MASTER THESIS

GENERIC DRUGS: THE DUTCH POINT OF VIEW

A study on the attitudes towards generic drug in the Netherlands

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Preface

This thesis marks the end of my master's programme for my study Marketing at the Erasmus University Rotterdam.
It is the result of months of work, and is has been an interesting and informative process.

However, I could not have finished this thesis without the help of certain people.
Therefore, I would like to thank them for their support. First of all, I would like to thank my supervisor, dr. Isabel Verniers, for her advice, motivation and support.
Secondly, I would like to thank my brother Michel, for helping me out with questions concerning English language and grammar.
Lastly, I would also thank all the respondents for taking the time to fill out my questionnaire.

Naaldwijk, July 2011
Stefan van der Goes

Source picture frontpage: http://www.geninv.net/2010/04/does-the-new-health-care-bill-change-access-to-generic-drugs-in-the-us-medicine/

Execute Summary

All western countries have faced the same problem over the past years: How to stop the rise of public healthcare costs? The aging of the society and the fact that elderly people live longer were two causes for this rise.

Generics were seen as a solution to this problem. Generics are made when a patent of a brand name drug expires. These generics are 30 to 70% cheaper than the brand name drugs. The Dutch government implemented a policy in 2008 which implied that only the cheapest drugs would be reimbursed (exceptions vary by insurer).

This study aims to find out if there are differences between people with certain demographics and their attitudes towards generics. Furthermore, it aims to provide insight into the relationship between shopping behavior and attitudes towards generics.
Not many differences between demographics and attitudes towards generics were found.

However, one finding was that people in an urban environment have more negative attitudes towards generics compared to people in semi-rural or rural environments.

For shopping behavior a factor analysis was conducted. It was found that 4 factors determined attitudes towards generics; awareness, (perceived) quality, price sensitivity and status. In a linear multiple regression, only price sensitivity was significant.
A linear multiple regression of all variables used in this study showed that price sensitivity had a positive influence on attitudes towards generics and urban environment a negative influence.

As pharmacies do have own brands (generics) too, it is especially advised for those in urban environments to communicate the low(er) price saving more clearly. Only a low price can contribute to a more positive attitude towards generics.

Furthermore, this study provides solutions for brand name drug companies on how to compete with generic manufacturers.
One solution is to be innovative. By innovativeness, brand name drug companies can differentiate themselves from generic competitors. Moreover, by being innovative the chance to find a new drug is bigger, which gives a firm a patent for several years.
Another way to compete with generic manufacturers is to focus on the prescribers of drugs, i.e. general practitioners and pharmacists. They are sensitive to promotions of a drug and will prescribe a drug on promotion more than its generic competitor.

The last option is to collaborate with generic manufacturers. This could be done via ingredient branding. This means that a brand name manufacturer will provide the main ingredient for a generic drug (as a sign of quality). If this ingredient branding does not lead to a higher price for the generic drug, both the brand name manufacturer (a bigger market) and the generic manufacturer (a higher perceived quality) will benefit from this collaboration.

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1. Introduction

As expenses for public health in almost every western country rose over the past 10 years (Organisation for Economic Cooperation and Development [OECD], 2011) new policy was needed in order to control these costs. Continuing with the old policy, the fear was that costs for public health would rise even further (OECD, 2006). More and more countries view generic drugs as the solution for this problem, including the Netherlands. But what do the people in the Netherlands think about generics? Will they accept a drug which is different, but in a way the same as their brand name drugs? Which people will? Which people won't? This study aims to find answers to these questions.
This chapter first will provide general information about generic drugs and their manufacturers. Next, examples of foreign countries who already implemented changes in their policies in favour of generic drugs are examined. Lastly, the Dutch situation concerning costs of public health and generics is discussed.

1.1 Generic drugs: the same, but different

Generic drugs are seen as a solution for the problem of the rising healthcare costs. Generic drugs (generics) are 'kind of' the same drugs, but at the same time different. When a pharmaceutical company has, after years of research and testing, found a new drug, this drug (brand name drug) is patented for several years[1]. These patents are of vital importance to the pharmaceutical companies. In this way the company can earn back their research costs, make some profits and can invest in research.
This monopoly due to the patent is in line with Schumpeterian economics. Schumpeter said that '*technological innovation often creates temporary monopolies, allowing abnormal profits that would soon be competed away by rivals and imitators. (…) These temporary monopolies are necessary to provide the incentive necessary for firms to develop new products and processes'* (Pol & Carroll, 2006).

When a patent is expired, other companies are free to copy this drug. These companies didn't have to incur the costs of years of research, and therefore their price will be (much) lower than the brand name drug. But before this generic can come to the market, is has to meet the same quality requirements as a brand name drug, the working ingredient must be the same as in the brand name drug and the doses must be the same.

[1] This patent differs by country.

Generics differ from brand name drugs (besides being cheaper), because they look different, and come in a different package. So, patients may be a bit reserved when offered a generic, because they don't recognize it and therefore may not trust it.
Besides patients that may be averse towards generics, pharmacies are not always keen on generics. Pharmacies sometimes loose income by the elimination of discounts and bonus plans by brand name drug companies (Mott and Cline, 2001). On the other hand, they could make more profits by selling their own brands (i.e. private labels for cough drops).

Generic manufacturers are booming. They are competing with brand name drug companies or collaborating with brand name drug companies. For instance, AstraZeneca and Teva, Teva will not bring generics on the market of AstraZeneca's Nexium until 2014 (White, 2010). A new trend is that generic companies start to launch new brand name drugs themselves (Goldstein, 2010).

1.2 Situation Abroad

In the period of 2000 – 2009 the consumption of prescribed and non-prescribed drugs both rose (CBS, 2009). This trend is not unique for the Netherlands, most European countries and the USA showed a similar trend. Compared to other Europeans, the Dutch use less drugs[2]. This however doesn't stop the costs for health expenses to grow in the Netherlands. European countries and the USA all have this problem, caused by the babyboom after WW II. Some countries have taken action to stop the rise in health expenses.

Australia was one of the first countries where rules concerning reimbursement of cheaper drugs were implemented. In 1990 the Minimum Pricing Policy was introduced, but its impact was small. In 1994 legislation involving generic substitution was accepted. In the first 5 years, the use of generics rose from 17 to 45% (McManus, Birkett, Dudley and Stevens, 2001).

Generic substitution in Germany became active in the 1992. Total savings that resulted from this substitution in the 1990s were 425 million D-Mark (€ 217,30 million) (Schneeweissab, Schöffskic and Selked, 1998).

In March 2003, new pharmacy legislation was valid in Norway. It contained the introduction of substitution of generics for brand name drugs. This measure was taken primarily to reduce costs (Kjoenniksen, Lindbaek and Granas, 2006). It was allowed for patients and/or general

[2] http://www.rijksoverheid.nl/onderwerpen/geneesmiddelen retrieved on 20-05-2011

practitioners to refuse generic drugs, but as a result they had to pay a higher price for the brand name drugs.

Another Scandinavian country, Sweden, had taken action to stop the increase in costs for public health as well. Sweden used to have the policy that the state insurance company (most of the time) reimbursed one's expenditures due to prescribed drugs. In 2002 a similar system as in Norway was introduced (Andersson, Sonesson, Petzold, Carlsten & Lönnroth, 2005). Five years after the introduction of the new system of reimbursement, 40% of the people who switched to generics claimed to have experienced at least one difficulty related to the use of generics. (Frisk, Rydberg, Carlsten & Ekedahl, 2011).
In Finland a similar study was conducted 5 years after the introduction of generic substitution. A large majority (70,9%) was satisfied with the switch (Heikkilä, Mäntyselka and Ahonen, 2010).

Norway, Sweden and Finland all saw a decline in costs for drugs after the new policy. Furthermore, the majority of the patients in all three the countries were satisfied with the new legislation (Andersson, et al., 2005; Frisk, et al., 2011; Kjoenniksen, et al., 2006).

The situation in the USA is more difficult to compare, because the rules of reimbursement differ per insurance company and the reimbursements by the state differ greatly from European countries. However, from 1999 till 2008, the use of generics saved the USA $734 billion (Vaitheeswaran, 2009).

1.3 Situation in the Netherlands

The Netherlands are no exception compared to other countries regarding to the rise in costs of public health. Current expenditures on public health in 2009 amounted € 9,585 billion, which is almost three times as high as in 2000 (Central Bureau of Statistics [CBS], 2011).
A growing trend was visible concerning drug usage. For prescribed drugs the rise was 6% (34 to 40%), for non-prescribed drugs the rise was 4% (35 to 39%) (CBS, 2011).
This increase means that the expenditures for healthcare (looking only at drugs) are growing too.
Not only the use of more drugs is a cause of more expenses, the aging of the country is another factor that plays a role of the rise of more use of drugs. This aging is due to a growth in elderly people, and this elderly people are living longer too[3] (CBS, 2011).

[3] 2011 is a milestone in the aging of the population. This year the first baby boomers will become 65 years. In five years from now, there will be half a million people who will be 65 or older. This growth is twice as much as the past five years (CBS, 2001)

A policy was accepted in 2008 that insurance companies only reimbursed the cheapest drug (exceptions vary by insurer).

In order to make this generic substitution work, it is important for generic manufacturers, insurance companies and governments that patients really trust generics. In this study I would like to explore the attitudes[4] of Dutch people towards generics. Different parties may benefit from a more understanding of these attitudes:

- generic manufactures, insurance companies and policy makers because they will get more insight into who they have to target, in order to measure to make that those people will accept generics too;
- brand name drug manufacturers because they will get more knowledge what kind of people do actually prefer brand name drugs and can market on them;
- brand name drug manufacturers because they will get more insight to how they can compete with generic drug firms.

As different people have different opinions, I will segment my research group. It is interesting to explore the differences between gender, age groups, urban/rural people, people of different Social Economic Statuses, and people with different knowledge of generics. Furthermore, preferences concerning brand loyalty, price sensitivity, perceived quality and status will be studied, because these can influences people's attitudes towards generics.

Information from different Dutch agencies was used to examine the current situation concerning public health, policy towards generics, fact and figures about the Dutch population, etc. The names of the authorities are translated in English. In case it was necessary, the Dutch name was mentioned italic in brackets.

[4] There are several definitions, however I choose for the definition given by Oppenheim (1992): *An attitude is a state of readiness, a tendency to respond in a certain manner when confronted with certain stimuli*. They formulated this definition after researching several articles about attitudes.

2. Theoretical background

So far, there hasn't been many studies that examined the attitudes towards generic drugs. Moreover, not a single study was conducted in the Netherlands.
In this chapter there will nevertheless be an overview of research that is similar to my topic.

Most comparable to this topic, was the study done by Kjoenniksen, et al. (2006). Their topic was *Patients' attitudes towards and experiences of generic drug substitution in Norway.*
The results of their study were that about 2/3 of the patients claimed overall satisfaction after the substitution to generics, but about 1/3 of the patients who had their medication substituted reported negative experiences. 36% Of this group had one or more negative experiences, 21% claimed an overall negative experience due to the switch to generics. For patients who reported one or more, or overall negative experiences, generic drug substitution is not an equal alternative to branded drugs. A solution is to give those patients extra information and support about generics.
The results are independent of age, gender, number of medications or the physician.

Suh (1999) has researched the trends of generic substitution in community pharmacies in the United States. The pharmaceutical purchases (of brand name drugs and generics), represented in 1999 approximately 6% of all pharmaceutical purchases. There is high growth in the purchase of generics, and several reasons are named to cause this effect, namely: there is more availability of generic substitute, the generic substitution rate is increasing and the fast availability of a generic drugs after patent experience. Furthermore, Suh found that 25% of the physicians still refuse to prescribe generics. Pharmacists aren't always keen on generics as well. Many of them are concerned about the frequent switching of generic manufacturers (Suh).
Moreover, Suh found that generics are at market-entry about 75% of the price of a brand-name drug. Within one year, this is dropped to 46%, and it is 25% of price of the brand name drug in three years. So, from a patient point of view, there is a financial incentive to choose generics instead of brand name drugs.
The main conclusion of this article is that generic substitution can be maximal when using a multidisciplinary team approach, in which all parties (general practitioners, pharmacists and insurance companies) involved in the drug treatment process are present.

Research of Andersson, et al. (2005) focused on the Swedish situation. In Sweden mandatory generic substitution was introduced in 2002, mainly to reduce the increasing

pharmaceutical expenditure. This was necessary because over a period of 10 years the total pharmaceutical expenditure had become twice as high.
They pointed out that pharmacy personnel is an important factor in generic substitution, because ‘they influence the outcome of the reform indirectly by what they have in stock’ (Andersson, et al., 2005, p. 342). This is in line with the results of Heikkilä, et al. (2010) They found that the second most given reason to switch to generics is the advice of the pharmacists. The savings of the introduction of the generic substitution were huge in Sweden. Of all the substitutions, fewer than 5% was to a more expensive product. The possible additional savings were substantial, but still not fully implemented. But not only the introduction of generic substitutions played a role. Because of this introduction, brand name manufacturers lowered their prices, to compete with generics. This is a by-effect of the generic substitution in Sweden. In total, 60% of total savings was achieved. Andersson, et al. further refers to a study undertaken in America (New Yersey). During generic substitution, 77% of the prescribing doctors had approved substitution and 97% of the patients who had been offered substitution had given their consent (Suh, in Andersson, 2005).
Furthermore, they found that opinions in Denmark about generic substitution differ between patients and doctors. And contrary to common wisdom, most patients are satisfied with generic substitution, but two out of three doctors are not (Andersson, et al.). An explanation was not given .

In 2007 Andersson, Bergström, Petzold & Carlsten looked at pharmaceutical sales, which they divided into three categories; over the counter sales, hospital sales and outpatient prescription sales. Their main conclusion was that when generic substitution was introduced, the trend of increasing pharmaceutical expenditures was reversed into a decrease. However, these results have to be interpreted with caution. The study period was 5 years, so it is too early to conclude that this shift will last. One of the results of this decline is that the price per unit could be reduced by promoting the use of cheaper generic equivalents through generic prescribing, generic substitution and generic dispending.

The article of Mott and Cline (2001) examined the prevalence of prescriptions that offer the opportunity for generic drug use. One of their main conclusions was that the role of the pharmacist is very important to increase generic drug use. Another conclusion was that, in order to enlarge the substitution in generics, the focus has to be on the prescriber.
They furthermore conclude that the costs for prescription drugs are one of the fastest growing expenditures in the pharmaceutical sector. As well as Suh (1999) indicated, generics can become about 70% cheaper than the same brand name drugs. The generic substitution rate (% brand name prescription orders eligible for substitution that are substituted with

generic drug products) grew between 1987 and 1994 from 22% to 41%, and between 1991 and it grew from 33% to 43,2% (Mott & Cline, 2001). One can see that this is a decreasing growth. This may have two causes; the possibilities for generics have become less, or the substitution hasn't reached its full potential. The last cause can be affected by the brand name pharmaceuticals. With more promotion on their products, the increasing growth of generics could come to an end.
Mott and Cline further found that the following factors may be associated with the possibility of generic substitution: *prescriber and pharmacist characteristics, drug insurance coverage, patient characteristics, and drug characteristics that may be associated with the opportunity for generic drug use and substitution*.
Mott and Cline too refer to the incentive that prescribers and pharmacists have by offering generics, due to their lower prices. This can result in more satisfied patients (they save money without losing quality of their drugs) and more profit for the pharmacists.
According to Mott and Cline there are two characteristics that are important to divide. One is to look if the drug is to treat acute or chronic diseases, second is the rate of time (years) that the generic is available.

Banahan III and Kolassa (1997) found that not only patients need good education about generics, but the prescribers need good education too. Out of their research two groups of prescribers were identified, those who were positive about generics and those who were negative. Most of the prescribers who were negative, didn't know much about generics and the requirements of the Food and Drug Administration regarding generics.

Gartner and Kreling (2000) examined consumer perceptions for generics of different medical conditions and the relationship between risk perception and the cost savings. They conclude that patients are sensitive for financial incentives when using generics. This even holds for patients who find generics riskier than brand name drugs. Obviously, when there is a greater (perceived) risk, the financial incentive has to be bigger to convince a patient.

A recent study done by Osinga (2011) claims that advertisements determines the choice for a drugs. One of his results was that pharmacists usually stop to promote a drug when the marketing activities of that drug are stopped (often when the patent is expired). General practitioners then usually prescribe a (new) drug which is being promoted, instead of the cheaper generic. When costs could be saved to prescribe the generic, this is usually not the case. But, it must be said that the research by Osinga was conducted in the United States, where different rules with respect to promotion of generic drugs are than in the Netherlands. The next paragraph will discuss the Dutch rules and regulations concerning generic drugs.

2.1 Dutch policy on generic drugs

The Dutch authorities stimulate the use of generic drugs. This is due to, as mentioned before, the increasing costs of health. This rise has two main reasons: more (complicated, thus more expensive) drugs and the aging of the population. Not only will this aging continue the coming years, it will accelerate too (CBS, 2011, p. 11). If there would be no stimulation of generics, the costs of drugs would rise each year with at least 10% ('Betaalbaar houden van', 2011). The Dutch government works together with insurance companies to reduce this costs. The ministry of Health, Welfare and Sports is responsible for the policy about (generic) drugs. Several measures have been taken to set a hold on the rising costs and try to get a downward trend in these costs. One measure is to reimburse only the cheapest drugs, containing the same working ingredient ('Betaalbaar houden van', 2011). Health insurers are free to choose if they want to reimburse more expensive drugs. This involves less costs for health insurers and for their clients (sometimes depending on one's policy). Furthermore, there's a list prepared by the cooperative health insurers (*college van zorgverzekeraars*) about which drugs are being reimbursed by which health insurer. One aspect of this so called *preference policy* is that the patient always has the last say about his medication. If a patient, despite of what doctors or pharmacists might say, insists he only wants the brand name drugs, pharmacists are obliged to offer this drug to him. For more information on the Dutch policy to reduce costs regarding drugs, see Appendix D.
Furthermore, there is a site by run by the cooperative health insurers called www.medicijnkosten.nl where one can compare the prices of different drugs containing the same working ingredient.

