GAZDASÁG & TÁRSADALOM

Journal of Economy & Society

TARTALOM

2019/4

Gazdaság & Társadalom

12. ÉVFOLYAM 2019. 4. SZÁM

TARTALOM

https://doi.org/10.21637/GT.2019.4.03

An Examination of the Involvement Level in Purchasing Processes for Non-prescription Pain Relivers in Austria

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ABSTRACT: The involvement level of customers in the buying process influences the information search of a potential customer to a huge extent. An understanding of the involvement level from consumers in a purchasing process can increase the efficiency and effectivity of communication efforts from companies. This study examines the level of involvement from consumers in the purchasing processes of non-prescription pain relivers in Austria. The objective of this paper is to detect potential differences in the level of involvement among customers with different demographic characteristics.
An online-questionnaire was used to collect data from consumers in Austria. Responses from 406 participants were collected through a non-probability sampling method. Results revealed that people between 18–38 have a rather moderate involvement level in purchasing processes of non-prescriptive pain relivers. Moreover, there were no significant differences between people from different social classes and people with different education levels. Men and women do not have different involvement levels in this age group as well. Additionally, this study revealed that recommendations from experts are seen as a very important information source. People with a high involvement level towards the purchase of non-prescription pain relivers are collecting online information about pain relivers more often than people with a low involvement level.

KEYWORDS: Consumer behaviour, Consumer involvement, pharmaceutical industry, non- prescription medication

JEL Codes: M30, M31, M37

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Introduction

An understanding of a consumers' decision-making process is an essential factor to the creation of marketing communication activities (Kotler–Armstrong, 2016). According to Gore, Madhavan, McClung and Riley (1994), the extent of information search and the extent to evaluate different product alternatives varies according to the perceived importance of a decision for the customer. This is based on the fact that people are making a lot of decisions each day, meaning only a few of them are of significant importance (Zaichkowsky, 1985). From a marketing perspective, involvement is seen as an element to understand the relationships between a consumer and a product or a product category. It is an element to activate the motivation of consumers to buy a specific product from a product category. Therefore, an increase of the involvement level from potential customers does have the tendency to increase the effect of marketing activities from companies (O'Cass, 2000). Previous researches identified, that a higher level of involvement usually results in a more active level of information processing and more knowledge from customers towards specific products (Zaichkowsky, 1985; Pettigrew–Charters, 2006; Solomon, 2011; Schiffman–Kanuk–Hansen, 2012).

Marketing in the pharmaceutical area has always been a subject of considerable interest for research investigations. This research deals with the product category of non-prescription pain relivers. Therefore, it is important to understand the market environment more in detail. The product range in this scholar fall under the category of "Over the counter" (OTC) drugs. OTC drugs are defined as medications which does not require a doctor's prescription. These drugs are offered by registered medical practitioners or licensed pharmacies. Non-prescription medicines are used for the self-treatment of symptoms. (Berry, 2001) Austrian industry reports indicate that the distribution of OTC products is less liberal compared to other countries. The Austrian law defines that every drug, which potentially harms the healthiness of a customer, requires a prescription from a medical doctor. (BWB, 2018).

A positive development of the OTC market in Austria is also an indicator for the importance to conduct research in the area of OTC products. According to the yearly IGEPHA (2018) report, the OTC-market in Austria has a volume of approximately 800 million euro per year. A sustainable growth rate could be detected in the area of OTC products in the years before.

With a market share of 11,8% and a market volume of 103 million-euro, pain relivers are one of the most important OTC product categories in Austria (IGEPHA, 2017). A high percentage of the population use pain relivers. Statistics indicate, that 50,7% of the German population consumes pain relivers at least once within three months (Statista, 2017a).

Additionally, Taylor (2011, pp. 763-764) identifies, that so called first world are confronted with an increasing number of citizens who suffer from chronic pain. Kamiński, Łoniewski and Marlicz (2020, p. 354) reports that up to 22% of the population are confronted with chronic pain and up to 60% experience pain on a regular basis (e.g. once a month). Wójta-Kempa–Krzyżanowski (2016, p. 350) see trends like a more liberal accessibility to products, an increasing number of limited medical services and a reduction of information from medical doctors due to cost and time pressure as drivers for an increasing consumption of non-prescription pain reliver.

