	1,0985	,1169	9,3947	,0000	,8685	1,3286
,6957	1,6285	,1792	9,0857	,0000	1,2759	1,9811

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
M_iTr	-,0027	,0093	-,0244	,0137

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
M_iTr	-,0023	,0077	-,0205	,0114

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:

95,0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

NOTE: The following variables were mean centered prior to analysis:

Mean-UA Con_1_5

NOTE: Standardized coefficients not available for models with moderators.

----- END MATRIX -----