Moreover, commercials for drugs are under restrictions of the government. The Inspection for Public Promotion of Drugs controls laws made by Dutch and European governments.
First of all, only non-prescribed drugs are allowed for public promotion. Secondly, the drugs can't make claims to *cure, threat* or *prevent* certain diseases. It is allowed to make claims such as *good for the hearing*, *good for a fresh breath* or *increases the resistance against bacteria and fungi*. There's a whole list of what's forbidden and allowed to claim, specified by therapy area, which can be found at
http://www.koagkag.nl/content/index.php?option=com_wrapper&Itemid=216
This implies that manufactures of generic drug can only advertise for non-prescribed drugs. This market is, due to competition, not a very attractive market. For painkillers for example, different drugs are available from different suppliers, which implies that the margin would not be very high in such a market. Marketing on generic manufacturers focuses mainly on the prescribers of drugs, doctors and pharmacists. But like public promotions, there are rules for these promotions. The rules are imposed by the Dutch and European government and

controlled by Foundation for Pharmaceutical Advertising. These rules are mainly about what prescribers are allowed and not allowed to do or to how behave regarding promotions of (generic) drugs.
These rules can be found on http://www.cgr.nl/267/Wet-en-Regelgeving.html

2.2 Generics and Private Labels

Because there is not so much research on (attitudes towards) generics, I decided to look at research concerning private labels. Research on private labels (store brands – i.e. Euroshopper, AH huismerk, etc.) and generics has shown that they are similar in various ways. Both are 'copies' of the original product, both are generally cheaper than the original (up to 70% of the original price, Suh, 1999). And both their market shares are growing[5].

Most research on private labels is concerned with private labels in retail. Generics are (except some non-prescribed drugs) not available in retail stores. For buying generics, you fully have to trust the drug, which is important, because one wants to cure from a disease or to have less health issues. With private labels this is different, there is no real trust issue. When someone buys a private label which turns out to be not as good as the original, one can easily switch back (again) and buy the brand name product.
With generics this is different, because the market for pharmaceuticals isn't comparable with the market for fast moving consumer goods (FMCG). Another difference is that generics can be reimbursed (which and how much depends on one's health insurer) and this isn't the case for private labels. But private labels can be bought for the whole family, or multiple persons in a house, and generics are bought for one consumer only. Moreover, generics can be prescribed (so no choice has to be made) and this is definitely not the case for private labels. Furthermore, private labels can help to promote the store, but they are mostly used to create or sustain customer loyalty.

Research conducted by Rubel (1995) seemed most relevant to my research. This study shows that the private label brand sales in drugstore are highest in the categories: cold/flu products, cough drops and syrups, and vitamins and headache remedies. Sometimes a trust issue does occur with private labels. This is the case when there is, for instance, a sickness of animals which can influence the food. The BSE-crisis ('gekke koeienziekte') and the dioxine in chickens are examples of this. To overcome this problem, private labels are

[5] In 2002 in the USA, 20% of all grocery sales was private label products (Thompson, in Batra & Sinha, 2000), good for more than $48 billon (Batra and Sinha, 2000). Forecasts are that private label might attract 40% or more of US supermarket sales (Denitto, in Batra & Sinha, 2000). In 2000, the sales of private label brands in grocery outlets in the USA exceeds $48 billion (Batra & Sinha, 2000)

sending out a message that they have to meet the same safety regulations as brand name products do.
Research by Van Horen, Pieters and Stapel (2009), is concerned with copycats and the consumer mindset. They concluded that copycats who look just like brand name products will be *less* sold compared to products that have subtle imitations. This can be related to a successful part of the brand-name product. This effect happens regardless of the mindset the consumer has (judge mindset or consumer mindset). This is useful information for manufactures of generics too. The common wisdom of a good marketing strategy for copycats was to copy the A-Brand (or brand name drug) as much as possible. This research has shown that that isn't the best solution. Or, to say it in other words, products do not only need to have points of parity, but points of difference as well[6].

Vaidyanathan and Aggarwal (2000) examined *implications of ingredient branding for national and private label brands.* With ingredient branding they mean (in this case) that a private label uses a national brand ingredient (that is widely known) in their product. In this research they take the example of breakfast cereal (private label) with SunMaid raisins (national brand ingredient). Another example of ingredient branding is found in the ICT business. Lots of computer ads (on TV, radio, internet of in the store) are saying 'Intel Inside'. Thereby they mentioning that they use a top A brand ingredient (the Intel chip) in their computers. This works particularly for computers who have a brand name which is not known. Another example is those computers run on Microsoft's Windows system. Batra and Sinha (2000) too came up with this solution. They argue that third-party endorsement (i.e. ingredient branding) will reduce consumers uncertainty about the quality of (in this case) private labels.
Vaidyanathan and Aggerwals (2000) main conclusion was that a private brand with a national brand ingredient was evaluated more positively (or: the attitudes towards this product are more positive than towards the same new private label product without the national brand ingredient). This is due to the fact that when a new product is introduced by an existing brand (i.e. brand extension), consumers tend to evaluate this new product by using their existing value perceptions (as they relate to the original product) to evaluate the new product.
A private label with a national brand ingredient is for both parties an effective way of marketing. Private labels do not need to use lots of money to win people's trust and become widely known. By the national brand ingredient people will evaluate the product more

[6] Points of parity: make clear to consumers that your brand does well enough on a given attribute or benefit. Once this is established, it is important to distinct from the other product. This is done with points-of-difference. With points-of-difference a brand can demonstrate clear superiority. (Kotler and Keller, 2009)

positively and thereby releasing it from one of the private labels images: low quality. The national brand ingredient will act as a quality signal.
National brand producers have advantages of such collaboration as well. They will get more sales, they will sell to bigger markets, they are better off when purchasing ingredients (because of economies of scale) and they will have wider promotion. The authors state that there is no danger of cannibalization, but that this ingredient branding leads to additional sales. They think that the potential consumers of the new product will be consumers who already buy private labels. They will not target at national brand consumers (due to price). Still there is nothing mentioned about loyalty buyers (consumers who buy a product just because of its name). They might shift to this new product, because the name of a national brand they used to buy is in it.

Their research further showed that the image of the national brand wasn't hurt by the cooperation with the private label. It seems that the national brand joining with the private label actually helped perceptions of the national brand by *value conscious* customers. Although the conclusions of this research are interesting, it is important to know that this research is done under the assumption that the price of the private label product did **not** raise when adding a national brand ingredient.

Burton, Lichtenstein and Netemeyer (1998) looked for their research to a scale for measuring attitude towards private label products. Or, to say in other words, they examined which factors determine someone's attitude towards private labels. The authors focused on the attitude of the consumer towards private labels product as a whole. They conducted their research towards private labels in the retail business. Much of the literature suggest that attitudes towards private labels can be roughly divided into three categories: consumer price perceptions, marketing constructs and deal proneness constructs. The figure on the next page may clarify this model.

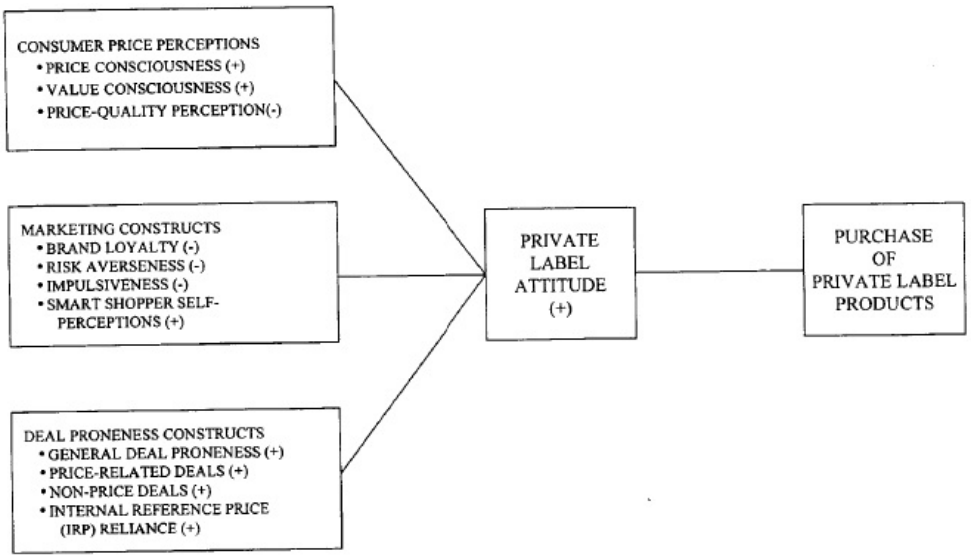

Figure 1: schematic model of influences of attitudes towards private label products (Burton, et al., 1998)

One of the conclusions was that attitude towards private labels was positively related to deal proneness, value consciousness[7], reliance on internal reference prices and smart-shopper self-perceptions, but negatively to brand loyalty, price-quality perceptions and impulsiveness. Furthermore, they found that risk averseness was not related to private label attitude. But brand loyalty, impulsiveness and smart shopper self-perceptions were of influence towards consumers attitudes towards private brands. Another conclusion was that private label attitude is positively related to the percentage of private label purchases made on a shopping trip and can explain price perceptions, deal perceptions and other constructs. This last conclusion was by far the weakest, because this was measured on only one shopping trip. The authors further found that, by looking at the behavioral level, a negative association can be found between private label purchases and purchases using price discounts or coupon purchases.

Garretson, Fisher and Burton (2002) wanted to know why price oriented consumers have different attitudes towards private labels and national brand promotions. One finding was that value consciousness is positively related to attitudes towards private labels and national brand promotions. But a negative effect was found too. The attitudes of consumers who see price as a indication of quality, were negative towards private labels. The national brands on promotion were seen as a way to achieve savings, there was no feeling of loss of quality. Another finding is that the consumers who are value-conscious may be favorably predisposed both to national brand promotions, private labels or a combination of both.

[7] As defined by Lichtenstein, Ridgway and Netemayer (in Burton, et al., 1998): 'a concern for paying low prices subject to some quality constraint'

Third, they found that smart-shopper self-perception is of influence on attitudes towards *both* private labels and national brands. Smart-shoppers are obviously interested in saving money, but even more *how* they can save money. For instance, the relationship of smart shopper self-perception and national brand promotion is significantly more positive than the relationship between smart shopper self-perception and attitude towards private labels.
The consumer who is looking for pure value, or have no pretentions towards their shopping acuteness, finds that private label brands satisfies their needs.
Garretson, et al. (2002) as well looked at how the quality perceptions of private label brands can be improved.
One important conclusion is that upgrading the tangible quality of the product (packaging) can be profitable. One other solution is to continue improve the product. Another conclusion is that it is important to educate consumers about 'how the quality is built into the product'.
Batra and Sinha (2000) presented this solution too. They say that (in order to sell more private label brands) retailers need to put as much objective information about the product ingredients and manufacturing quality as possible on the package label; thereby reducing the uncertainty that the consumer might have.
Garretson, et al. (2002) conclude that attitudes towards private labels and national brand promotions are, not only influenced by value-consciousness but price-quality associations, smart shopper self-perception are of influence too.
Glémet and Mira (1993) found that categories with high private label brands were those that provided, among other characteristics, an easy comparison.
Batra and Sinha (2000) found that as the consequences of making a purchasing mistake decline, the demand of private labels increases. The perceived consequences of making a purchase mistake are higher when the different brands in the category are seen as differing considerably in quality. The probability of making a mistake can be reduced by educating the consumer, which can be done by i.e. ads or packaging.

2.3 Attitudes and trust towards generics

What determines one's attitudes towards generics can be dependent of multiple variables. One of these factors is trust. When people don't trust generics, obviously, their attitudes would be more negative compared to people who do trust generics. So, trust could be viewed as an antecedent of attitudes.
Furthermore, people sometimes might have difficulties to describe their attitudes, as 'attitudes' might sounds too vague. When referring to trust is would be easier for the most people to understand. For these reasons, the respondents were asked how much they trust generic drugs.

Finally, the following table provides an overview of the main conclusions of the discussed literature.

Author(s)	Main conclusions
Kjoenniksen, et al. (2006)	- 2/3 of people who had their drug replaced by generics claimed overall satisfaction
Suh (1999)	- high growth in purchase of generics - in three years the price of a generic drops to 25% of the brand name equivalent - generic substitution can be maximal when general practitioners, pharmacists and insurance companies are involved
Andersson, et al. (2005)	- pharmacy personnel is a important factor in generic substitution - large savings in public health in Sweden due to generic substitution - because of the generic substitution, brand name manufacturers lowered their prices - in Denmark, most patients are in favor of generics, but two out of three doctors are against
Andersson, et al. (2007)	- with the introduction of generic substitution, the increasing pharmaceutical expenditures was reversed into a decrease
Mott and Cline (2001)	- the role of the pharmacist is very important to increase the use of generics - in order to enlarge generics, the focus has to be on the prescriber - the costs for prescription drugs are one of the fastest growing expenditures in the pharmaceutical sector - important characteristics are *acute or chronic diseases* and *rate of time (years)* that the generic is available
Banahan III and Kolassa (1997)	- not only patients but prescribers too need good education of generics
Gartner and Kreling (2000)	- patients are sensitive for financial incentives when using generics
Osinga (2011)	- advertisements determines the choice for a drug - general practitioners usually prescribe a (new) drug which is promoted, instead of the cheaper generic

Table 2.3.1: Overview of literature

2.4 Hypotheses

When looking at the questionnaire (see Appendix B) the questions can be divided between *demographics* and *(shopping) behavior*. At the end of this study it will be clear which demographics are of influence on attitude towards generics and which (shopping) behavior is of influence on attitude towards generics. Figure 3 illustrates this combined focus.
This chapter will describe the different hypotheses that will be tested. Furthermore, the background and relation to attitudes towards generics is being discussed.

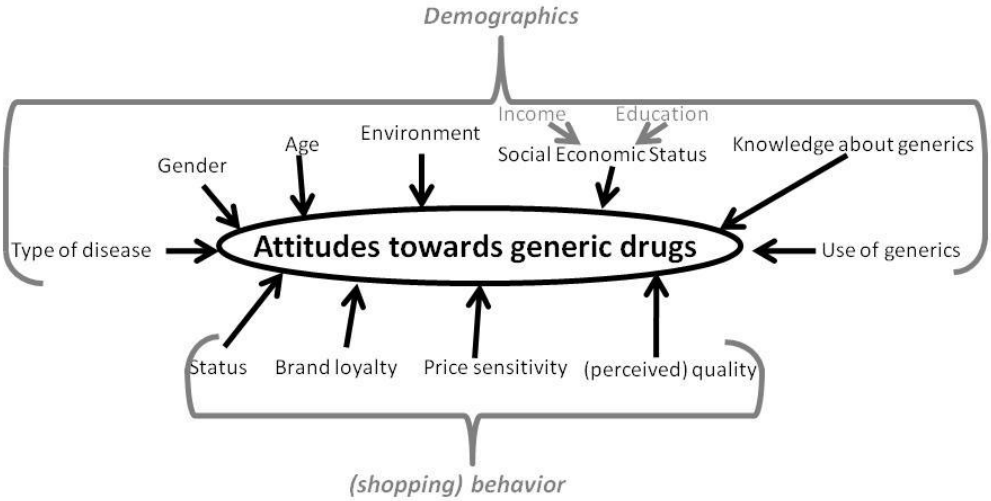

Figure 2: schematic research model

2.4.1 Gender

When developing a new drug, pharmaceutical companies usually test a new drug only on men (Moyer, 2010). This is quite remarkable since there are obvious differences between men and women (e.g. in hormones, genes, brains, etc.). The reason for testing on men only is that men don't have a menstrual cycle and therefore their hormones don't fluctuate. So, men are a more homogenous group than women and the results of the tests are easier to interpret. A result is, however, that the differences between men and women aren't taken into account[8]. For instance, women respond different on drugs like antidepressants and antipsychotics (higher concentration of the drug in their blood). For influenza vaccine, women could do with half of the doses.
Men and woman furthermore differ with respect to the frequency of drug usage. For instance, woman use 2.4 times more sleeping pills than men. Men use 1.2 times more cholesterol lowering drugs than women (Stichting Farmaceutische Kengetallen, 2005).

[8] A well-known example is what happened in the 1960s. The drug Softonol (a tranquilizer) was only tested on men, but side effects were that pregnant women who had used the drug gave birth to misshapen children *(http://www.kennislink.nl/publicaties/softenon-vloek-en-zegen*, retrieved on 13-07-2011). Nowadays, Softonol is used to treat leprosy (Boguski, Mandl and Sukhatme, 2009)

Furthermore, women use 54% more drug than men do[9]. This could mean that women face information about generics more often, which might influence their attitudes towards generics.
A study by Loyd and Gressard (1984) on attitudes towards computers showed no gender effect. But their study focused only on (high school and college) students.
Negative experiences of the switch from brand name drugs to generics were not related to gender, according to Kjoenniksen, et al. (2006). A previous study by Burton, et al. (1998) found a relationship between gender and attitudes towards private labels.
Ailawadi, Neslin & Gedenk (2001) detected that women are more likely than men to be innovative, impulsive, shopping mavens, planners and more store loyal. Store loyalty could mean that if a pharmacist advises a generic drug, they will accept is, because they are loyal to the store (pharmacy).
There is mixed evidence with respect to gender and attitudes towards generics. Therefore it is unclear whether a difference between men and women on attitude towards generics exists and what this difference might be. Therefore, hypothesis 1 is formulated as a two sided test:

H1: The attitudes towards generics are dependent of gender

2.4.2 Age

As people get older, they have more health-issues, and will therefore use more drugs. Data from the National Institute for Public Health and Environment (*RIVM*) showed a big difference between the group of 65 years and older and other age groups with respect to prescribed drugs[10]. The group of 65 years and older get more drugs prescribed compared to the other groups (at least 10% higher than the second highest age group).
For brand name and generic manufacturers it is interesting to know whether there are differences among different age groups and their attitudes towards generics. This helps then to determine on which age group they should target their marketing/research activities. Moreover, differences between age groups and attitudes towards generics could be caused by the use of more drugs when people are getting older.
Richardson, Jain and Dick (1996) argue that the propensity of consumers to buy private labels depends on various demographic factors and one of them is age.
Age is a factor that determines attitudes towards generics, according to Kjoenniksen, et al. (2006). Patients in Norway of 50 years and younger were 3,7 times more likely to change

[9] http://www.joop.nl/leven/detail/artikel/vrouw_gebruikt_54_meer_medicatie_dan_man/ retrieved on 09-07-2011
[10] http://www.rivm.nl/vtv/object_document/o4982n25485.html

from a brand name drug to a generic drug than those who were 70 years and older. Another finding of Kjoennisken, et al. (2006), was that negative experiences from a switch to generics were not related to age.
Mott and Cline (2002) found that the 'inflection age' (possibility for generic substitution) is 57. Contrary to these findings are results of a study by Burton, et al. (1998). They concluded that differences for age in relationship with attitudes towards private labels were not significant.
As these several studies concluded that older people were more averse against generics, the following hypothesis was formulated:

H2: Age has a negative effect on attitudes towards generics

2.4.3 Type of environment

It is a worldwide trend that more and more people migrate from a rural environment to an urban environment (Fields, 1975). The Netherlands are no exception on this trend. in 2005, more people lived in an urban environment than in a rural environment for the first time in the Netherlands. ("Meer mensen in", 2006). An urban environment is largely created through urbanization. Several studies have examined the difference between people living in a urban environment, a semi-rural environment and a rural environment.
Urban areas have more health facilities, and more specialists, so knowledge about generics is higher in those areas. The definition 'urban' or 'rural' can be of great importance of an area because it has lot of (policy) implications. For instance, a government could determine that a certain urban area there should have a certain minimum number of hospitals, ambulances, pharmacies, etc.