The market of pain relivers can be described as very complex. It is influenced by various macro- and micro environmental factors like governmental and private insurance companies, lawmakers and the healthcare system in a country (Taylor, 2011, pp. 763-764). The product category of pain reliver in general can be divided into two different product categories. Category one summarizes anaesthetics. Products of this category are operating in the central nervous system of the human body and they deal with strong pain. The majority of this pain reliver fall under the category of prescription drugs. The second category of pain relivers is called 'not narcotic' drugs. They operate directly in or on the central source of pain. Products of this category have almost no negative side effects and they also have a broad usage area. Almost all of them do not require a prescription of a physician. Nureflex, Mexalen and Thomapyrin are described as examples of the most common non-prescription pain reliver brands on the Austrian market. (Österreich Apotheke, 2020)

Research in the area of marketing for pharmaceutical products are focused on prescription drugs. Scholars in marketing and communication strategies for OTC drugs, especially in the area of pain reliver received far less empirical attention. DeLorme, Huh, Reid and An (2010) identified just twenty-four studies with a focus on non-prescription drugs compared to more than 160 studies in the area of prescription drugs. Regarding studies from the year 2010 onwards, a search through various research data bases (Sciencdirect and Emerald Insights) revealed that this trend did not

change (Faerber–Kreling, 2012; Calamusa et al., 2012; Kohli–Buller, 2013; Lee–King–Reid, 2015).

The objective of the paper is to investigate consumer and purchase behaviour patterns in the area non-prescription pain relivers more in detail. It will help companies in the pharmaceutical area to gain more information about target customers and potential segmentation variables for the development of marketing efforts. Results of the scholar will also help companies to set up communication activities in more detail. One aspect of this paper deals with the identification of the involvement level from people in the age group between 18–38 in Austria. An analysis of statistical data leads to the conclusion, that people in this age group are also confronted with pain related problems. An Austrian health report detected, that 9,2% of people below 30 are had neck and back pain within one year. Furthermore, 7,8% of this age group is confronted by chronical headache (Statistik Austria, 2014). In order to understand this age group more in detail this paper identifies whether there are differences in the involvement level towards the purchase of OTC pain relivers based on demographic factors like gender, level of education and income.

This research also analyses whether the involvement level has an impact on the importance of various information sources, or not. On the one hand, the importance of the internet as an information source in a buying process from OTC pain reliever is detected. On the other hand, this research takes a look at the relevance of different personal information sources. The impact of the involvement level from customers towards a product on such a word-of-mouth (WOM) communication has been discussed in the academic literature in various areas (Kotler–Armstrong, 2016). Research has revealed that the involvement level towards a product is increasing the intensity of WOM communication and the relevance of recommendations from personal information sources (Solomon, 2011).

Literature Review

The literature review describes, how the concept of involvement is defined and used in this scholar. Therefore, two different types of involvement called enduring and situational involvement are explained and compared. Afterwards, the impact of the involvement level on the information gathering process within the buying process is clarified. The last part of the

literature review includes an overview about current studies in OTC industry and the level of consumer involvement.

The involvement level is a very important variable in the decision-making process of customers, especially in the information search phase. Basic elements of the involvement theory can be found in the motivation theory. Motivation is a dynamic construct that shapes a person's behaviour on how to accomplish a specific need or a goal. The perceived relevance of a message influences the level of motivation to process the content of a message. For example, a person who is suffering from a migraine will collect more information about possible ways to treat symptoms than a person without this issue. Therefore, advertising messages from pain relieving products have a higher chance to be recognised by the potential customer.

Academic scholars include a lot of different definitions, conceptualizations and dimensions for the concept of involvement. Especially the way the construct is measured is a controversial discussion in the academic literature. There are uni- and multidimensional measurement approaches given by various scholars (Schiffman et al., 2012). This paper uses the widespread definition from Zaichkowsky which defines involvement as "a person's perceived relevance of the object based on inherent needs, values and interest" (Zaichkowsky, 1985). The definition from Zaichkowsky is coherent with the definitions of other consumer psychologists.

Enduring versus situational Involvement

In general, scholars differentiate between two different forms of involvement. Consumers can establish a specific involvement level towards a product or towards a purchase decision. Product related involvement is also called enduring involvement. This type of involvement is more resistant against adoptions and changes (Pettigrew–Charters, 2006). Buying processes with a high level of enduring involvement is characterised by an intensive phase of information search. In a lot of cases it goes hand in hand with a high brand commitment. According to Michaelidou and Dibb (2008), this type of involvement arose from a high level of a so-called ego related involvement. Therefore, it can be seen as more stable compared with involvement levels towards a purchase decision. Marketing researchers agree that enduring involvement reflects a high level of ongoing interest in a specific product or a product category. People who are communicating their high involvement level towards a product are often seen as an

important information source for other people in order to develop product expertise. Therefore, such people are also important for companies in order to act as opinion leaders (Bloch–Commuri–Arnold, 2009).