The CBS defines rural as: "an area with less than 1000 addresses per square kilometer" (http://www.cbs.nl/nl-NL/menu/methoden/toelichtingen/alfabet/p/platteland1.htm). When an area has more than 1500 addresses per square kilometer, it is defined as urban. When an area has 1000-1500 addresses per square kilometer it is defined as semi-rural.
Figure 2 provides an overview of the population density by town in the Netherlands.

A study of Paykel, et al. (2000) on urban-rural mental health differences in Great Britain showed an association between mental health conditions and the type of area (urban/rural). The results of this study included that: The rates of psychiatric morbidity, alcohol dependence and drug dependence were higher in urban settings than in rural settings. The semi-rural setting was intermediate. Other differences between urban and rural settings were that the population in urban areas was significantly younger, not currently married, of lower social class, non-white, less well-educated, living in flats of non-detached houses, a lower proportion of which were owned outright. Again, semi-rural settings were intermediate.

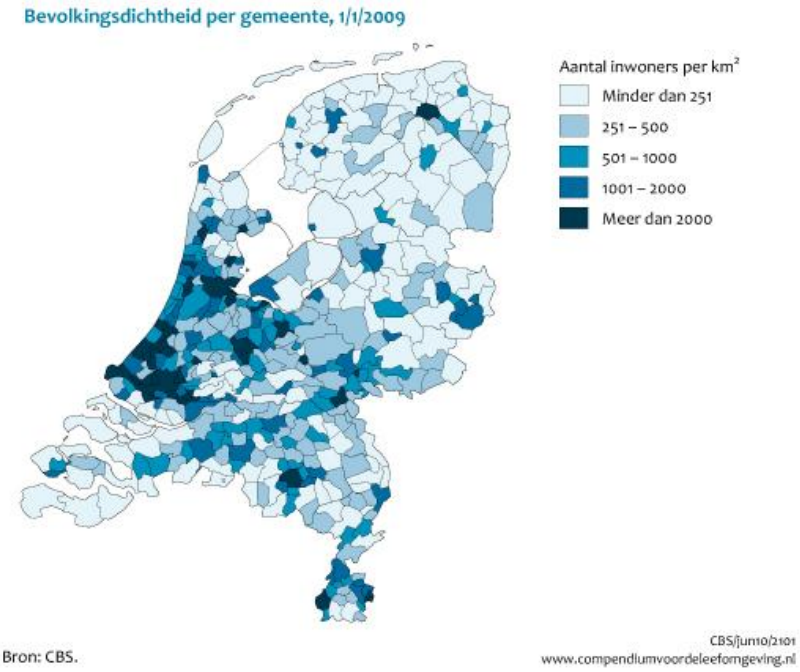

Figure 3: Population density (number of inhabitants per square kilometer) in 1999. The darker the blue, the more inhabitants a town has Source: http://www.compendiumvoordeleefomgeving.nl/indicatoren/nl2101-Bevolkingsdichtheid-Nederland.html?i=15-12.

Citizens of urban settings are for instance more likely to have experienced a stressful life event in the last year. This stressful event can cause these people to have a (prescribed of non-prescribed) drug.

For alcohol and drug dependence and one's area, no effect was found.

A study by Peen, Schroevers, Beekman and Dekker (2009) showed that the amount of people having one or more physical problems was 80% higher an urban environment than in a rural environment.

People in urban areas are having more diseases and their use of drugs will be higher. This can lead to more usage and/or knowledge of generics. As the lower income of urban areas can be an incentive to use generics, I expect that people in urban areas have a more positive attitude with respect to generics. The following hypothesis will be tested:

H3: People in urban regions will have a more positive attitudes towards generics than people living in rural areas

2.4.4 Knowledge about generics

Every drug one has, comes with a package leaflet. The package leaflet contains general information about the drug, the possible side effects, how much doses one must take, etc. Via this package leaflet people will have more information about the drug and might therefore will use it wiser (besides, this information can lead to more knowledge about the product). It's Interesting to examine whether people who had been given information of generics (via a package leaflet or other ways) have a more positive attitudes about generics. An article of Kjoenniksen, et al. (2006) showed that patients who had received information about generics were more likely to have switched. About 2/3 of the patients claimed overall satisfaction, about 1/3 of the patients who had switched reported a negative experience due to the substitution. These results were independent of age, gender, number of medications or the physician. Kjoenniksen, et al. concluded that additional information and support from physicians and pharmacists is needed to help the acceptance rate of generics grow. Furthermore, there was a clear statistical correlation between generic exchange and whether the patient had been given information from their physician (Kjoenikksen, et al.). The same relationship was found between information given at the pharmacy. According to Kjoenniksen, et al. the highest substitution ratio was provided when a patient gets information given by the general practitioner and the pharmacy.
Kjoenniksen, et al. stated that more information will positively influence the accepting rate of generics. Whether such relation(ship) does exists in the Netherlands will be tested with the following hypothesis:

H4a: Knowledge about generics has a positive effect on attitudes towards generics

2.4.5 Use of generics

Although generics are relatively new in the Netherlands, people are already using them. Most health insurers already only reimburse the cheapest medication, thereby supporting the use of generics. Use of generics can imply that people become familiar with them, which might influence their attitudes towards generics. Caspi (1984) examined the attitudes of children towards the elderly. His main conclusion was that children who had daily contact with elderly persons held very positive attitudes towards them, whereas children without such contact held vague or indifferent attitudes.
Batra and Sinha (2000) have found an reverse effect on private labels. In describing factors leading to the buying of private labels, experience characteristics lead to higher perceived quality variation and higher felt consequences of making a purchase mistake. These factors

reduced the purchasing of private labels. Research by Kjoenikksen, et al., (2006) suggested that 2/3 of patients who had switched to generic drugs were satisfied with these drugs. To test whether use of generics has an positive influence on attitude towards generics, hypothesis 4b will be tested:

H4b: Currently using generics has a positive effect on attitudes towards generics

2.4.6 Social Economic Status

H3 was concerned with the question whether the type of area had an influence on attitudes towards generics. Next to someone's living area, Social Economic Status (SES) can influence attitudes towards generics too. It is not entirely clear of which items SES should be composed. There are multiple definitions of SES containing different items. However, income and education are the most used SES-items.

Winkleby, Jatulis, Frank, E. and Fortmann (1992) concluded that the best predictor of a good health is higher education. Income, occupation and risk factors to cardiovascular diseases, were not significant. According to Adler, et al. (1994) a relationship between someone's health behavior and level of education exists. Men and women with a lower education do smoke more, have less physical activity (which, for example, increases the likelihood of obesity). A different relationship was found for the use of alcohol. A positive correlation with SES (measured by job status and education) and alcohol was namely found. One must however be careful with drawing conclusions. Alcohol can do harm (i.e. liver problems), and do good (i.e. moderate levels of alcohol decrease the chance for coronary heart diseases). Furthermore, Adler, et al. (1994) concluded that people of the lower classes of SES had the highest rates of morbidity and mortality of all SES classes.

Figures from the CBS (2011, p. 14) confirm this. Higher educated people usually maintain healthier lifestyles than lower educated people. This leads to their conclusion that at 65 years, higher educated people have generally 8 years more to came up with a good health than lower educated people.

A rapport of the National Institute for Public Health and Environment (*RIVM*) in 2002 showed a relationship between SES and accessibility to healthcare. Some of the results included: people of lower SES had more contact with their general practitioner, they use less non-prescribed drugs and participate less in screeningprograms. For contact with physiotherapist, visits to the dentist no relation(ship?) was found. Their SES contained income, education and occupation.

The National Public Health Compass (*Nationaal Kompas Volksgezondheid),* part of the ministry of Public Health, Welfare and Environment indicated the existence of a relationship between SES and health too. Lower-educated men and women live (on average) respectively 4,9 and 2,6 years shorter than men and women with a high education. On average, lower-educated people live 15 years more in poorer health (RIVM, 2006). Furthermore, the National Public Health Compass found that lower educated people get more drugs prescribed than higher educated people, even when controlling for age, gender and self reported health (RIVM, 2010).
As people from lower SES have more health issues, they will probably use more drugs. So, the chance that they are confronted with generics will be higher than in other groups. People with a lower SES, had lower incomes too. This will lead to more price sensitivity, making generics more interesting. Therefore, I expect that this would positively influence their attitudes to generics. This is tested by means of the following hypothesis:

H4c: People with a lower SES will have more positive attitudes towards generics than people with a higher SES.

2.4.7 Type of disease

The above hypotheses are all about demographics and how these could influence attitudes towards generics. Having a chronic disease could be a characteristic which could have an effect on attitudes towards generics as well. People who have a chronic disease might possibly use more drugs (hence, they could have been given information by for example the pharmacists or health insurer) and will use these drugs for a longer term. The large drugs usage could lead to familiarity with a drug and aversion to switch to the generic equivalent. Chronic diseases are less likely to be generically substituted. Possibly because consumers would less willing want to use generic drugs for treating chronic conditions (Mott and Cline, 2002).
People using many different drugs were likely to have more (chronic) diseases compared to people using fewer drugs, according to Kjoenniksen, et al. (2006). They furthermore concluded that people using many different drugs are 2.6 times more likely to have switched to generic drugs. They further found that negative experiences due to the switch from brand name drugs to generics were not related to polypharmacy (people using many different drugs).
So, having a chronic disease could influence attitudes towards generic drugs.

Most studies indicate a negative relationship between having a chronic disease and attitudes towards generics. Whether this holds for the Netherlands too is tested via the following hypothesis:

H5: People having a chronic disease will have a more negative attitude towards generics than those who don't

2.4.8 Brand Loyalty

People can have strong feelings for a particular brand and will prefer this brand above other, comparable brands. This effect is largely researched in fields like retail, but brand loyalty can occur when people buy drugs too. Garretson, et al. (2002) describes (the behavior of) consumers who are loyal to brands as follows: 'Loyal consumers are more likely to pay full price for their favorite brands and look for them in any store they shop. If not found, they may shop elsewhere' (Garretson, et al., 2002, p. 92).
Their general conclusions were that consumers tend to be less loyal to products in markets were many brands are available, where number of purchases and dollar expenditure per buyer are high, where prices are relatively active, and where consumers might be expected to simultaneously use a number of brands for the product. According to the same study, consumers actually are brand loyal in markets where brands tend to be widely distributed and where market share is concentrated heavily in the leading brand.

However, research conducted by Gartner and Kreling (2000) suggested that patients are sensitive for financial incentives when using generics. This even holds for patients who think that generics are riskier than brand name drugs. Obviously, when this is the case, the financial incentive has to be bigger. This means that brand loyalty for brand name drugs only holds when price incentives are not high. Buying drugs thus can be due to brand loyalty, but can occur of a result of inertia as well.
Brand inertia can also be defined as short term brand loyalty (Jeuland, 1979).

Contrary to common wisdom, brand loyal tendencies people not to have negative attitudes toward promotions of private labels (Garretson, et al. 2002). Furthermore, Garretson, et al. (2002) revealed that brand loyal consumers were only interested in price savings for 'their' brands. These consumers use these price savings to stockpile their inventory.

One could state that when one uses a particular drug for a long time, one could become loyal to that brand. Especially with medication, people don't want to take any risks and they prefer to rely on brands they trust. If the previous studies are right, brand loyalty will have a negative effect on attitudes towards generics. The following hypothesis was formulated:

H6a: Brand loyalty has a negative effect on attitudes towards generics

2.4.9 Price, (perceived) Quality and Status

Brand loyalty is not the only factor related to (shopping) behavior which could influence one's (shopping) behavior. Price, (perceived) quality and status are other shopping related factors which could have an effect on attitudes towards generics. This paragraph will discuss those three characteristics.

Szymanski and Busch (1987) discussed the characteristics of the generic-prone consumer. A strong relationship between perceived product quality, price and purchasing of generic products was found. The authors argue that this means that the buyer of generics is convinced that buying generic provides him good value for his money. More specifically, the low(er) price is seen as the most significant benefit of generics. It should be noted however, that the study by Szymanski and Busch was conducted in 1987, Back in those days the supply of generics was much lower.

According to Cunningham, Hardy and Imperia (1982), 80% of the buyers of generics valued price as the most important reason to buy. Heikkilä, et al. (2010) claims that the number one reason to switch to generics is price.

Grossman and Shapiro (1988) found that consumers are willing to pay more for counterfeit products than for generic merchandise of the same quality. This is due to the fact that consumers are willing to pay extra for the prestige (status) associated with brand name trademarks. One of the results of a study by Hoch and Banerji (1993) was that consumers bought private labels merely because of their low prices. Quality was the most important reason to buy (or not buy) a private label. When consumers were aware that the private label offers the same quality as the national brand, the price factor played a role and for this reason some consumers favored private labels.

Rosen (1984) did found similar results. Respondents had to compare overall quality, quality consistency over repeat purchases and quality similarity across stores. In all three areas, generics were perceived to have the least quality. Private labels are often seen as 'inferior' to the A-brand.

As these studies showed, a relationship exists between price, quality, status and attitudes towards generics. Whether these factors influence the attitudes towards generics in the Netherlands too is tested with the following hypotheses:

H6b: A lower price will lead to a positive effect on attitudes towards generics
H6c: (perceived) Quality has a negative effect on attitudes towards generics
H6d: Higher status has a negative effect towards generics

Some of the hypotheses mentioned in this chapter predicted a positive relationship, same a negative relationship and some hypotheses did not include a prediction regarding the nature of the relationship. The figure below provides an overview of the research model.

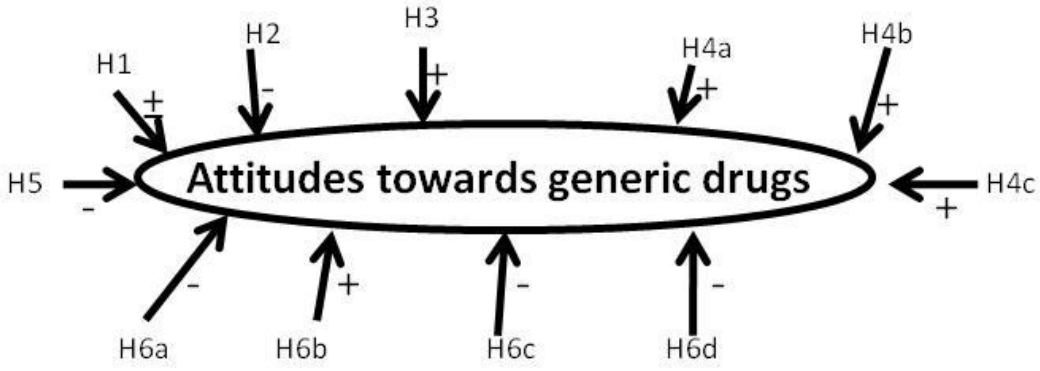

Figure 4: schematic overview research model

3. Methodology

To obtain answers to the different hypothesizes, a survey was conducted. People were asked to fill out an online questionnaire. It was anticipated that the respondents not all have enough specified knowledge about the difference between generic and branded drugs, some extra information was provided in the above the first question about generics. questions about generics will be better understood when there is a text above the question which one can read at his own speed (and over and over again if it is needed), instead of providing this information in an interview. The risk of an interview is that people will say they understand the question when they actually don't understand, just because they are afraid of looking stupid. This behavior will obviously lead to answers that are not reliable.

In the questionnaire, control questions were asked (on a reverse scale)[11] to check for reliability.
Before the questionnaires were sent, a pre-test of the questionnaire was conducted. The results of the pre-test were that questions 22, 25 and 26) needed more information. Secondly, some more questions were added to get more information about people having certain demographics. The pre-test was always completed in no more than 15 minutes. 10 People (relatives) were included with the pre-test.
After the improvements had been made, the questionnaire was sent by mail to friends, family, colleagues and bachelor I students of the ESE who followed the course *Marketing* and for which I worked as a student-teacher. A reminder was sent to make sure that everyone filled out the questionnaire. Furthermore, to get enough respondents in every group, the questionnaire was sent to a randomly selected group of 50 people of 45 years of older.

The final questionnaire consisted of 34 questions about demographics and behavior. For most of the demographics (age, gender, residence, type of disease, income), a respondent could click a box to indicate in which class he or she belonged. For measuring the different categories, the classification of the Central Bureau of Statistics was used.
The questions regarding behavior were asked on a 5-point Likert scale. Respondents could indicate how their preferences were on various questions and how much they (dis)agreed with a given statement.

[11] The control questions were *I am sensitive to sales* (Q29) and *I love to try new brands* (Q29).

There was a chance that not all respondents were familiar with generic drugs. To overcome this, the first 6 questions were about private labels in supermarkets. After that, a text followed which contained information about generics. Especially the link between private labels and generics could provide some practical examples for those who were unfamiliar with generics. Just to make sure that nobody was unfamiliar with private labels, there was a text provided after question 1 which contained information and examples of private labels. These examples came from the largest supermarket chain in the Netherlands, Albert Heijn, but from another supermarket too, C1000.
To make sure all the respondents knew the difference between prescribed and non-prescribed drugs (questions 25 and 26), information and examples where given. Aspirin was used as an example, as this is maybe the most widely-known non-prescribed drug. Furthermore, there was an explanation at question 25 of the differences between prescribed and non-prescribed drugs. What was meant by chronic disease was explained at question 19.
The answers to the questions about private labels were not used in the factor analysis. The reason for this is that attitudes towards private labels could differ from generics. This could blur the results of the factor analysis.

For hypotheses 1, 4a and 4b an independent samples t-test was used. Hypothesizes 2, 3 and 5 were tested with an Anova test. For hypothesis 6a, 6b, 6c and 6d a factor analysis was done, followed by a linear multiple regression.

4. Results

4.1 Data exploration

Before the analysis started, the data was explored. There were 205 respondents, of which 132 did completed the questionnaire. 39% (n=69) Did not complete the questionnaire. The majority of these respondents were not excluded from the dataset, because the answers they *did* give were relevant for certain hypotheses. Replacing the answers of the 69 non-completers with the mean was no option, because that would bias the results too much.
Of this group of 69 respondents, three respondents didn't fill in the questionnaire honestly (i.e. 'funny' answers, or at every question the same answer). Those 3 cases were excluded from the dataset.

Secondly, the exploration of the demographics took place. Most of the respondents live in rural regions (n=71), followed by urban regions (n=42) and semi-rural regions (n=18). In the questionnaire, respondents were asked to type in their zip-code, because not everybody will know if he or she lives in a rural, semi-rural or urban place. The zip-codes were computed into dummies for the three different regions. For this computing, data and definitions of the CBS were used. Via the zip-code it was checked in which city one lived. For this city, the population (numbers of 2010) and the square kilometers were looked up. Lastly last the population was divided by the square kilometers and the outcome was compared to the definitions of the CBS for population density. For example: Westland (99.717 inhabitants / 79,52 km^2) = 1.253,986 inhabitants per km^2 = semi-rural. A list of all the calculations can be found in appendix C.
There were more females than males in my sample (91 vs. 41), and most of the respondents (29%) had *HBO* as finished or current education. Furthermore, most of the respondents (n=47) were between 45 and 65 years old. The group of 0-15 years consisted of zero respondents and was left out of the analysis, the group of 65 years or older consisted of only 8 respondents. The choice was made to create a new group which consisted out of the variables '45 to 65 years' and '65 and older', called '45 years and older'.
Appendix A provides an overview of all the demographics.

Third, the data was explored to see if the assumptions for paramemetric data were met. To check this, the Kolmogorov-Smirnoff test (Field, 2005) was used. For *Education*, *Age* and *Income* the test was highly significant, which meant that the data are non-normal. Even after transforming the data (log, square root) this result stayed. This is cause for concern, but due

to the large sample (n=136) this might not actually be a problem. But to be sure, non-parametric tests were conducted when needed.

4.2 Gender

To test whether there was a difference in attitude towards generics between males and females, an independent t-test was conducted. The non-parametric test (Mann-Whitney test), was conducted too, because the data were not normally distributed and the groups sizes differ. Theoretically the group sizes should be equal.
The result of the test were that males (N=41, M=3,51 SE=0,898) on average did not showed a significant difference with females (N=91, M=3,40, SE=1,063) on attitudes towards generics.

The Mann-Whitney test came to the same conclusion: on average, males (*Mdn* = 3) didn't significantly differ with females (*Mdn* = 3) with respect to attitudes towards generics, *U*=1790,000. Hence, hypothesis 1 is rejected.

4.3 Age

To test hypothesis 2, an Anova test was conducted. Ideally, the different groups have the same sizes. As these are categorical variables, transforming the data by taking the square root or log has no use. The results will be the same as for the non-transformed data. The differences in group size could be significant. It's important if the variances of all groups are the same. To test this, Levene's test was done to test of the variances of this three groups differ significantly.

	N	Mean	SE
15 – 25 years	32	3,50	,718
25 – 45 years	44	3,66	,914
45 years and older	52	3,42	,997

Table 4.3.1: Results of the Anova test

Levene's test was not significant (p=0,286), so the variances of the groups are not significantly different. So, the assumptions for the Anova test was not broken.

Looking at the means in table 4.3.1, it's clear that they are close to each other, so there will probably no difference . To test whether there is a significant difference between the means

of the groups, post-hoc tests were used. The choice was made to use the tests of *Hochberg, Gabriel, Games-Howell and Dunnett.* The reason for this was that *Hochberg* and *Gabriel* are tests for when sample sizes differ. *Hochberg* is more accurate when sample sizes do differ a lot, *Gabriel* is more accurate when sample sizes do slightly differ. It is recommended by Field (2005) to use the *Games-Howell* test too, because of the uncertainty of knowing whether the population variances are equivalent (Field, 2005, p. 341). And finally, *Dunnett's* test was chosen, because that's the only way to test the means of the groups against a control mean. In this case, the mean of above 45 years had been chosen as control mean. All results of Anova with post hoc tests can be found in Appendix F.

Post hoc test showed no significant results, so the conclusion was that the group of 45 years and older did not had significantly more negative attitudes towards generics compared to other groups, $F(2, 125) = 0{,}823$. Hence, hypothesis 3 is rejected.

4.4 Type of environment

Hypothesis 3 stated that people who live in an urban environment would have more positive attitudes towards generic drugs than people living in a semi-rural or rural environment. To test this hypothesis, like the test of hypothesis 2, an Avona with post hoc tests was conducted. The post hoc tests were *Hochberg, Gabriel, Games-Howell* and *Dunnett*. 'Urban' was used as the control group for the test of *Dunnett*.

Levene's test was not significant (p=0,182), there were no small groups, so no assumptions of Anova were harmed.

	N	Mean	SE
urban	42	3,17	,148
semi-rural	18	3,78	,191
rural	67	3,60	,106

Table 4.4.1: Results of the Anova test

The Anova test showed a p-value of 0,018, which implies that not all groups have the same means. To explore were the difference was, post hoc tests were conducted.
All the post hoc tests showed a significance difference between the means of the urban group and the means of semi-rural and rural.
The results of the tests are quite remarkable. The hypothesis was formulated that people in a urban environment would be *more* positive about generic drug, while in fact they're *less*

positive about generic drugs than the other groups! Appendix G showed that people in an urban environment in percentage have more chronic diseases, which implies more use of drugs.
To conclude: People in urban regions had on average a more negative attitude towards generics than people in semi-rural and rural areas, $F(2, 124) = 4{,}15$, $p < 0{,}05$. As the hypothesis was formulated that people in urban areas would had a more positive attitudes, the hypothesis was rejected.

4.5 Knowledge about generics

An independent t-test was used to test hypothesis 4a. Because the groups are not equal the Mann-Whitney test was conducted too. The results were as followed:
People who are unfamiliar with generics (N=88, M=3,50, SE=0,105) did not significantly differ from people who are familiar with generics (N=44, M=3,50, SE=1,069) on their attitudes towards generics, $t(130) = 0{,}276$, *ns*.

Just by looking at both means, which are almost equal, one could conclude that there will be no difference. The p-value of this test is 0,276 means that the hypotheses of different means must be rejected.
So, on average there was no significant difference between people who are familiar with generic drugs (M=3,50, SE=0,983) and people who aren't familiar with generic drugs (M=3,30, SE=1,069) and their attitudes towards generics, t(130) = 0,276, *ns*. Hence, hypothesis 4a must be rejected.

4.6 Use of generics

To test hypothesis 4b, it is important to know who use(d) generic drugs and what their attitudes towards generic drugs are compared to people who haven't used generic drugs. In the questionnaire these groups were split in two. First, there was asked if a person is using or in the past had used generic drug. If so, their attitudes towards generics were asked. A problem arise when people had typed in that they were using or used generic drugs and filled in that they never had used generics. This problem occurred 31 times. To see to which group a person belongs, I looked at their answer to questions 12 of 13. Question 12 asked what the reasons were to the use of generics and question 13 'if you never used generic drugs, what could be reasons to use it in the future?', so when to had typed in only question 12 or 13 is was clear to which group someone belonged. Still, there were 18 respondents who typed in that they had and don't had experience with generic drugs and both filled in question 12 and 13. One way to solve this problem could be to look at question 8: 'have you ever got any drugs from another brand than you used to?'. If the answer was no, this could mean that they

haven't got any generic drugs. But this isn't secure enough, those respondents could as well been given generic all the time (if, for instance they use a kind of drugs frequently, but only since two years – this could be a generic drug). So, for reliability reasons, this 18 respondents were not involved in the tests for hypothesis 4b.

When comparing the means of both groups, hypothesis 4b will be tested. An independent t-test therefore was conducted. The results were that on average there's no significant difference between people who use(d) generic drugs (N=51, M=3,57, SE=0,985) and people who aren't familiar with generic drugs (N=63, M=3,46, SE=0,981) and their attitudes towards generics, t(12) = 0,585, *ns*.

Because of unequal groups sizes, the Mann-Whitney test was conducted too. The Mann-Whitney test resulted in the same conclusion as the independent t-test. On average, people who use(d) generics (*Mdn* = 3) didn't significantly differ with people who never used generics (*Mdn* = 3) with respect to attitudes towards generics, U=1493,000, *ns.* Hence, hypothesis 4b must be rejected.

4.7 Social Economic Status

Hypothesis 4c tests the differences between multiple levels of Social Economic Status (SES) and their attitudes towards generics. To test this hypothesis a new variable had to be conducted. Taking the scores of 'education' and 'income', adding those up and dividing those new scores by 2 gave the new variable. To make the different classes, there was chosen to make four classes, given by the first, second, third and fourth quartile[12]. Due to this format, no problems with Levene's test arose. The descriptives of the Anova test were the following:

	N	Mean	SE
very low	20	3,50	,224
low	28	3,29	,169
high	23	3,74	,180
very high	36	3,58	,161

Table 4.7.1: Results of the Anova test

[12] As there is no clear definition of about what classes SES should contain in the literature. And due to the fact that there are several small groups in the variables 'Income' and 'Education', are used for this variable.

To test the hypothesis, Anova with post hoc tests was used. The Anova test was not significant (p=0,367). Logically, none of the post hoc tests (Appendix J) were significant, $F(3, 103) = 1,07$, $p > 0,05$. Hence, hypothesis 4c is rejected.

4.8 Type of disease

An Anova test was conducted to find an answer to hypothesis 5.
The descriptives showed no big differences between the means of the groups. If these differences were significant was tested by the Anova with post hoc tests.

	N	Mean	SE
chronic	53	3,53	,131
medium term	17	3,71	,166
once	35	3,50	,143

Table 4.8.1: results of the Anova test

The Anova test gave a p-value of 0,424, the means of the different groups were not different. This implies that the post hoc tests (Appendix K) were not significant as well.
So, there was no significant difference between people who have drugs for chronic diseases, people who have drugs for midterm or for one time, $F(2, 102) = 0,87$, $p > 0,05$. Hence, hypothesis 5 is rejected.

4.9 Brand Loyalty, Price, Quality and Status

A factor analysis was used to explore which items influence attitudes towards generics. The factors found were used in a multiple regression to find out whether their influence is significant and if so, in which direction.

The factor analysis was conducted with Varimax rotation. All the outcomes of the factor analysis and multiple regression can be found in Appendix L.

The factor analysis indicated 5 factors which are of influence on attitude towards generics: ‘Awereness’, ‘Quality’, ‘Price Sensitivity’, ‘Status’ and ‘Safe’. Although the variable ‘Safe’ was found, it was left out of the analysis. Besides, ‘Safe’ contained two variables that were a variable for other factors. The remaining two factors did not show a significant correlation.

It’s remarkable that there’s no factor for ‘Brand Loyalty’. The variables for ‘Brand Loyalty’ scored no eigenvalues above 1 and their correlation with other items was not significant, therefore is was left out of the analysis.

The factors which were found consisted out of the following variables:

Factor	*consisted out of the following variables:*			
Awareness	Awareness of the drug via others	Awareness of the drug via commercials	Awareness of the drug	
Quality	To me, quality is most important when choosing a product or brand	When in doubt, I usually choose for quality	When in doubt, I usually choose the same brand as I always do	
Price Sensitivity	When in doubt, I usually choose the cheapest brand	How important is the price when buying non-prescribed drugs?	I'm sensitive for sales[13]	I do not get the drug reimbursed, so I choose for the cheapest drug
Status	When the price is high, that means the quality is high	Expensive brands reflects status		

Table 4.9.1: overview factors

When a factor consisted of at least 3 variables, Cronbach's alpha was used to test for reliability. When a factor consisted of 2 variables, a correlation test was conducted.

Factor	**Cronbach's alpha**	**Correlation** *(sig. level)*
Awareness	0,8	
Quality	0,72	
Price Sensitivity	0,62	
Status		0,5 *(0,01)*

Table 4.9.2: reliability of the factors

To test which of the variables of the factor analysis determine attitudes towards generics , a multiple linear regression was conducted. A multiple linear regression takes the following form:

$$Y_i = \beta_0 + \beta_1 X_{i1} + \beta_2 X_{i2} + \cdots + \beta_p X_{ip} + \varepsilon_i, \qquad i = 1, \ldots, n$$

Where the variables represent the following:

Yi = attitudes towards generic drugs

X_1 = Awareness

X_2 = Quality

X_3 = Price Sensitivity

X_4 = Status

[13] The variable 'I'm sensitive for sales', was of influence for the factor 'Status' too. Sensitivity for sales is sometimes seen when there are high prices for status goods, as studied by Garretson, et al. (2002). The choice was made to take 'I'm sensitive for sales' only into account for the factor 'Price Sensitivity', as there is an obvious correlation between these two.

When including these variables in the regression, the regression had the following form:

β_0Int+ β_1Awareness + β_2Quality+ β_3Price Sensitivity+ β_4Status + ε

The results of the regression analysis were as follows:

Variable	B	Std. Error	P
(Constant)	3,675	,597	**,000**
Awareness	,119	,082	,149
Quality	,051	,098	,607
Price Sensitivity	,290	,085	**,001**
Status	,011	,090	,904

R^2=0,114

Table 4.9.3: output regression analysis

The regression model, which was significant (ANOVA, p=0,004) showed that Price Sensitivity is the only factor which determines attitudes towards generics. Price Sensitivity has a beta of 0,290, which implies that when one's price sensitivity rises with one unit (someone is price sensitive) his/her attitudes towards generics rises with 0,290. In other words, one has a more positive attitude towards generics when one is price sensitive.

All the other factors are non-significant, so they can not be interpretated.

Looking at the partial plots, there is no sign of heteroskedasticy. The residuals all have the same variances.

There is no indication of too much correlation or multicollinearity. The scores for the correlation coefficient are all below 0,8 and the collinearity diagnostics showed that none of the VIF-scores was higher than 10.

The R^2 gives a number of 0,114, which means that 11,4% of the attitudes towards generics can be explained with this regression model. To obtain a model that explains more about attitudes towards generics, the regression model was extended with data from the previous tests. In order to make this regression, some variables had to be computed into dummies. Some tests consisted of dichotomous variables (i.e. gender, knowledge about generics, use(d) generics, etc.) which were already dummies. For the categorical data, dummies were made and put into the regression analysis. The dummy of the null hypothesis was used as the control group and was therefore left out of the regression. To test for a gender effect, a two-sided test was used, which implies that there wasn't a control group. As a control

variable ‘Female’ was chosen, as this variable represents the majority of the respondents (Field, 2005, p. 208). The results of the regression analysis were as follows:

Variable	B	Std. Error	P
(Constant)	2,785	,660	**,000**
Male	,032	,188	,866
25-45 years	,303	,242	,213
45 years and older	,053	,225	,816
Urban	-,425	,192	**,029**
Familiar with generics	-,238	,238	,321
Use(d) generics	-,214	,218	,328
SES: very low	,200	,263	,449
SES: low	-,030	,243	,903
SES: high	,294	,228	,200
Frequency use of drug: medium	-,113	,278	,686
Frequency use of drug: chronic	-,124	,216	,567
Awareness	,061	,088	,490
Quality	-,005	,106	,961
Price Sensitivity	,285	,096	**,004**
Status	,000	,105	,999

R^2=0,201

Table 4.9.4: output regression analysis

This model shows an R^2 of 0,201, which means that 20,1% of the attitudes towards generics are explained with this model. That is nearly 10% more than the previous model. The regression model, which was significant (ANOVA, p=0,049) gives are similar results as the outcomes of the previous tests.

Only Price Sensitivity and Urban are significant, both at 5%. Price Sensitivity shows a beta of 0,285, which is slightly less than the previous model. When the price sensitivity of someone rises with one unit, their attitudes towards generics will rise with 0,285. Or, when people are price sensitive, they are more positive about generics. That sounds logical because generics are cheaper than brand name drugs.

The other significant factor is Urban. It shows a beta of -0,425. That implies that when someone lives in an urban environment, he or she will be more negative about generics. When ‘Urban’ rises with one (as this is a dummy, it is 1 when someone lives in a urban

environment), their attitudes towards generics will decline with 0,425. So, they will be more negative about generics. This is in line with the results from hypothesis 3. The results of hypothesis 3 showed a significant *negative* relationship between urban and attitudes towards generics. A similar effect can thus be found in this regression model.

To make sure the results of this regression analysis are reliable, it was checked if none of the assumptions of the regression analysis (linearity, homoscedastticity, no multicollinearity) were broken. Appendix L shows the plots of the residuals. None of the residuals showed signs of heteroscedasticity or linearity. To check for multicollinearity, the VIF-scores were examined. They should not be higher than 10, and none of them were. Furthermore, no correlations with a value of 0,8 or higher were found, so there is no sign of multicollinearity.

What these results mean for brand name and generic drug manufactures will be discussed in the next chapter.

4.10 Private labels

In the previous chapters the similarities and differences between generics and private labels were discussed. It's interesting is to examine whether the factors that determine attitudes towards generics determine attitudes towards private labels as well.

The factor analysis showed that awareness, price sensitivity, status and quality had influence on attitudes towards generics. This was found for generics too. However, contrary to generics, brand loyalty was a factor for private labels. Another factor found was characteristics. This consisted of the variables that people use to compare private labels against each other or against brand name products (price, quantity and quality). The next table shows all the factors and the variables of which they consisted.

Factor	*consisted of the following variables:*			
Awareness	Awareness of the product when grocery shopping	Awareness of the product by others	Awareness of the product via commercials	
Quality	When in doubt, I usually choose for quality	To me, quality is most important when choosing a product or brand	Expected quality of the grocery	
Characteristics	How important is price when buying private labels?	The quantity of the product compared to the A-brand	(expected) quality of the private label	How important is price when grocery shopping?
Status	Expensive brands reflects status	When the price is high, that means the quality is high		
Price Sensitivity	When in doubt, I usually choose the cheapest brand	I'm sensitive for sales[14]		
Brand Loyalty	For my grocery shopping, I always buy the same brands	I love to try new brands (reverse)		

Table 4.10.1: overview factors

Several variables were left out of a factor, because they either had:

- a very low correlation with the other variables;
- a variable which was a variable for another factor too;
- had no relationship with the factor, regardless of the score.

The full Component Matrix can be found in Appendix M.

The reliability of the factors was tested with Chronbach's alpha. When a factor contained only two variables, a (partial) correlation was used. The results of these tests can be found in the table on the next page. The reliability tests can be found in Appendix N.

[14] 'I'm sensitive for sales' was a variable for 'Status' too. The choice was made to take only 'I'm sensitive for sales' into account for the factor 'Price Sensitivity', as there is an obvious correlation between these two.

Factor	Cronbach's alpha	Correlation *(sig. level)*
Awareness	0,87	
Quality	0,76	
Characteristics	0,8	
Status		0,5 *(0,01)*
Price Sensitivity		0,44 *(0,01)*
Brand Loyalty		0,38 *(0,01)*

Table 4.10.2: reliability of the factors

Before discussing these results in the next chapter, the table on the next page provides an overview of all the tested hypotheses and the results.