Purchase decision involvement is associated with the involvement level in a specific purchasing process. This type of involvement is less stable compared with product related involvement (Pettigrew–Charters, 2006). Consumers are involved more temporarily and therefore it has a rather short-term nature (Mittal, 1989). Therefore, this concept is also called situational involvement (Im–Ha, 2011). Both concepts of involvement can be found in various consumption processes as well. A customer can have a low level of involvement towards a specific product class while the level of involvement in a specific buying situation is high. For example, a consumer might perceive the whole product category of medication in general as not relevant. In case of a sickness, the person tends to consider the situation as more relevant (Dholakia, 2001). Additionally, the price and complexity of a product affects the level of involvement in a buying situation as well (Houston–Rothschild, 1978).

Matzler (1997) identified that the two major forms of involvement have similarities and differences. On the one hand, situational and enduring involvement result in a more intensive information collection process and a higher degree of attention towards product- or situation related messages. Both forms usually lead to a more complex decision-making process. The differences are characterised through the length of duration and type of interaction. Both forms of involvement require distinct conditions. Enduring involvement causes consumers to perceive a specific product as more important. That causes a higher level of interest and a more emotional commitment. This is especially relevant for badge products. Situational involvement demands a high perceived purchase risk and/or a greater badge value. Although both forms are mostly considered as independent from each other, Laurent and Kapferer (1985) mentioned that situational involvement can result in enduring involvement, whereas the opposite is not possible.

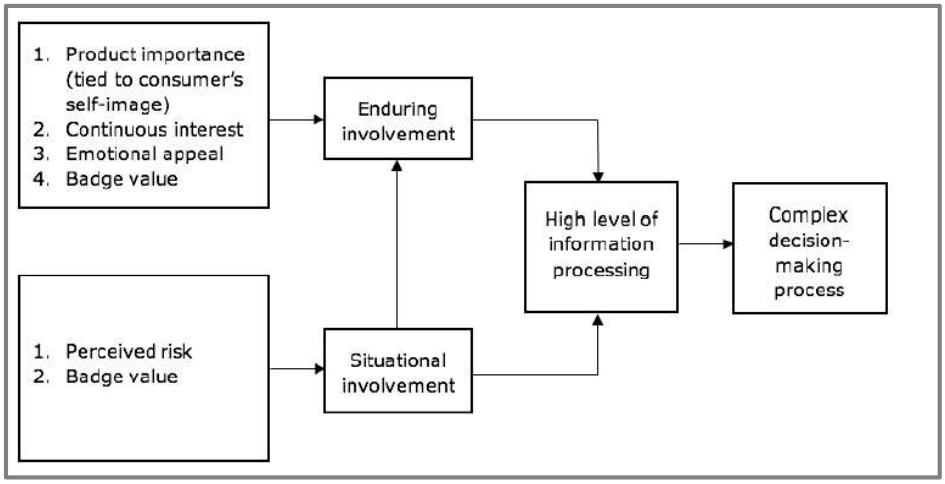

Figure 1: **Enduring/Situational involvement and information processing.**

Source: Adapted from Matzler (1997, p. 196)

The impact of the involvement level on the buying process

Various scholars describe a more intensive information seeking process as the most important consequence of a high involvement level. Additionally, a buying decision is influenced by more variables (Zaichkowsky, 1985; Laurent–Kapferer, 1985; Pettigrew–Charters, 2006). Therefore, the involvement level of customers towards a product influences the market communication strategy from companies. Potential customers with a high involvement level have more information about products in a specific product category. Therefore, the demand for basic information about product features and product benefits is lower. Additionally, a higher involvement level also results in a higher responsiveness toward communication activities from companies (Punj–Staelin, 1983).

Laroche, Bergeron and Goutaland (2003) stated that the involvement level also influences the level of the perceived risk from a purchase. A higher involvement level and more knowledge about a product category has the tendency to reduce a person's risk perception. This aspect is especially important for products in the OTC area. Products in this area are normally not tested by potential customers. The absence of a product test is compensated through the tendency to collect more information from various sources about a specific product. Furthermore, research has also

discovered an association between consumer involvement and the confidence level of customers in a decision-making process (Park–Moon, 2003).