Hypothesis	Accepted/ Rejected
H1: The attitudes towards generics are dependent of gender	Rejected
H2: Age has a negative effect on attitudes towards generics	Rejected
H3: People in urban regions will have more positive attitudes towards generics than people living in rural or semi-rural areas	Rejected
H4a: Knowledge about generics has a positive effect on attitudes towards generics	Rejected
H4b: Currently using generics has a positive effect on attitudes towards generics	Rejected
H4c: People with a lower SES will have more positive attitudes towards generics than people with a higher SES do	Rejected
H5: People having a chronic disease will have a more negative attitude towards generics than people who don't	Rejected
H6a: Brand Loyalty will have a negative effect on attitudes towards generics	Rejected
H6b: A higher price sensitivity has a positive effect on attitudes towards generics	**Accepted**
H6c: (perceived) Quality has a negative effect on attitudes towards generics	Rejected
H6d: Status has a negative effect on attitudes towards generics	Rejected

Table 4.10.2: outcomes tested hypotheses

5. Discussion

Both insurance companies and governments are trying to stimulate the use of generic instead of brand name drugs, largely due to the rise of costs of medical expenditures. In the previous chapter the hypotheses were tested, largely to get a segmentation of different people and their attitudes towards generics. This chapter will discuss the results of this research and give some recommendations. Furthermore, some recommendations for policymakers and pharmacies are being made.

5.1 Demographics

Hypotheses 1- 5 were all concerned with relationships of demographics with attitudes towards generic drugs.

Research on the type of environment showed that people living in a urban environment are more *negative* towards generic drugs that people living in a semi-rural or rural environment. This is remarkable, because when looking at the literature, people living in a urban environment are most of the time (due to their lower social economic status) more price sensitive. As generics are sometimes 30% of the price of a brand name drug, one could think that this would positively influence their attitudes towards generic drugs. Furthermore, is was found that those people had a higher percentage of chronic diseases. These means more drugs and for a longer term. This are two causes for a raise in healthcare costs. And a rise in healthcare costs is, especially for lower income groups, a reason to favour generics. Why the opposite effect is found, isn't clear. A possible explanation is that they are more loyal to 'their' drugs. However, brand loyalty was not found in the factor analysis, such an effect could not be examined. This certainly is interesting for future research.

But not only accepted tests can be interesting, rejected hypotheses (from a t-test) can provide information about attitudes towards generics as well. For instance, there is no significant difference between men and women and their attitudes towards generics. Furthermore, knowledge about generics doesn't make people more positive about generics. This could be due to the fact that there nowadays are a lot generics (or private labels) around. Therefore people could get used to these copycats.

5.2 Behavioral factors

Factor Analysis showed that the following behavioral factors could be of influence towards one's attitudes towards generics: 'Awareness', 'Quality', 'Price Sensitivity', 'Status' and 'Safe'. Linear multiple regression showed that only 'Price Sensitivity' was significant.

The relation between 'Price Sensitivity' and attitudes towards generics correspondents with the results of other studies discussed in this study. When people are price sensitive, they are

more positive about generics. A lower price could convince someone to buy or accept the generic drug, as Gartner and Kreling (2000) concluded. This works especially when people perceive the generic drug as a risk. This financial incentive has to bigger when the perceived risk is bigger. In other words, only when patients are convinced that the product is safe, the price incentive plays a role.
The recommendations which arose out of the conclusions will be discussed in the next paragraph.

Out of the different analysis came various conclusions. Some of this conclusions were interesting for generic drug manufacturers, other for brand name drug manufacturers.
At first, the recommendations for generic drug manufacturers will be discussed, followed by recommendations for brand name drug manufacturers.

5.3. Recommendations for generic drug manufacturers

As pharmacists have, like private labels, own brands for some cures (i.e. cough drops), some of this research could be of interest to them. One of the results of this study was that people in an urban environment have more negative attitudes towards generics. As price sensitivity has an positive effect, it is recommended to pharmacies in urban regions to focus more on the price of the generics. But only the lower price will not be enough to convince people buying or accepting generics. It was to be very clear to them that they don't have a bigger risk when using generics. So, when the quality is clearly communicated, the price advantage is most clear to them.
Furthermore, the buying of private labels has a negative relationship with the number of items on sale (Burton, et al., 1998). That's why pharmacies have to make sure that they don't have any promotions, price reductions, coupon purchases, etc. for national brands when trying to sell more non-prescribed generics.

5.4 Recommendations for brand name drug manufacturers

Only non-prescribed drugs can be marketed. Brand name drug manufacturers can differentiate themselves in this market by being innovative. Moreover, a manufacturer of more brand name drugs can add a brand with another name and target only price sensitive customers. In this way one can still serve the market of quality seeking customers (lead by price as a sign of quality) and the market for price sensitive customers.
Ingredient branding would be harder to implement in the drugs market, because a lot of people are unaware of the working ingredient in their drug. People who are aware of the working ingredient in drugs are people who work with them, i.e. general practitioners and pharmacists. Manufacturers of brand name drugs should mainly focus on this market.

That this strategy pays off is shown by research of Osinga (2011). He found that pharmacists and general practitioners usually stop to promote a drug when the marketing activities of that drug are stopped (often when the patent is expired). A solution is to continue longer with the marketing aimed towards pharmacists and general practitioners

As this research shows, price sensitivity is a factor in determining attitudes towards generics. The more price sensitive one is, the more positive he or she is about generics. To determine price sensitivity relative price differences are often used. By comparing two or more brands of the same product, the relative price difference becomes clear. The bigger the difference between the brand name and generic drug, the bigger the chance that the price sensitive consumer will choose a generic drug. So, brand name drug companies should consider lowering their prices, (to lower the relative price difference) in order to win back the price sensitive consumer. So, focusing on price could be a way to win back the price sensitive consumer and to compete with generics. This strategy could work for the short term, but a danger is that generic manufacturers will lower their prices in response. To get in a price competition with generic manufacturers is not an option, as that is a battle that cannot be won. So, for the longer term the production of own generic brands, collaborating with generic companies and/or targeting on general practitioners and pharmacists are better options.

5.5 Limitations and future research

This research has some limitations. First, the sample used for this study was too much biased by some groups. For example, there were twice as much women in the sample as men. Furthermore, the education groups were biased. The sample contained of 20% people with a university degree (or studying at a university), which is too much compared official numbers, where only 10% of the Dutch population has a university degree (CBS, Statistical yearbook 2011, p. 176). Other groups where too small in the sample. There were only 8 people (6%) who are above 65 years. This percentage in the Netherlands is 16% (CBS, Statistical yearbook 2011, p. 60) So, the results of the tests for age effects should be interpreted with caution.

Secondly, the measurement of the Social Economic Status (SES) could be a limitation. The indicators for this variable in this study were ‘Income’ and ‘Education’, whereas most other studies used ‘Income’, ‘Education’ and ‘Occupation’ as indicators for SES.

Third, for much tests the groups sizes were very different. For the testing of hypothesis 1 and hypothesis 4b, one group was nearly twice as big as the other group. Non-parametric tests were used too, but the results of both tests were the same.

Fourth, the questionnaire did not start with questions about generic drugs. First there was asked about private labels. This method might be the best idea to educate people who are unfamiliar with generics. On the other hand, it could blur some results. People who have a prejudice towards private labels, could project this prejudice on generics when filling out the questionnaire.

Fifth, the R-squared from the regression analysis showed a value of 0,233. Which means that 23% of the attitudes towards generics are explained by the factors in the analysis. Ideally, this percentage would be higher.

As was mentioned in the previous paragraph a more thorough study on people above 65 years and their attitudes towards generic drugs is recommended. This could be extended with contacts with general practitioners, specialists and the frequency of drugs, compared to other age groups. It would therefore be interesting to compare the frequency of using (prescribed and non-prescribed) drugs and the attitudes towards generics for people above 65 years

This is one of the few studies on attitudes towards generic drugs in the Netherlands, so further research is highly recommended. For instance, this study and most other studies are focusing on pharmacists and general practitioners as the prescribers of drugs. It is interesting to expand this to specialists in hospitals. They do prescribe drugs too and because of the more serious diseases that are threatened in the hospital, people may be more negative about generic drugs.

This study shows an negative effect for people living in an urban environment and their attitudes towards generics. More research is needed on this subtopic as this group possess various characteristics which indicate a more positive attitude towards generics.

As brand loyalty was not a factor which determines attitudes towards generics, it is interesting to study whether brand loyalty for drugs actually exists. Maybe they are they just searching for the best drug, regardless of the brand?

It was mentioned in the chapter *previous research* that the decrease in healthcare costs in Sweden was largely due to the substitution of brand name drug for generics. An interesting topic for further research would be to get more insight in this process. For instance, about how much a brand name drug declines in price when a generic comes to the market.

Furthermore, effects as availability of other (generic or brand name) drugs for the disease should be taken to account when studying this.

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Appendix A: Demographics

Gender:

	N	Percentage
Male	41	31
Female	91	69
Total	132	100

Age (groups):

	N	Percentage
0-15	0	0
15-25	32	25
25-45	44	34
45 years and older	52	41
Total	128	100

Area:

	N	Percentage
Urban	42	32
Semi-rural	18	14
Rural	71	54
Total	131	100

Income (euro's):

	N	Percentage
None	6	4
0-10.000	35	26
10.000-20.000	8	6
20.000-30.000	23	17
30.000-40.000	16	12
40.000-50.000	8	6
50.000 or more	17	13
Don't want to say	23	17
Total	136	100

Educational level:

	N	Percentage
Basisschool	4	3
VMBO/MAVO	10	7
MBO	23	17
HAVO	13	10
VWO	19	14
HBO	40	30
WO	27	20
Total	136	100

Appendix B: Questionnaire (in Dutch)

Voor mijn onderzoek zou ik u willen vragen om onderstaande vragen in te vullen. Het invullen van de vragenlijst zal niet meer dan 15 minuten bedragen.

Alvast hartelijk dank!

Start

1.

Hoe belangrijk zijn onderstaande factoren voor u als u boodschappen in de supermarkt doet?

	heel onbelangrijk				heel belangrijk
Prijs	○	○	○	○	○
(verwachte) Kwaliteit	○	○	○	○	○
Aantal aanbieders	○	○	○	○	○
Naamsbekendheid van het product	○	○	○	○	○
Bekendheid van het product door anderen	○	○	○	○	○
Bekendheid van het product door reclames	○	○	○	○	○
Merken die een sociale status uitstralen	○	○	○	○	○

Naast de bekende merken voor voedsel en drank bestaan er ook zogenaamde 'huismerken'. Dit zijn producten die door supermarkten zelf aangeboden worden en een lagere prijs hebben. Voorbeelden hiervan zijn Euroshopper, AH huismerk, C1000 huismerk, Jumbo huismerk, Hoogvliet huismerk, etc.

2.

Kent u deze producten?*

○Ja
○Nee

3.

Koopt u wel eens deze huismerken?*

○Ja (ga door naar vraag 4)
○Nee (ga door naar vraag 5)

4.

Hoe belangrijk zijn onderstaande redenen voor uw keuze voor een huismerk?

	heel onbelangrijk				heel belangrijk
Prijs	○	○	○	○	○
Hoeveelheid (oftewel: de inhoud van het product vergeleken met het A-merk)	○	○	○	○	○
(verwachte) Kwaliteit	○	○	○	○	○
Afwezigheid van het A-merk	○	○	○	○	○

5.

Waarom niet?

- ☐ De kwaliteit van een huismerk is minder
- ☐ Een A-merk straalt klasse uit
- ☐ Ik ken het merk niet, dus vertrouw ik het niet
- ☐ Ik koop graag altijd dezelfde merken
- ☐ Het huismerk is niet aanwezig
- ☐ Anders, nl. .... ☐

6.

Hoeveel procent van uw boodschappen in de supermarkt per week bestaan uit deze 'huismerken'? (graag het percentage invullen)*

☐

Verder

sector. Medicijnen kunnen, als hun patent vervalt, ook door andere bedrijven worden gemaakt en goedkoper worden aangeboden (want deze nieuwe aanbieders hoeven de onderzoekskosten immers niet terug te verdienen). Dit verschil kan oplopen van 30% tot maximaal 70% goedkoper. Uiteraard gelden voor deze medicijnen dezelfde wettelijke vereisten als voor medicijnen van de originele producent.

7.

Bent u bekend met deze medicijnen (ook wel generieke medicijnen genoemd)?*

- ◯ Ja (ga door naar vraag 9)
- ◯ Nee (sla vraag 9 over)

8.

Hebt u wel eens medicijnen voorgeschreven gekregen die niet van het vertrouwde merk kwamen?*

- ◯ Ja
- ◯ Nee

9.

Zo ja, hoe zal u de werking willen beoordelen?

Veel minder dan het bekende merk	◯ ◯ ◯ ◯ ◯	Veel beter dan het bekende merk

10.

Als u wel eens generieke medicijnen voorgeschreven heeft gekregen: Hoe staat u tegenover deze generieke medicijnen?

heel erg negatief	◯ ◯ ◯ ◯ ◯	heel erg positief

11.

Als u nog nooit generieke medicijnen voorgeschreven heeft gekregen: Hoe staat u hier tegenover?

heel erg negatief	◯ ◯ ◯ ◯ ◯	heel erg positief

12.

Als u generieke medicijnen gebruikt of gebruikt heeft: Waarom gebruikt u generieke medicijnen?

	helemaal niet akkoord				helemaal akkoord
Voorgeschreven door arts	◯	◯	◯	◯	◯
Advies van apotheker	◯	◯	◯	◯	◯
Omdat ik alleen het goedkoopste medicijn krijg vergoed krijg	◯	◯	◯	◯	◯
Ik moet het zelf betalen en dus kies ik eerder voor een goedkoop medicijn, ook al is dat dan niet van het originele merk	◯	◯	◯	◯	◯
Ik ben niet tevreden over het huidige medicijn	◯	◯	◯	◯	◯

13.

Als u nog nooit van generieke geneesmiddelen gebruik heeft gemaakt: Wat kunnen redenen zijn voor u om generieke geneesmiddelen te gebruiken?

	heel onbelangrijk				heel belangrijk
Voorgeschreven door arts	○	○	○	○	○
Advies van apotheker	○	○	○	○	○
Omdat ik alleen het goedkoopste medicijn krijg vergoed	○	○	○	○	○
Ik ben niet tevreden over mijn huidige medicijn	○	○	○	○	○
Ik heb vertrouwen in generieke geneesmiddelen	○	○	○	○	○

14.

Ik heb vertrouwen in generieke geneesmiddelen als (meerdere antwoorden mogelijk):

	helemaal niet akkoord				helemaal akkoord
Ze worden voorgeschreven door mijn arts	○	○	○	○	○
Ze worden voorgeschreven door mijn arts en de verzekering vergoedt dit medicijn (vergoeding is hetzelfde of beter als bij het huidige medicijn)	○	○	○	○	○
Ze niet worden voorgeschreven door mijn arts, maar ik volg het advies van de apotheker op.	○	○	○	○	○

15.

Kent u de naam van een MEDICIJN dat u momenteel (of tot 6 maanden terug) gebruikt(e)?*

○Ja
○Nee

16.

Kent u de naam van de FABRIKANT van een medicijn dat u momenteel (of tot 6 maanden terug) gebruikt(e)?*

○Ja
○Nee

17.

Kent u de naam van het medicijn dat u het laatst gebruikt heeft?*

○Ja
○Nee

18.

Kent u de naam van de fabrikant van het medicijn dat u het laatst gebruikt heeft?*

○Ja
○Nee

19.

Als u nu medicijnen gebruikt, zijn dit medicijnen voor langere tijd (chronisch, oftewel langer dan één), langer dan eenmalig, maar korter dan één jaar of eenmalig?

- ☐ Chronisch
- ☐ Langer dan eenmalig, korter dan één jaar
- ☐ Eenmalig

20.

In hoeverre bent u het eens met de volgende stelling:

	zeer onwaarschijnlijk				zeer waarschijnlijk
Voor chronische ziektes/medicatie zou ik generieke geneesmiddelen accepteren	○	○	○	○	○

21.

In hoeverre bent u het eens met de volgende stelling:

	zeer onwaarschijnlijk				zeer waarschijnlijk
Voor eenmalige ziektes/medicatie zou ik generieke geneesmiddelen accepteren	○	○	○	○	○

22.

Indien u medicijnen neemt die u voor langere tijd nodig heeft (meer dan 1 jaar), al dan niet met tussenpozen, komt het dan wel eens voor dat u hetzelfde medicijn wordt aangeboden, maar van een ander merk?*

- ○ Ja
- ○ Nee

23.

Zo ja, hoe staat u hier tegenover?*

- ○ Zeer negatief
- ○ Negatief
- ○ Niet negatief, niet positief
- ○ Positief
- ○ Zeer positief
- ○ Niet van toepassing

24.

Wilt u voor uw chronische klachten graag altijd hetzelfde medicijn of heeft u er geen probleem mee dat de fabrikant van dat medicijn kan veranderen, als dit financieel aantrekkelijker is?*

- ○ Ik wil altijd hetzelfde medicijn, ook al is dat financieel misschien minder aantrekkelijk
- ○ Als de aanbieder niet te vaak wisselt heb ik er geen problemen mee
- ○ Ik vind het niet erg dat de fabrikant van mijn medicijn verandert.

25.

Hoe vaak hebt u in de afgelopen zes maanden medicijnen voorgeschreven gekregen?
(hiermee wordt bedoeld, medicijnen die u van een arts heeft voorgeschreven gekregen en alleen bij uw apotheek kunnen worden afgehaald op vertoon van een recept of herhaalrecept)
(graag een absoluut aantal invullen)*

26.

Hoe vaak hebt u in de afgelopen zes maanden niet-voorgeschreven medicijnen gekocht? (Dit zijn medicijnen die u zonder recept van een arts kunt kopen bij uw apotheek of bij de drogist - bijvoorbeeld aspirine). Graag een geheel getal invullen.*

27.

Hangt uw aankoop van niet-voorgeschreven medicijnen af van de prijs?

- ☐ Nee
- ☐ Soms
- ☐ Ja

28.

Hoe belangrijk zijn de onderstaande factoren bij uw aankoop van niet-voorgeschreven medicijnen:

	heel onbelangrijk				heel belangrijk
Prijs	○	○	○	○	○
(verwachte) kwaliteit	○	○	○	○	○
Naamsbekendheid van het medicijn	○	○	○	○	○
Bekendheid van het medicijn door anderen	○	○	○	○	○
Bekendheid van het medicijn door reclames	○	○	○	○	○
Advies van apotheker	○	○	○	○	○

29.