According to Schiffman et al. (2012), individuals who have a stronger perception towards risk tend to stay more loyal to their already favoured product or brand. This is especially interesting for health-related issues, since decisions which concern a person's well-being are associated with a higher risk level.

The level of Involvement from in health-related purchasing decisions

Non-durable consumer products with a low price and high purchasing frequency have the tendency to result in a rather low level of involvement in buying situations. More expensive products with a lower purchasing frequency are characterised by a rather high level of involvement in purchasing processes (Mueller, 2006). In order to understand purchasing processes in the OTC area more in detail, it is important to analyse scholars which are deal with the involvement level of purchasing process from customers related to products in the medical care area. An analysis of previous scholars indicates that the buying process with health-related products tends to be characterised by a rather higher level of involvement, especially compared with low-priced durable consumer goods (Yang et al., 2006; Sansgiry–Cady–Sansgiry, 2001; Gore et al., 1994).

This assumption goes hand in hand with scholars such as Mueller (2006) and Kautsar et al. (2012), who investigated a particular high involvement level in decision making process for plastic surgeries and pharmaceuticals. This is based on the fact that these decisions deal with the well-being of a person to a great extent. Additionally, Kautsar et al. (2012) investigated a positive relationship between the satisfaction of a customer with a purchase decision for non-prescription drugs and the involvement level in upcoming purchasing processes.

Gore et al. (1994) identified, that buying decisions from non-prescription medications are characterised by a rather high level of involvement. They also investigated, whether differences among demographic variables from customers could be detected or not. The study showed that the involvement level decreases with a higher level of income and education. Moreover, females show a higher involvement level than males. A difference in the involvement level among different age groups could not be detected. Given that elderly citizens are a large growing market segment for the pharmaceutical industry, it is quite surprising that the involvement

level did not differ in that regard (The Geronological Society of America, 2014).

The results of the investigation from Gore et al. (1994) differ from the research results from Sansgiry and Cady (1996). Sansgiry and Cady (1996) focused their research on differences among the involvement level from different age groups in purchase decisions for OTC products as well. The result revealed, that elderly citizens have a higher involvement level than younger citizens. This can be influenced by the fact, that elder people spend more money on OTC products than younger generations. They also read product labels more often and they also require more in-depth information about the product. Additionally, Gore et al. (1994) could not detect differences among people with different purchase patterns. Another result from this research was the development of a scale in order to measure the involvement level with non-prescription medicines.

Independent from the general involvement level of customers in purchasing processes for medical products, scholars identified an impact of the involvement level on the information seeking process. The importance of various types of information which are collected in purchasing processes for health-related products differ for people with a high level of anxiety. Customers with a high level of involvement are building a specific level of trust towards a product based on collecting a huge amount of valid information. Customers with a low level of involvement in such buying processes rely more often on heuristic cues in communication efforts from companies (Perepelkin–Di Zhang, 2011; Yang et al., 2006). In this context Sansgiry, Cady and Sansgiry (2001) investigated, that people with a high involvement level compare information from various OTC product labels more in detail.

Methodology

This research deals with the identification of the involvement level of consumers in Austria in purchasing processes for non-prescription pain killers. Two research questions and seven hypotheses are formulated to develop the field of investigation further.

The **first research question** deals with the identification of the general involvement level from consumers in purchasing processes of non-prescriptive pain relivers. Therefore, the following research question is developed: "What is the level of involvement from people between 18–38

in purchase processes for non-prescription pain reliever in Austria?" Existing studies delivered contradictory results regarding the involvement level in purchasing processes for similar product categories. As already mentioned in a previous part of the paper, some scholars revealed that purchase processes for health-related products, like pharmaceuticals or plastic surgeries, are characterised with a high level of involvement (Mueller, 2006; Perepelkin–Di Zhang, 2011). Gore et al., (1994) investigated, that younger people have a lower involvement level compared with people from elderly generations. Therefore, the objective of the first research question is to develop more in-depth knowledge regarding the involvement level especially for a younger generation. Four hypotheses were developed in order to answer the first research question more in detail:

- H1: Buying process of non-prescription pain killer from people between 18–38 are not characterized by a high level of involvement.
  Results of previous investigations illustrated, that the level of consumer involvement in the purchase processes can be affected by demographic variables like gender, education and income. Researches show for example, that females tend to have a higher level of involvement than males in purchasing process of OTC products in general. Scholars also demonstrated, that the involvement level decreases with a higher level of education and income (Gore et al., 1994; Sansgiry–Cady, 1996). This scholar is dealing with the impact of demographic factors on the level of involvement in the age group between 18–38 more in detail. Therefore, the following hypothesis were developed:
- H2: The level of involvement in purchasing processes for non-prescription pain relivers from people between 18–38 does not differ regarding the level of education.
- H3: The level of involvement in purchasing processes for non-prescription pain relivers from people between 18–38 does not differ regarding the level of household income.
- H4: The level of involvement in purchasing processes for non-prescription pain relivers from people between 18–38 does not differ between men and women.

An analysis of the academic literature also showed, that the involvement level in a purchasing process influences the way information about a product is collected. Therefore, the second **research question** deals with the identification of the impact from the involvement level on the usage

of different information sources: "How does the information seeking process for people with a different level of involvement in non-prescription pain reliever purchasing processes differ?" Gore et al. (1994) identified three different main channels for the distribution of information about medications. The first information source includes communication efforts from companies like radio-, television- and newspaper advertising, information at the point-of-sale and product labels. The type of commercial information which was investigated in the research from Gore et al. (1994) did not include information from online sources. Statistics show, that the importance of online sources which consists of information about medications differs between different customer groups (Statista, 2017d). Based on the lack of research regarding the importance of information from the internet, this study develops the knowledge base in this area further. Another important information source for customers in a buying process of OTC products are other people. This category can be divided into two different sub categories. Category one includes experts such as physicians, pharmacists or nurses. Category two includes laypersons like family members, colleagues and friends.

An answer to the second research question enables marketers to adapt and improve their communication efforts. Customer groups with different involvement levels can be targeted more efficiently. The aim is to identify more or less important information sources for customers with a different level of involvement. Therefore, the following hypothesis were developed:

- H5: The acceptance of recommendations from family members and friends does not differ between people with different involvement levels.
- H6: People with a rather low level of involvement in buying processes of non-prescription pain reliever are using recommendations from experts more often than people with a moderate or high level of involvement.
- H7: People with a rather low level of involvement in buying processes of non-prescription pain reliever are using information from the internet less often than people with a moderate or high level of involvement.

Primary data was collected between the 1st and 22nd of August 2018. The survey tool 'core XM' ,which is offered by the company Qualtrics, was used for the development of an online questionnaire. This IT system

offers the development and visualisation of various different types of questions. Therefore, it helps to create a customized data collection platform which is appropriate for the usage of various scales in this research. Respondents have the possibility to complete 'core TM' questionnaires on various IT tools like personal computers, notebooks and mobile phones. (Qualtrics, 2020).

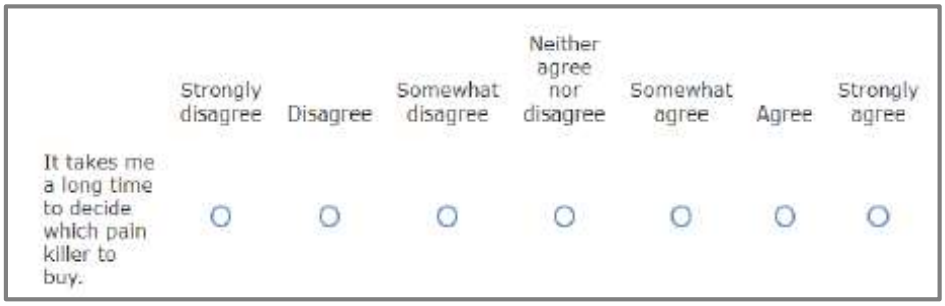

Figure 2: **Example of a question visualisation in the survey tool 'core XM', offered by the company Qualtrics.**

Source: Own source

The average duration time from respondents in the survey was 4 minutes, 30 seconds. The survey was available in two languages, (German and English) in order to improve the response rate. Five potential customers of OTC products pre-tested the questionnaire in German and English. SPSS was used in order to analyse the data and to test the hypothesis. Convenience and snowball sampling were used to distribute the questionnaire among potential participants. The questionnaire was distributed to address lists of educational institutions in Austria and to different address lists of small and medium-sized companies.