Er volgen nu enkele stellingen. Gelieve in te vullen in hoeverre u het met deze stellingen eens bent.

	helemaal niet mee eens				helemaal mee eens
Voor niet-voorgeschreven medicijnen laat ik me adviseren door de apotheker.	○	○	○	○	○
Voor niet-voorgeschreven medicijnen laat ik me door iemand anders adviseren.	○	○	○	○	○
Ik kijk eerst op internet naar medicijnen en welk medicijn daar als beste uit komt koop ik.	○	○	○	○	○
Als de prijs hoog is zegt dat wat over de kwaliteit.	○	○	○	○	○
Ik ben gevoelig voor aanbiedingen.	○	○	○	○	○
Duurdere producten stralen status uit.	○	○	○	○	○
Bij twijfel tussen verschillende merken voor hetzelfde product, neem ik meestal de goedkoopste.	○	○	○	○	○
Ik ben het eens met 'goedkoop is duurkoop'.	○	○	○	○	○
Bij twijfel tussen bepaalde merken voor hetzelfde product, kies ik hetzelfde merk als ik altijd heb.	○	○	○	○	○
Ik koop voor mijn boodschappen altijd dezelfde merken.	○	○	○	○	○
Ik probeer graag nieuwe merken uit.	○	○	○	○	○
Ik vind het belangrijk dat ik producten koop met een keurmerk (bijv. Veilig Voedsel).	○	○	○	○	○
Ik vind kwaliteit het belangrijkste aspect van een product.	○	○	○	○	○
Bij mijn keuze voor verschillende producten, laat ik me leiden door kwaliteit.	○	○	○	○	○

Tot slot volgen nog enkele algemene vragen.

30.

Geslacht *

○ Man
○ Vrouw

31.

Postcode
(Alleen de eerste 4 cijfers invullen aub)

[ ]

32.

In welke categorie valt uw huidige inkomen?

- [ ] geen inkomen
- [ ] 0 - 10.000
- [ ] 10.000 - 20.000
- [ ] 20.000 - 30.000
- [ ] 30.000 - 40.000
- [ ] 40.000 - 50.000
- [ ] 50.000 of hoger
- [ ] Weet ik niet/Zeg ik liever niet

33.

In welke leeftijdscategorie valt u?

- [ ] 0 - 15 jaar
- [ ] 15 tot 25 jaar
- [ ] 25 tot 45 jaar
- [ ] 45 tot 65 jaar
- [ ] 65 jaar of ouder

34.

Wat is uw hoogst afgeronde opleiding?

- [ ] Basisschool
- [ ] VMBO/MAVO
- [ ] MBO
- [ ] HAVO
- [ ] VWO
- [ ] HBO
- [ ] WO

Appendix C: Overview of urban, semi-rural and rural

City	No. of inhabitants	km²	inhabitants per km²	definition
Alblasserdam	19.014	8,79	2163	urban
Alkmaar	29.051	138,15	3206	urban
Almere	188.160	129,81	1450	semi-rural
Amersfoort	144.862	62,77	2308	urban
Amstelveen	80.695	41,46	1946	urban
Amsterdam	767.457	165,92	4625	urban
Apeldoorn	15.5726	339,87	458	rural
Arnhem	147.018	97,94	1501	urban
Barendrecht	46.449	19,80	2346	urban
Bergen op Zoom	65.845	80,09	822	rural
Best	28.953	34,3	844	rural
Breda	173.299	126,63	1369	semi-rural
Capelle a/d Ijssel	65.345	14,26	4582	urban
Delft	96.760	22,83	4238	urban
Den Haag	488.553	81,88	5967	urban
De Bilt	42.017	66,32	634	rural
Duiven	25.593	33,89	755	rural
Eersel	18.157	82,41	220	rural
Eindhoven	213.809	87,70	2438	urban
Enschede	157.052	141,03	1114	semi-rural
Emmen	109.491	336,58	325	rural
Epe	32.881	156,19	211	rural
Gennep	17.153	47,81	359	rural
Goirle	34.663	18,92	1832	urban
Groningen	187.298	78,28	2393	urban
Haarlem	149.579	29,24	5116	urban
Heerenveen	43.418	135,07	321	rural
Heerhugowaard	51.178	38,36	1334	semi-rural
Heerlen	15.260	104,07	147	rural
Heiloo	22.451	18,7	1201	semi-rural
Hillegom	20.484	12,91	1587	urban
Hoogeveen	54.805	127,65	492	rural
Hoorn	70.252	20,23	3437	urban
Horst a/d Maas	41.465	188,6	220	rural

City	No. of inhabitants	km²	inhabitants per km²	definition
Leeuwarden	94.073	79,1	1189	semi-rural
Leiderdorp	26.426	11,67	2264	urban
Leidschendam	72.160	32,76	2203	urban
Lelystad	74.628	231,72	322	rural
Lochem	33.395	213,26	157	rural
Loppersom	10.452	111,03	94	rural
Maasdriel	23.756	66,02	360	rural
Maastricht	118.533	56,82	2086	urban
Middelburg	47.997	48,59	988	rural
Mill en St. Hubert	11.031	52,19	211	rural
Moerdijk	36.536	159,10	230	rural
Nijmegen	162.963	53,55	3043	urban
Noordwijk	15.555	22,59	689	rural
Noordoostpolder	46.090	460,32	100	rural
Oegstgeest	22.597	7,18	3147	urban
Oldampt	39.486	227,85	173	rural
Oldebroek	22.750	97,73	233	rural
Oirschot	17.750	101,81	174	rural
Oudekerk	8.151	27,03	302	rural
Papendrecht	31.853	9,46	3367	urban
Purmerend	79.038	23,44	3372	urban
Ridderkerk	44.746	23,72	1886	urban
Roermond	55.212	60,91	906	rural
Roosendaal	77.566	106,51	728	rural
Rotterdam	605.543	208,84	2900	urban
Schiedam	75.565	18,03	4191	urban
Schinnen	13.494	24,08	560	rural
Schoonhoven	11.985	6,27	1911	urban
Sliedrecht	24.051	12,81	1878	urban
Smallingerland	55.271	118,28	467	rural
Steenwijkerland	43.208	290,3	149	rural
Strijen	8.916	51,13	174	rural
Terneuzen	54.878	251,15	219	rural
Terschelling	4.733	87,08	54	rural
Tilburg	204.853	117,32	1746	urban
Utrecht	307.081	94,65	3244	urban

City	No. of inhabitants	km²	inhabitants per km²	definition
Vianen	19.647	39,43	498	rural
Voorst	23.772	123,1	193	rural
Wassenaar	25.816	50,96	507	rural
West Maas en Waal	18.413	77,40	238	rural
Westland	99.717	79,52	1254	semi-rural
Winterswijk	29.051	138,15	210	rural
Wormerland	15.862	38,74	409	rural
Zaanstad	145.332	73,87	1967	urban
Zaltbommel	26.428	79,72	332	rural
Zoetermeer	121.532	34,56	3517	urban
Zoeterwoude	8.118	21,21	383	rural
Zwolle	119.030	111,37	1069	semi-rural

Appendix D: Policy regarding generic drugs (in Dutch)

Betaalbaar houden van geneesmiddelen
Het ministerie van VWS maakt beleid om de kosten van geneesmiddelen te beheersen. Anders zouden de prijzen van medicijnen elk jaar minimaal 10% stijgen. Om medicatie betaalbaar te houden, heeft het ministerie een aantal maatregelen getroffen.

Nieuwe geneesmiddelen kritisch toelaten
Zorgverzekeraars mogen niet vanzelfsprekend alle nieuwe geneesmiddelen vergoeden. De minister van VWS besluit welke nieuwe medicatie toegelaten mag worden tot het verzekeringspakket. Het beleid is om kritisch toe te laten, zodat het verzekeringspakket niet buitensporig groot wordt.

Lagere prijzen doorberekenen
Apothekers berekenen sinds enkele jaren lagere prijzen door aan patiënten en verzekeraars. Dit is het gevolg van afspraken tussen het ministerie van VWS, apothekers, fabrikanten van merkloze medicijnen en zorgverzekeraars.

Maximumprijzen
Het ministerie van VWS kan maximumprijzen vaststellen voor geneesmiddelen vanwege de externe link: Wet Geneesmiddelenprijzen. De prijzen in de landen om ons heen gelden hierbij als richtlijn. Vóór de invoering van deze wet lagen de geneesmiddelprijzen in ons land 20% hoger dan in omringende landen.

Bijbetalen in de apotheek
Voor bepaalde geneesmiddelen geldt dat een patiënt moet bijbetalen wanneer de prijs boven de limiet ligt uit het externe link: Geneesmiddelenvergoedingssysteem (GVS). Patiënten merken hier meestal niets van, omdat de arts al rekening houdt met het GVS bij het uitschrijven van het recept.

Zelfde werking
Het GVS bevat een lijst van geneesmiddelen die in grote lijnen dezelfde werking hebben. Dat kunnen middelen zijn met dezelfde werkzame stof, maar ook middelen waarvan de werkzame stof verschillend is. Het gaat erom dat de middelen hetzelfde effect hebben op de aandoening van de patiënt. Het GVS groepeert deze geneesmiddelen in clusters. Per cluster geldt een maximale prijs die vergoed mag worden. Artsen zullen meestal niet de duurste recepten voorschrijven uit een cluster, omdat het effect van de middelen hetzelfde is.
Het ministerie van VWS bepaalt de inhoud van het GVS op basis van adviezen van het externe link: College voor zorgverzekeringen (CVZ).

Goedkoopste variant vergoed
Het is mogelijk dat u bij de apotheek een ander doosje krijgt dan u gewend bent. Het doosje en het medicijn lijken anders, maar de apotheker verzekert u dat de werking hetzelfde is. Dat komt omdat de meeste zorgverzekeraars sinds 1 juli 2008 alleen de goedkoopste variant vergoeden van medicijnen met dezelfde werkzame stof. Dit heet het preferentiebeleid. Elke zorgverzekeraar bepaalt zelf welke variant zij vergoedt.

Het preferentiebeleid levert financieel voordeel op voor de zorgverzekeraar en voor patiënt. Door goedkopere varianten van hetzelfde medicijn te gebruiken:

- verminderen de uitgaven aan medicijnen door zorgverzekeraars;
- zullen de ziektekostenpremies voor de patiënt minder hard stijgen;
- betaalt de patiënt de laagste prijs wanneer het medicijn onder het ‘eigen risico’ valt binnen de zorgverzekering.

Duurdere variant soms vergoed
Het preferentiebeleid betekent niet dat een arts automatisch het goedkoopste medicijn voorschrijft. Een arts kan op een recept vermelden dat een andere, duurdere variant van hetzelfde medicijn, noodzakelijk is voor een patiënt. De apotheek verstrekt dan de duurdere variant. De zorgverzekeraar vergoedt dit medicijn als het is opgenomen in het basispakket van de zorgverzekering.

Elektronisch voorschrijfsysteem: betere recepten
Artsen schrijver beter en minder recepten voor wanneer zij gebruik maken van het elektronisch voorschrijfsysteem (EVS). Dit systeem controleert de recepten die artsen invoeren op hun computer en stuurt deze automatisch door naar de apotheek. Artsen maken hierdoor minder fouten, bijvoorbeeld in het bepalen van de juiste dosis. En apothekers ontvangen altijd een volledig ingevuld en leesbaar recept. De overheid en de koepels van artsen en apothekers proberen het 'zinnig en zuinig' voorschrijven te bevorderen onder artsen.
Vergoeding van dure geneesmiddelen

Ziekenhuizen gaan vanaf 2011 onderhandelen met zorgverzekeraars over de kosten voor bepaalde dure geneesmiddelen. Dat is het gevolg van de invoering van prestatiebekostiging in 2011. Hierdoor moeten deze dure geneesmiddelen betaalbaar blijven.

(taken from: *http://www.rijksoverheid.nl/onderwerpen/geneesmiddelen/betaalbaar-houden-van-geneesmiddelen#anker-lagere-prijzen-doorberekenen*)

Appendix E: Output Hypothesis 1

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
How much do you agree with 'I trust generic drugs'	male	41	3,51	,898	,140
	female	91	3,40	1,063	,111

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
How much do you agree with 'I trust generic drugs'	Equal variances assumed	,941	,334	,611	130	,543	,117	,191	-,261	,494
	Equal variances not assumed			,651	90,472	,517	,117	,179	-,239	,472

Ranks

	Gender	N	Mean Rank	Sum of Ranks
How much do you agree with 'I trust generic drugs'	male	41	68,34	2802,00
	female	91	65,67	5976,00
	Total	132		

Test Statistics[a]

	How much do you agree with 'I trust generic drugs'
Mann-Whitney U	1790,000
Wilcoxon W	5976,000
Z	-,394
Asymp. Sig. (2-tailed)	,694
Exact Sig. (2-tailed)	,695
Exact Sig. (1-tailed)	,347
Point Probability	,002

a. Grouping Variable: Gender

Appendix F: Output Hypothesis 2

Descriptives

How much do you agree with 'I trust generic drugs'

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
15 to 25 years	32	3,50	,718	,127	3,24	3,76	2	5
25 to 45 years	44	3,66	,914	,138	3,38	3,94	2	5
above 45 years	52	3,42	,997	,138	3,15	3,70	1	5
Total	128	3,52	,905	,080	3,37	3,68	1	5

Test of Homogeneity of Variances

How much do you agree with 'I trust generic drugs'

Levene Statistic	df1	df2	Sig.
1,264	2	125	,286

ANOVA

How much do you agree with 'I trust generic drugs'

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,351	2	,676	,823	,441
Within Groups	102,579	125	,821		
Total	103,930	127			

Multiple Comparisons

Dependent Variable:How much do you agree with 'I trust generic drugs'

	(I) Agegroup	(J) Agegroup	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Gabriel	15 to 25 years	25 to 45 years	-,159	,210	,832	-,67	,35
		above 45 years	,077	,204	,974	-,41	,57
	25 to 45 years	15 to 25 years	,159	,210	,832	-,35	,67
		above 45 years	,236	,186	,496	-,21	,68
	above 45 years	15 to 25 years	-,077	,204	,974	-,57	,41
		25 to 45 years	-,236	,186	,496	-,68	,21
Hochberg	15 to 25 years	25 to 45 years	-,159	,210	,833	-,67	,35
		above 45 years	,077	,204	,974	-,42	,57
	25 to 45 years	15 to 25 years	,159	,210	,833	-,35	,67
		above 45 years	,236	,186	,497	-,21	,68
	above 45 years	15 to 25 years	-,077	,204	,974	-,57	,42
		25 to 45 years	-,236	,186	,497	-,68	,21
Games-Howell	15 to 25 years	25 to 45 years	-,159	,187	,674	-,61	,29
		above 45 years	,077	,188	,912	-,37	,53
	25 to 45 years	15 to 25 years	,159	,187	,674	-,29	,61
		above 45 years	,236	,195	,451	-,23	,70
	above 45 years	15 to 25 years	-,077	,188	,912	-,53	,37
		25 to 45 years	-,236	,195	,451	-,70	,23
Dunnett t (>control)[a]	15 to 25 years	above 45 years	,077	,204	,520	-,32	
	25 to 45 years	above 45 years	,236	,186	,177	-,12	

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Appendix G: Output Hypothesis 3

Descriptives

How much do you agree with 'I trust generic drugs'

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
urban	42	3,17	,961	,148	2,87	3,47	1	5
semi-rural	18	3,78	,808	,191	3,38	4,18	2	5
rural	67	3,60	,871	,106	3,38	3,81	2	5
Total	127	3,48	,916	,081	3,32	3,64	1	5

Test of Homogeneity of Variances

How much do you agree with 'I trust generic drugs'

Levene Statistic	df1	df2	Sig.
,630	2	124	,534

ANOVA

How much do you agree with 'I trust generic drugs'

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6,637	2	3,318	4,154	,018
Within Groups	99,064	124	,799		
Total	105,701	126			

Multiple Comparisons

Dependent Variable:How much do you agree with 'I trust generic drugs'

	(I) Leefgebied	(J) Leefgebied	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Gabriel	urban	semi-rural	-,611*	,252	,043	-1,21	-,01
		rural	-,430*	,176	,045	-,85	,00
	semi-rural	urban	,611*	,252	,043	,01	1,21
		rural	,181	,237	,809	-,37	,73
	rural	urban	,430*	,176	,045	,01	,85
		semi-rural	-,181	,237	,809	-,73	,37
Hochberg	urban	semi-rural	-,611*	,252	,049	-1,22	,00
		rural	-,430*	,176	,047	-,86	,00
	semi-rural	urban	,611*	,252	,049	,00	1,22
		rural	,181	,237	,830	-,39	,75
	rural	urban	,430*	,176	,047	,00	,86
		semi-rural	-,181	,237	,830	-,75	,39
Games-Howell	urban	semi-rural	-,611*	,241	,040	-1,20	-,02
		rural	-,430	,182	,054	-,87	,01
	semi-rural	urban	,611*	,241	,040	,02	1,20
		rural	,181	,218	,689	-,36	,72
	rural	urban	,430	,182	,054	,00	,87
		semi-rural	-,181	,218	,689	-,72	,36
Dunnett t (>control)[a]	semi-rural	urban	,611*	,252	,016	,12	
	rural	urban	,430*	,176	,015	,09	

*. The mean difference is significant at the 0.05 level.

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Appendix H: Output Hypothesis 4a

Group Statistics

	Are you familair with generic drugs?	N	Mean	Std. Deviation	Std. Error Mean
How much do you agree with 'I trust generic drugs'	not familair with generic drugs	88	3,50	,983	,105
	familiar with generic drugs	44	3,30	1,069	,161

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
How much do you agree with 'I trust generic drugs'	Equal variances assumed	,017	,895	1,095	130	,276	,205	,187	-,165	,574
	Equal variances not assumed			1,064	79,938	,291	,205	,192	-,178	,587

Ranks

	Are you familair with generic drugs?	N	Mean Rank	Sum of Ranks
How much do you agree with 'I trust generic drugs'	not familair with generic drugs	88	68,37	6016,50
	familiar with generic drugs	44	62,76	2761,50
	Total	132		

Test Statistics[a]

	How much do you agree with 'I trust generic drugs'
Mann-Whitney U	1771,500
Wilcoxon W	2761,500
Z	-,843
Asymp. Sig. (2-tailed)	,399
Exact Sig. (2-tailed)	,403
Exact Sig. (1-tailed)	,201
Point Probability	,001

a. Grouping Variable: Are you familair with generic drugs?

Appendix I: Output Hypothesis 4b

Group Statistics

	Do you use (or have used) generic drugs?	N	Mean	Std. Deviation	Std. Error Mean
How much do you agree with 'I trust generic drugs'	yes	51	3,57	,985	,138
	no	63	3,46	,981	,124

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
How much do you agree with 'I trust generic drugs'	Equal variances assumed	,014	,905	,585	112	,560	,108	,185	-,258	,475
	Equal variances not assumed			,585	106,928	,560	,108	,185	-,259	,475

Ranks

	Do you use (or have used) generic drugs?	N	Mean Rank	Sum of Ranks
How much do you agree with 'I trust generic drugs'	yes	51	59,73	3046,00
	no	63	55,70	3509,00
	Total	114		

Test Statistics[a]

	How much do you agree with 'I trust generic drugs'
Mann-Whitney U	1493,000
Wilcoxon W	3509,000
Z	-,686
Asymp. Sig. (2-tailed)	,493
Exact Sig. (2-tailed)	,496
Exact Sig. (1-tailed)	,247
Point Probability	,002

a. Grouping Variable: Do you use (or have used) generic drugs?

Appendix J: Output Hypothesis 4c

Descriptives

How much do you agree with 'I trust generic drugs'

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
SES: very low	20	3,50	1,000	,224	3,03	3,97	1	5
SES: low	28	3,29	,897	,169	2,94	3,63	1	5
SES: high	23	3,74	,864	,180	3,37	4,11	2	5
SES: very high	36	3,58	,967	,161	3,26	3,91	1	5
Total	107	3,52	,935	,090	3,34	3,70	1	5

Test of Homogeneity of Variances

How much do you agree with 'I trust generic drugs'

Levene Statistic	df1	df2	Sig.
,504	3	103	,681

ANOVA

How much do you agree with 'I trust generic drugs'

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2,793	3	,931	1,066	,367
Within Groups	89,899	103	,873		
Total	92,692	106			

Multiple Comparisons

Dependent Variable:How much do you agree with 'I trust generic drugs'

	(I) SESmodified_classes	(J) SESmodified_classes	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Gabriel	SES: very low	SES: low	,214	,274	,965	-,52	,94
		SES: high	-,239	,286	,953	-1,00	,53
		SES: very high	-,083	,261	1,000	-,77	,61
	SES: low	SES: very low	-,214	,274	,965	-,94	,52
		SES: high	-,453	,263	,417	-1,16	,25
		SES: very high	-,298	,235	,748	-,93	,33
	SES: high	SES: very low	,239	,286	,953	-,53	1,00
		SES: low	,453	,263	,417	-,25	1,16
		SES: very high	,156	,249	,989	-,51	,82
	SES: very high	SES: very low	,083	,261	1,000	-,61	,77
		SES: low	,298	,235	,748	-,33	,93
		SES: high	-,156	,249	,989	-,82	,51
Hochberg	SES: very low	SES: low	,214	,274	,966	-,52	,95
		SES: high	-,239	,286	,953	-1,00	,53
		SES: very high	-,083	,261	1,000	-,78	,61
	SES: low	SES: very low	-,214	,274	,966	-,95	,52
		SES: high	-,453	,263	,418	-1,16	,25
		SES: very high	-,298	,235	,749	-,93	,33
	SES: high	SES: very low	,239	,286	,953	-,53	1,00
		SES: low	,453	,263	,418	-,25	1,16
		SES: very high	,156	,249	,989	-,51	,82
	SES: very high	SES: very low	,083	,261	1,000	-,61	,78
		SES: low	,298	,235	,749	-,33	,93
		SES: high	-,156	,249	,989	-,82	,51
Games-Howell	SES: very low	SES: low	,214	,281	,870	-,54	,97
		SES: high	-,239	,287	,839	-1,01	,53
		SES: very high	-,083	,276	,990	-,82	,66
	SES: low	SES: very low	-,214	,281	,870	-,97	,54
		SES: high	-,453	,247	,271	-1,11	,21
		SES: very high	-,298	,234	,584	-,92	,32
	SES: high	SES: very low	,239	,287	,839	-,53	1,01
		SES: low	,453	,247	,271	-,21	1,11
		SES: very high	,156	,242	,917	-,49	,80
	SES: very high	SES: very low	,083	,276	,990	-,66	,82
		SES: low	,298	,234	,584	-,32	,92
		SES: high	-,156	,242	,917	-,80	,49
Dunnett t (>control)[a]	SES: very low	SES: very high	-,083	,261	,874	-,63	
	SES: low	SES: very high	-,298	,235	,988	-,79	
	SES: high	SES: very high	,156	,249	,512	-,37	

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Appendix K: Output Hypothesis 5

Descriptives

How much do you agree with 'I trust generic drugs'

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
chronic	53	3,53	,953	,131	3,27	3,79	1	5
medium term	17	3,71	,686	,166	3,35	4,06	3	5
once	35	3,37	,843	,143	3,08	3,66	1	5
Total	105	3,50	,878	,086	3,33	3,67	1	5

Test of Homogeneity of Variances

How much do you agree with 'I trust generic drugs'

Levene Statistic	df1	df2	Sig.
1,745	2	102	,180

ANOVA

How much do you agree with 'I trust generic drugs'

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,339	2	,670	,866	,424
Within Groups	78,908	102	,774		
Total	80,248	104			

Multiple Comparisons

Dependent Variable:How much do you agree with 'I trust generic drugs'

(I) If you're using drugs, is this for a long term (chronic), medium term or once	(J) If you're using drugs, is this for a long term (chronic), medium term or once	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Gabriel	chronic	medium term	-,178	,245	,836	-,75	,40
		once	,157	,192	,795	-,31	,62
	medium term	chronic	,178	,245	,836	-,40	,75
		once	,334	,260	,475	-,29	,96
	once	chronic	-,157	,192	,795	-,62	,31
		medium term	-,334	,260	,475	-,96	,29
Hochberg	chronic	medium term	-,178	,245	,850	-,77	,42
		once	,157	,192	,798	-,31	,62
	medium term	chronic	,178	,245	,850	-,42	,77
		once	,334	,260	,488	-,30	,97
	once	chronic	-,157	,192	,798	-,62	,31
		medium term	-,334	,260	,488	-,97	,30
Games-Howell	chronic	medium term	-,178	,212	,682	-,69	,34
		once	,157	,193	,698	-,31	,62
	medium term	chronic	,178	,212	,682	-,34	,69
		once	,334	,219	,290	-,20	,87
	once	chronic	-,157	,193	,698	-,62	,31
		medium term	-,334	,219	,290	-,87	,20
Dunnett t (>control)[a]	medium term	chronic	,178	,245	,383	-,30	
	once	chronic	-,157	,192	,929	-,53	

a. Dunnett t-tests treat one group as a control, and compare all other groups against it.

Appendix L: Output hypothesis 6a, 6b, 6c and 6d
(Factor Analysis and Multiple Linear Regression)

KMO and Bartlett's Test

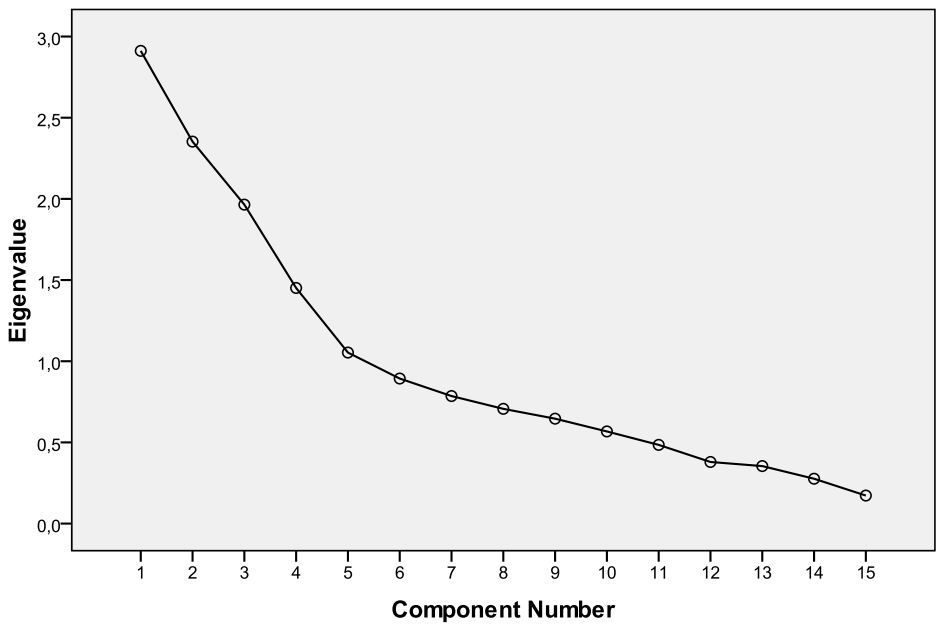
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,650
Bartlett's Test of Sphericity	Approx. Chi-Square	562,079
	df	105
	Sig.	,000

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,912	19,411	19,411	2,912	19,411	19,411	2,333	15,551	15,551
2	2,353	15,685	35,096	2,353	15,685	35,096	2,247	14,980	30,532
3	1,965	13,097	48,193	1,965	13,097	48,193	1,963	13,085	43,617
4	1,451	9,674	57,867	1,451	9,674	57,867	1,960	13,064	56,681
5	1,053	7,023	64,891	1,053	7,023	64,891	1,231	8,210	64,891
6	,893	5,956	70,846						
7	,785	5,237	76,083						
8	,707	4,712	80,794						
9	,646	4,308	85,102						
10	,568	3,783	88,885						
11	,485	3,232	92,117						
12	,379	2,530	94,647						
13	,354	2,361	97,008						
14	,276	1,842	98,850						
15	,173	1,150	100,000						

Extraction Method: Principal Component Analysis.

Scree Plot



Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
Awereness of the non-prescribed drug by others	,826				
Awereness of the non-prescribed drug by commercials	,807				
Awereness of the non-prescribed drug	,759				
To me, quality is most important when choosing a product or brands		,897			
When in doubt, I usually choose for quality		,883			
When in doubt, I usually choose the same brand I always use		,568			
When in doubt, I usually choose the cheapest brand			,805		
How important is the price when buying non_prescribed drugs?			,775		
When the price is high, that means the quality also is high				,819	
Expensive brands reflect status				,801	
I'm sensitive for sales			,555	,611	
It's important to me to buy products with a label (i.e. Safe Food)					,610
I do not get the drug reimbursed, so I choose the cheapest drug			,518		,547
I do agree with 'buy cheap is expensive' (reverse)					-,524
I love to try new brands (reverse)		-,406			-,420

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Reliability analysis for ‘Awareness’

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,799	,800	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Awereness of the non-prescribed drug	4,97	4,473	,611	,379	,762
Awereness of the non-prescribed drug by others	5,01	4,311	,689	,477	,677
Awereness of the non-prescribed drug by commercials	5,47	4,725	,634	,415	,737

Reliability analysis for ‘Quality’

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,724	,744	3

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
To me, quality is most important when choosing a product or brands	7,60	2,820	,663	,646	,488
When in doubt, I usually choose for quality	7,57	3,165	,671	,643	,510
When in doubt, I usually choose the same brand I always use	7,82	3,277	,358	,128	,885

Reliability analysis for ‘Price’

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,616	,632	4

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
When in doubt, I usually choose the cheapest brand	7,66	9,203	,461	,263	,504
How important is the price when buying non_prescribed drugs?	7,59	8,659	,488	,242	,478
I'm sensitive for sales	8,33	9,438	,394	,220	,548
I do not get the drug reimbursed, so I choose the cheapest drug	8,80	8,842	,280	,104	,653

Correlations for ‘Status’

Correlations

		When the price is high, that means the quality also is high	Expensive brands reflect status
When the price is high, that means the quality also is high	Pearson Correlation	1	,503**
	Sig. (2-tailed)		,000
	N	136	136
Expensive brands reflect status	Pearson Correlation	,503**	1
	Sig. (2-tailed)	,000	
	N	136	136

**. Correlation is significant at the 0.01 level (2-tailed).

Output Regression analysis

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,338[a]	,114	,086	,887	,114	3,993	4	124	,004

a. Predictors: (Constant), Status, Price Sensitivity, Quality, Awareness

b. Dependent Variable: How much do you agree with 'I trust generic drugs'

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12,579	4	3,145	3,993	,004[a]
	Residual	97,669	124	,788		
	Total	110,248	128			

a. Predictors: (Constant), Status, Price Sensitivity, Quality, Awareness

b. Dependent Variable: How much do you agree with 'I trust generic drugs'

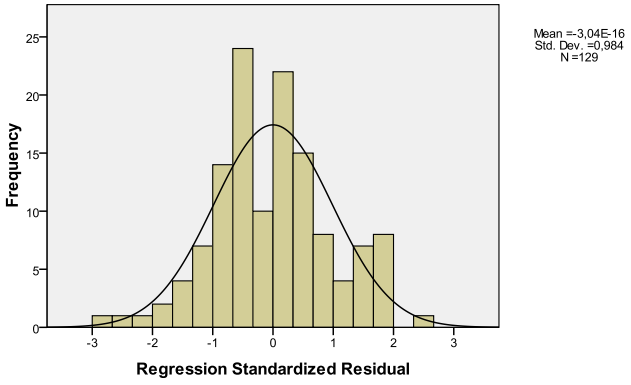
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2,186	,477		4,587	,000					
	Awareness	,119	,082	,132	1,454	,149	,170	,129	,123	,871	1,148
	Quality	,051	,098	,044	,515	,607	,041	,046	,044	,968	1,033
	Price Sensitivity	,290	,085	,292	3,417	,001	,304	,293	,289	,975	1,025
	Status	,011	,090	,011	,121	,904	,096	,011	,010	,861	1,161

a. Dependent Variable: How much do you agree with 'I trust generic drugs'

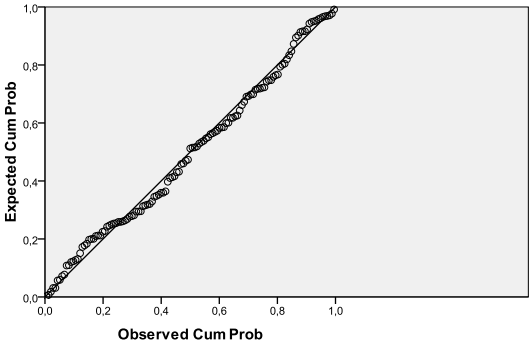
Histogram

Dependent Variable: How much do you agree with 'I trust generic drugs'

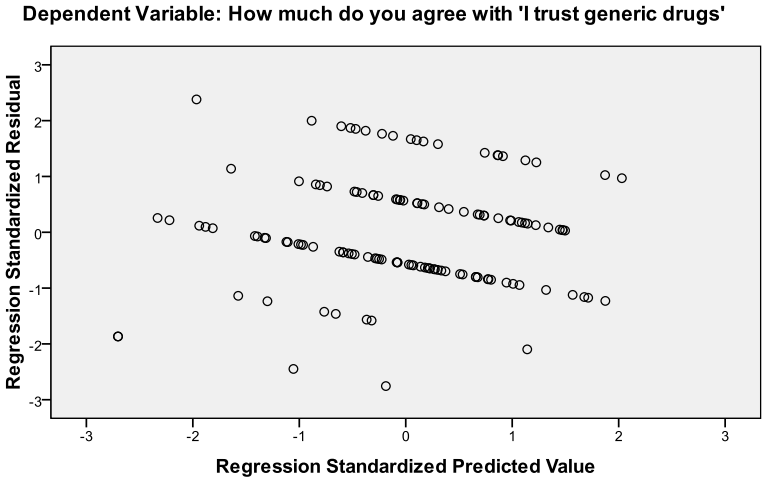


Normal P-P Plot of Regression Standardized Residual

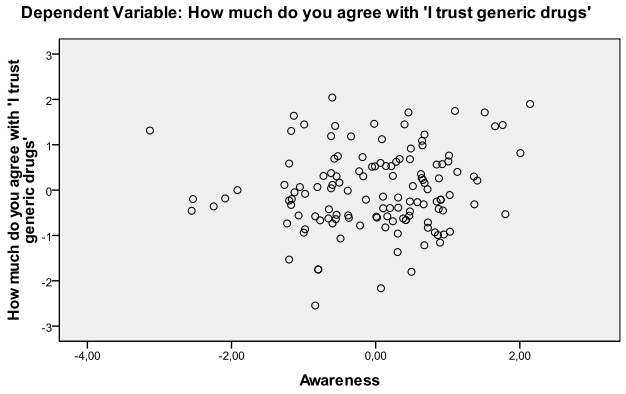
Dependent Variable: How much do you agree with 'I trust generic drugs'



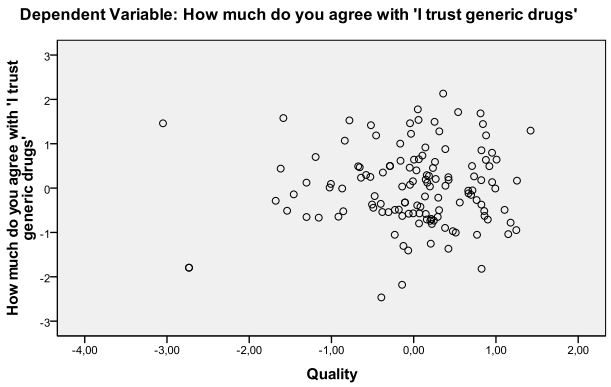
Scatterplot



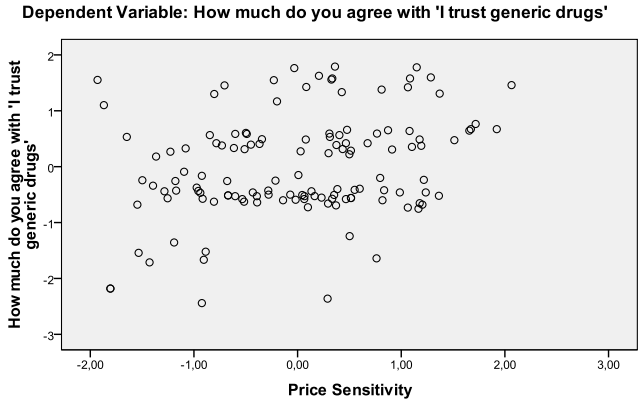
Partial Regression Plot



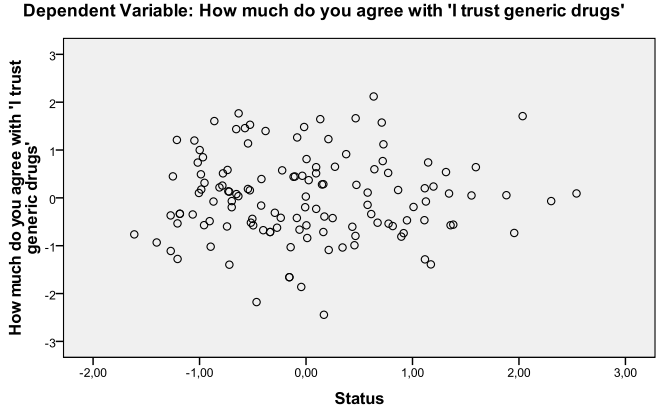
Partial Regression Plot



Partial Regression Plot



Partial Regression Plot



Appendix M: Output overall regression

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,448[a]	,201	,085	,890	,201	1,740	16	111	,049

a. Predictors: (Constant), Status, Semi-rural, SES: very low, Frequency use of drugs: medium, Quality, 45 years and older, SES: high, Use(d) generics, Awareness, Male, Price Sensitivity, Urban, SES: low, Frequency use of drugs: chronic, Familiar with generics, 25 - 45 years

b. Dependent Variable: How much do you agree with 'I trust generic drugs'