After three weeks 435 responses were collected. In total, twenty-nine cases were deleted based on missing values in the questionnaire. 328 out of 406 respondents where between 18 – 39 years old. Therefore, the sample size for research questions one is 328. The sample size of the research questions two is 406.

Measurement of consumer involvement

Gore et al. (1994) developed a scale for the measurement of the involvement level from consumers in the purchasing process of non-prescription medicines. This scale is the basis for measuring the involvement level of people in this study. Gore et al. (1994) adopted an already existing scale

for the measurement of the involvement level from Zaichkowsky (1985) in order to make it more reliable for a pharmaceutical context. Therefore, they developed two new items which further dealt with the information search characteristic of the involvement construct in the medical area. The items of the scale, which were used to measure the measurement level in non-prescription pain relivers are summarized in *Table 1*.

Involvement items for non-prescription medicine purchases
1. Take a long time to decide before buying non-prescription medicines.
2. Get as much information as possible before buying a non-prescription medicine.
3. Interested in reading information about how non-prescription medicines work.
4. Compared product characteristics among brands of non-prescription medicines.
5. Perceive product characteristics among brands of non-prescription medicines.
6. Would be interested in reading a Consumer Reports article about a needed non-prescription medicine.
7. Have a most-preferred brand for the different kinds of commonly used non-prescription medicines.

Figure 3: **Involvement items for measuring consumers' involvement with non-prescription medicine purchases.**

Source: Adapted from Gore et al. (1994)

Gore et al. (1994) used a 7-point Likert scale for every item. Each item was rated from "strongly disagree" to "strongly agree". An overall involvement score was established by the calculation of every mean value of the seven single items. Afterwards, an overall mean value of the total involvement level was calculated. After an assessment of the involvement level, respondents were asked questions regarding their purchase behaviours in the second part of the questionnaire. Questions about the importance of various information sources are stated in the 2nd part of the questionnaire. These questions were measured with a 5-point Likert scale. Additionally, demographic factors like age, gender, and the highest completed education where asked.

The validity and reliability of the already developed scale from Gore et al. 1994 was tested with a Cronbach test. A Cronbach α reliability coefficient with 0, 77 was calculated. A factor analysis was conducted in order to evaluate items from the second part of the questionnaire.

Findings

The first hypothesis investigated the extent of consumer involvement from people between 18-38 in purchasing processes of non-prescription pain relivers. A t-Test was chosen in order to test the average involvement level (Hypothesis 1). The mean value from the 7-point Likert scale (M=4.00) was chosen as a reference point for answering the hypothesis. The test showed a significant result (t(327)=-5.127, p<.001, d=0.283). Respondents between 18–38 showed a rather average level of consumer involvement. Therefore, hypothesis one has be accepted. People between 18–38 have an average level of involvement in purchase processes of non-prescription pain relivers.

	N	Mean Value	Standard Deviation	Standard error of the mean value
CI_M	328	3,6616	1,19546	,06601

Figure 4: **General involvement level, One Sample Statistics**

Source: Own source

	Test value = 4					
					95% confidence interval of the difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
CI_M	-5,127	327	,000	-,33841	-,4683	-,2086

Figure 5: **Test general involvement level, One Sample Test**

Source: Own source

In order to investigate the involvement level of the age group more in detail, potential differences among demographic variables were analysed. An analysis was conducted in order to investigate, whether the difference

among people with different education levels exists or not. Therefore, participants were divided into three different education groups. The first group consists of respondents with a rather low education level. People from this group graduated from a compulsory school, an apprenticeship or an Austrian trade school without an a-level. This group shows the highest mean involvement score (3,890; SD 1,555). Respondents with an average education level (completing the a-level) have an average involvement level of 3,65 (SD = 1,111) in purchase processes of non-prescription pain relivers. Respondents with the highest education level (graduates from a university) have the lowest consumer involvement level with a mean value of 3,621 and a standard deviation of 1,188. In conclusion, the involvement level decreases with the increasing level of education. Nevertheless, hypothesis two is tested with an analysis of variance (ANOVA). Even though small differences could be detected, the results of the ANOVA do not show significant results ($F(2,81.9)=0.427$, $p=.654$, $\eta^2=.004$). A post-hoc analysis according to Games-Howell does not show a significant difference too. Therefore, hypothesis two can be accepted.

	N	Mean	Std. Deviation	Std. Error	95%-confidence interval for mean	
					Lower Bound	Upper Bound
Lower Education	32	3,8906	1,55463	,27482	3,3301	4,4511
Higher School Certificate	139	3,6547	1,11093	,09423	3,4684	3,8410
University degree	157	3,6210	1,18793	,09481	3,4337	3,8083
Total	328	3,6616	1,19546	,06601	3,5317	3,7914

Figure 6: **Involvement level and different education levels**

Source: Own source

Hypothesis three investigates, whether differences among people with a different financial background exists. Therefore, participants of the survey are clustered based on their household income into three different groups. The hypothesis is tested with an analysis of variance (ANOVA). No significant results could be detected $F(2,325)=0.934$, $p=.394$, $\eta^2=.006$). A post-hoc analysis according to Bonferroni did not show significant differences ($p>.050$) as well. Therefore, hypothesis three can be accepted. The involvement level of people between 18 and 38 does not show differences among people with a different financial background.

	N	Mean	Std. Deviation	Std. Error	95%-confidence interval for mean	
					Lower Bound	Upper Bound
≤ €20.000	132	3,7715	1,16955	,10180	3,5701	3,9728
€20.001 - €49.999	140	3,5905	1,15598	,09770	3,3973	3,7836
≥ €50000	56	3,5804	1,34652	,17994	3,2198	3,9410
total	328	3,6616	1,19546	,06601	3,5317	3,7914

Figure 7: **Involvement level and different income levels**

Source: Own source

Hypothesis four deals with differences of the involvement level in purchase processes of non-prescription pain reliver regarding gender. A t-test could not detect differences among the involvement level between women and men ($t(326)=1.033$, $p=.302$, $d=0.131$). Therefore, hypothesis four has to be rejected.

	Gender	N	Mean	Std. Deviation	Std. Error mean
CI_M	Male	84	3,7778	1,26886	,13844
	Female	244	3,6216	1,16917	,07485

Figure 8: **Involvement level gender, Group Statistics**

Source: Own source

Research question two deals with the collection of information in a buying process of non-prescription pain relivers. The importance of different information sources for people with different involvement levels is analysed. Differences regarding the acceptance of recommendations from laypersons (family members & friends) and recommendations from experts (physicians and pharmacists) for people with different levels of involvement are analysed with an analysis of variance (ANOVA). In general, the experts (MEAN= 3,96) are much more often consulted than laypersons (MEAN = 2,81).

An ANOVA test does not show significant differences from the importance of recommendations from family members and friends among people with different levels of involvement ($F(2,403)=0.302$, $p=.740$, $\eta^2=.001$)). A post-hoc analysis according to Bonferroni did not show significant differences ($p>.050$) too. Therefore, hypothesis five has to be accepted.

	N	Mean	Std. Deviation	Std. Error	95%-confidence interval for mean	
					Lower Bound	Upper Bound
low CI	72	2,81	1,229	,145	2,52	3,09
average CI	263	2,78	1,158	,071	2,64	2,92
high CI	71	2,90	1,173	,139	2,62	3,18
total	406	2,81	1,171	,058	2,69	2,92

Figure 9: **Acceptance of family members and friends as an information source from people with different involvement levels.**

Source: Own source

This result goes hand in hand with the importance of recommendations from experts. An ANOVA test shows no significant differences between people with different involvement levels ($F(2,189.1)=1.892$, $p=.154$, $\eta^2=.010$). A post-hoc analysis according to Games-Howell did not show a significant difference. Therefore, people with a rather low level of involvement in buying processes of non-prescription pain relivers are not using recommendations from experts more often than people with a moderate or high level of involvement. Therefore, hypothesis six must be rejected.

	N	Mean	Std. Deviation	Std. Error	95%-confidence interval for mean	
					Lower Bound	Upper Bound
low CI	72	4,07	1,039	,122	3,83	4,31
average CI	263	3,98	,899	,055	3,87	4,09
high CI	71	3,76	,992	,118	3,53	4,00
total	406	3,96	,944	,047	3,86	4,05

Figure 10: **Acceptance of experts as an information source from people with different involvement levels.**

Source: Own source

The importance of the internet as an information source for pain reliver (Hypothesis 7) was tested with a Chi² Test. This test shows significant differences among the importance of the internet for people with different levels of involvement.

Results show that 23,6% of respondents with a low level of consumer involvement are using the Internet as an information source. This is much lower compared to respondents with an average amount of involvement (46%) and a high amount of involvement (60,6%). Therefore, hypothesis

seven has to be accepted. The level of involvement does have an impact on the information gathering process from customers.