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	22,057	16	1,379	1,740	,049[a]
	Residual	87,936	111	,792		
	Total	109,992	127			

a. Predictors: (Constant), Status, Semi-rural, SES: very low, Frequency use of drugs: medium, Quality, 45 years and older, SES: high, Use(d) generics, Awareness, Male, Price Sensitivity, Urban, SES: low, Frequency use of drugs: chronic, Familiar with generics, 25 - 45 years

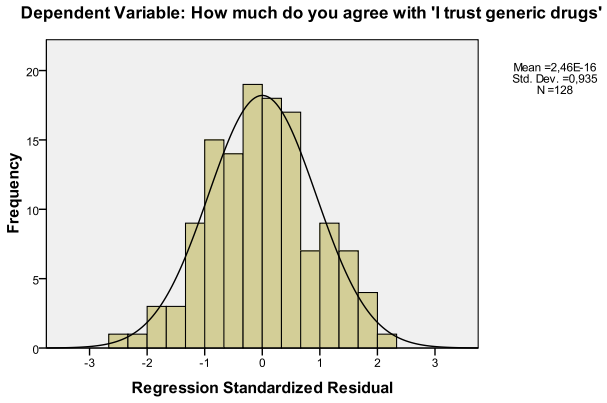
b. Dependent Variable: How much do you agree with 'I trust generic drugs'

Coefficients[a]

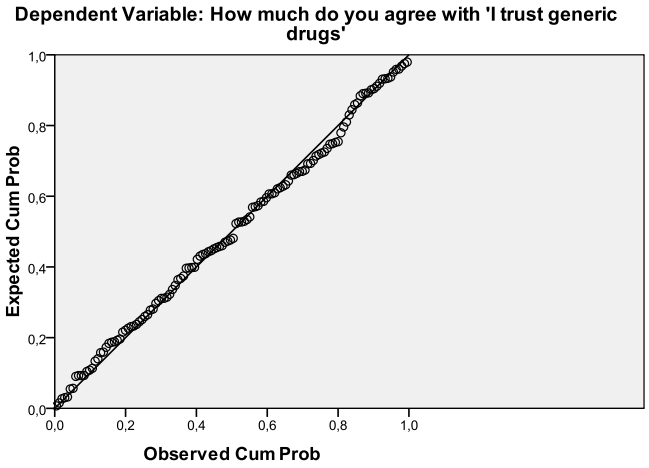
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	2,785	,660		4,222	,000					
	Male	,032	,188	,016	,169	,866	,003	,016	,014	,808	1,237
	25 - 45 years	,303	,242	,154	1,252	,213	,128	,118	,106	,475	2,106
	45 years and older	,053	,225	,028	,233	,816	-,076	,022	,020	,505	1,979
	Urban	-,425	,192	-,215	-2,211	,029	-,257	-,205	-,188	,759	1,317
	Semi-rural	-,018	,248	-,007	-,072	,943	,118	-,007	-,006	,831	1,203
	Familiar with generics	-,238	,238	-,121	-,997	,321	-,122	-,094	-,085	,488	2,047
	Use(d) generics	-,214	,218	-,115	-,982	,328	,008	-,093	-,083	,521	1,920
	SES: very low	,200	,263	,078	,759	,449	-,004	,072	,064	,678	1,474
	SES: low	-,030	,243	-,013	-,123	,903	-,127	-,012	-,010	,611	1,636
	SES: high	,294	,228	,122	1,290	,200	,117	,122	,109	,809	1,237
	Frequency use of drugs: medium	-,113	,278	-,041	-,405	,686	,084	-,038	-,034	,693	1,442
	Frequency use of drugs: chronic	-,124	,216	-,067	-,574	,567	-,042	-,054	-,049	,535	1,868
	Awareness	,061	,088	,068	,693	,490	,172	,066	,059	,751	1,332
	Quality	-,005	,106	-,005	-,050	,961	,042	-,005	-,004	,835	1,198
	Price Sensitivity	,285	,096	,287	2,959	,004	,307	,270	,251	,767	1,305
	Status	,000	,105	,000	-,002	,999	,095	,000	,000	,633	1,579

a. Dependent Variable: How much do you agree with 'I trust generic drugs'

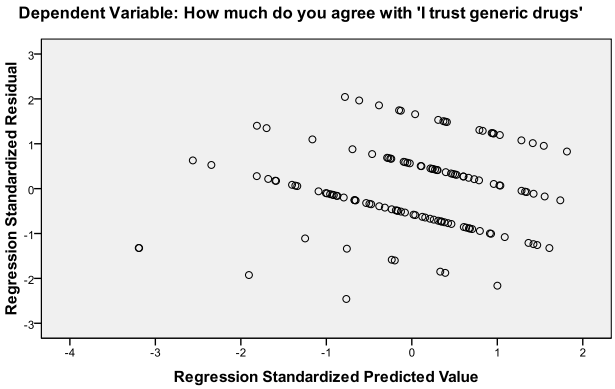
Histogram



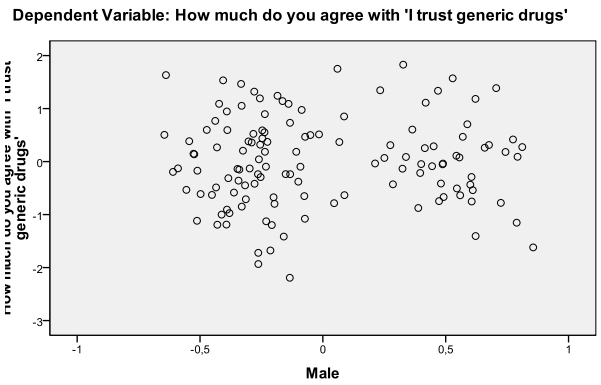
Normal P-P Plot of Regression Standardized Residual



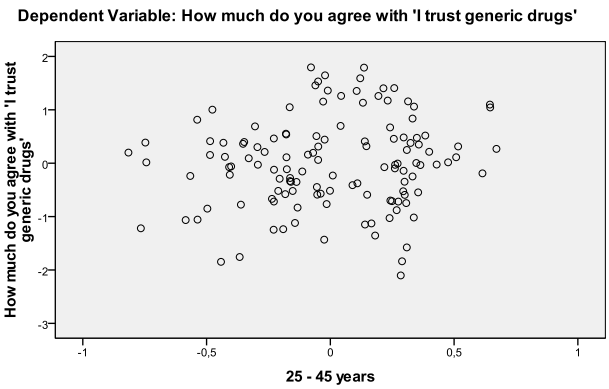
Scatterplot



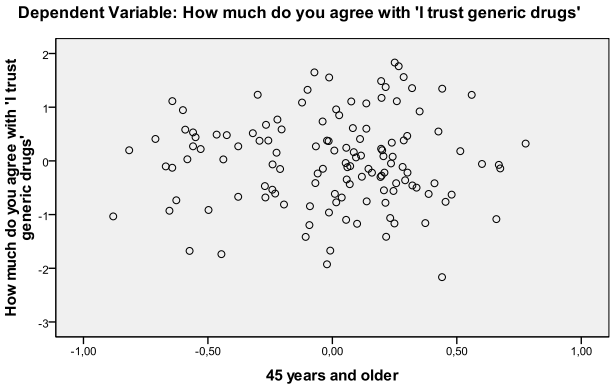
Partial Regression Plot



Partial Regression Plot

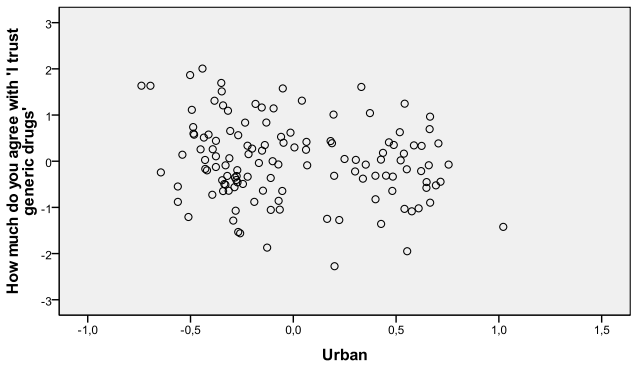


Partial Regression Plot



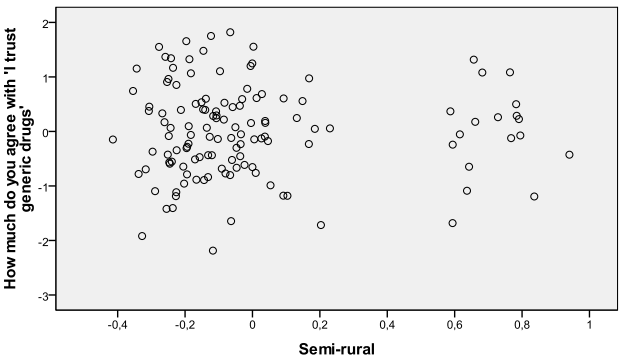
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



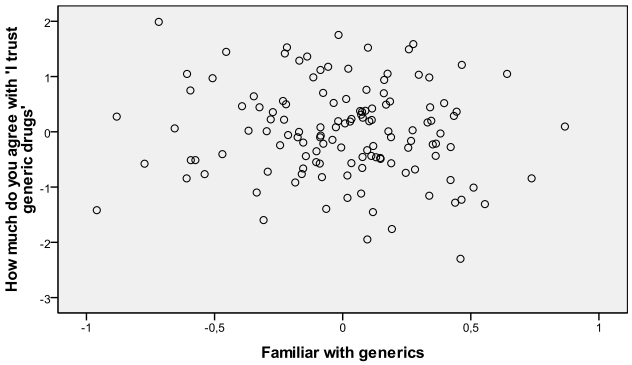
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



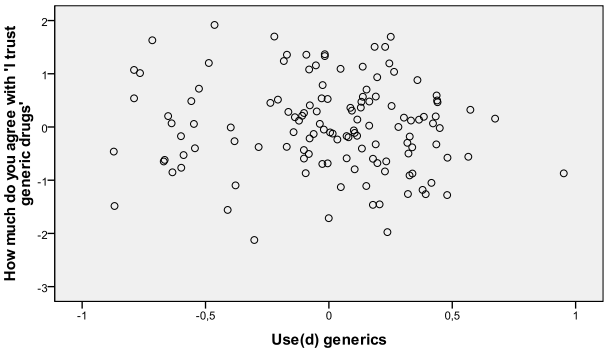
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



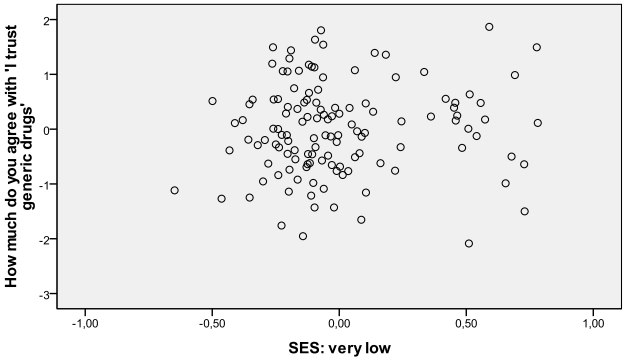
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



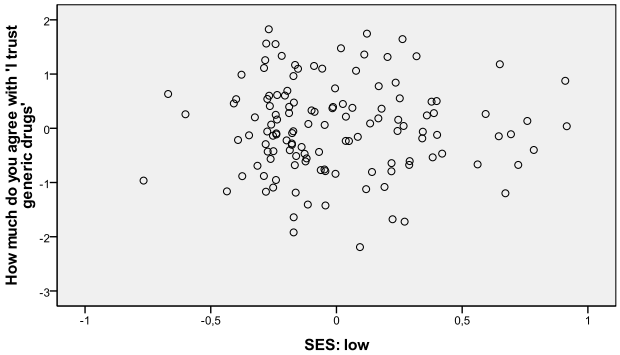
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



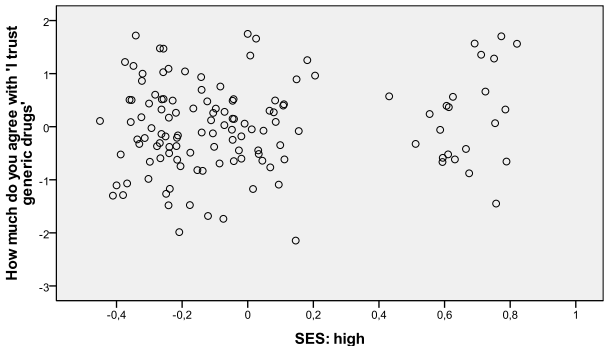
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



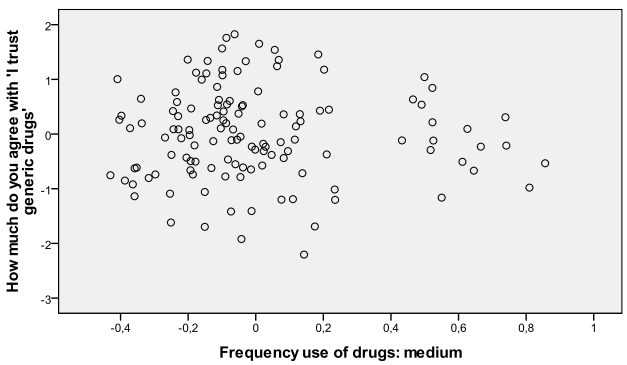
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



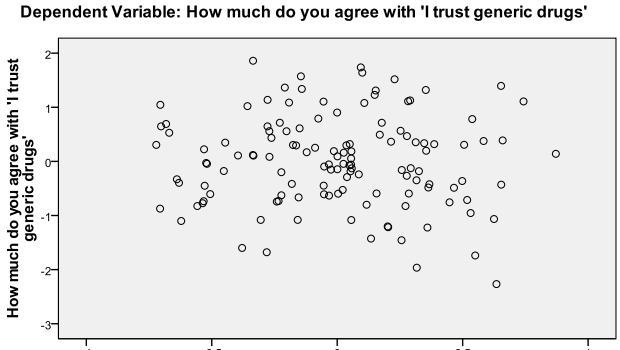
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



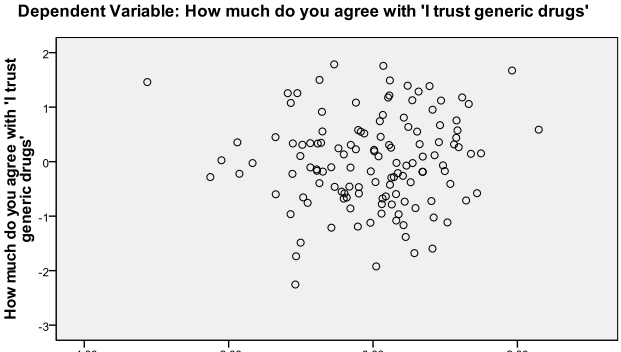
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



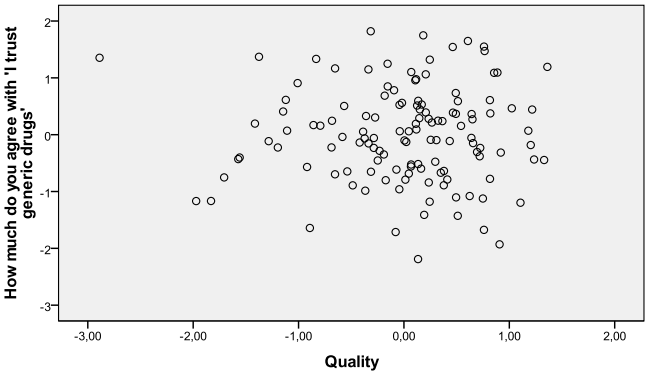
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



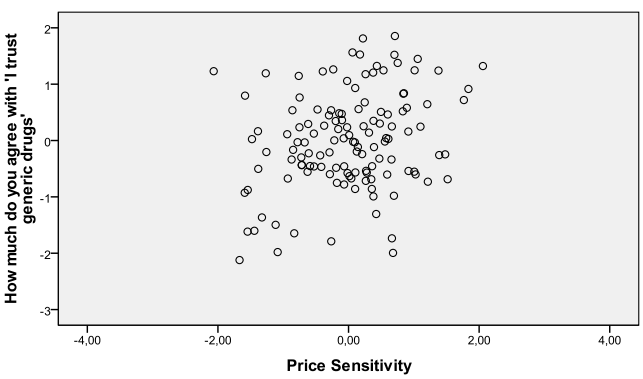
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



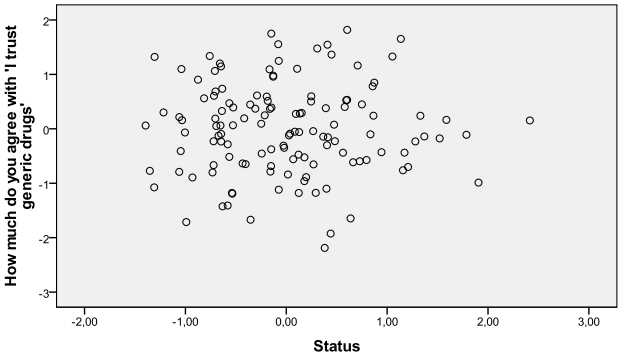
Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



Partial Regression Plot

Dependent Variable: How much do you agree with 'I trust generic drugs'



Appendix N: Factor Analysis Private Labels

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,682
Bartlett's Test of Sphericity	Approx. Chi-Square	1092,300
	df	231
	Sig.	,000

Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
Awereness of the product when grocery shopping	,750						
Awereness of the product by commericals	,679	-,441					
Awereness of the product by others	,676						
Brand that exude a social status	,661						
To me, quality is most important when choosing a product or brands	,544		-,423	-,445			
When in doubt, I usually choose for quality	,536		-,415	-,430			
Number of suppliers for grocery products?	,493						
When in doubt, I usually choose the same brand I always use	,427				,418		
It's important to me to buy products with a label (i.e. Safe Food)	,413						
How important is price when buying Private Labels?		,636	,472				
(expected) quality of the Private Label		,579					
The quantity of the product compared to the A brand		,539		,485			
Expected Quality grocery		,521					
How important is price when shopping when grocery shopping?		,505				,470	
I'm sensitive for sales			,740				
When the price is high, that means the quality also is high			,589				
Expensive brands rays status			,536	-,428			
For my grocery shopping, I always buy the same brands	,439				,616		
I love to try new brands (reverse)		-,458			,563		
The absence of the A brand						-,492	
I do agree with 'buy cheap is expensive' (reverse)						,456	
When in doubt, I usually choose the cheapest brand		,468	,424				,476

Extraction Method: Principal Component Analysis.

a. 7 components extracted.