			CI_M_Groups			
			low CI	average CI	high CI	total
Place of information search - Internet	No Internet consultation	Number	55a	142b	28b	225
		% within CI_M_Groups	76,4%	54,0%	39,4%	55,4%
		% total	13,5%	35,0%	6,9%	55,4%
	Yes Internet consultation	Number	17a	121b	43b	181
		% within CI_M_Groups	23,6%	46,0%	60,6%	44,6%
		% total	4,2%	29,8%	10,6%	44,6%
total		Number	72	263	71	406
		% within CI_M_Groups	100,0%	100,0%	100,0%	100,0%
		% total	17,7%	64,8%	17,5%	100,0%

Figure 11: **Information search in the internet from people with different involvement levels.**

Source: Own source

Conclusion

An understanding of the involvement level of customers in purchase process helps companies to identify more or less relevant communication strategies. The involvement level of a customer influences their information search in the first part of the purchasing process. Companies can adopt their communication messages and communication channels for customers with different levels of involvement (Gore et al., 1994; Sansgiry–Cady, 1996).

The first research question deals with the involvement level of consumers between 18–38 for non-prescriptive pain relivers. The investigation proved that people in this age group in Austria have an involvement score below the scale's midpoint. Such an average involvement level is surprising. Especially based on the fact that statistics show an increasing number of pain related problems (neck- and backpain, chronical headache) in age groups below forty years old (Statistik Austria, 2014). A moderate level of involvement could be based on the fact that products fall under the category of low-cost packaged goods. Customers might not consider an occasional headache or neck-pain as a serious health problem. Nevertheless, in the end it can be assumed that the general involvement level of representatives from this age group will rise in the future. This assumption is based on an increasing number of people with chronic or

regular pain, especially in younger age-groups. Also, an easier accessibility to OTC pain relivers can be seen as a potential indicator which increases the level of involvement in the future. (Koniewski–Marlicz, 2020, p. 354; Wójta-Kempa–Krzyżanowski ,2016, p. 350).

As a consequence of the investigated moderate level of involvement, companies who are targeting customer between 18-38 just have to distribute a moderate level of information about the product. The complexity of the information and the intended message should be rather low. Meaning that companies have to focus on more persuasive messages in their communication efforts (Sherif–Sherif–Nebergall, 1965). In this context, Apte–Markale (2018, 360) recommend that communication strategies should combine advertisements and in-depth information about pain relivers. These findings are also an additional indicator, that separate communication messages should be created for different age groups.

The study did not detect significant differences of the involvement level based on other demographic aspects like gender, education and the financial background from people in this age group. Slight differences could be detected related to the financial aspects. It is surprising, that no difference between the involvement from men and women could be detected in this study. Pickover, Messina, Correia and Murphy (2016, p. 45) detected a higher consumption usage and consumption insensitivity among young male adults compared with you female adults.

Respondents with a high-income level have a lower involvement level than people with a lower income level. Additionally, a tendency could be detected that a higher education implies a lower level of involvement. A consequence of this result for the development of marketing strategies could be, that it does not make sense to segment the market in this age group based on other demographic variables. This has to be seen in contrast to other scholars which revealed different involvement levels from people with different demographic characteristics in other age groups in purchase processes for OTC products in general.

The level of consumer involvement also influences the information search from potential customers. The second research question identifies the relevance of different communication sources for people with different levels of involvement. Wójta-Kempa–Krzyżanowski (2016, p. 359) highlight the importance of physicians and nurses as a source of information about this product category. Especially the education of consumers about potential consequences and side effects is described as an important

task for experts. This view is strengthened through the results of this paper as it detects, that experts are significantly more often consulted than laypersons (3,96 mean value compared with 2,81 on a 5-point likert scale). Other scholars indicate, that the importance from laypersons as an information source should not be under estimated. In addition to trustworthiness, Apte and Markale (2018, p. 361) detected, that the easiness to access information plays an important role as well. This is especially relevant for people in younger age groups.

The internet as a source of information was selected more often than family and friends, especially from people with a high involvement level. The importance of the internet as an information source for non-prescription pain relivers can be explained by a scholar which detects, that 80% of internet user rate health-related information as credible (Kamiński–Łoniewski–Marlicz, 2020, p. 355). Several other scholars support findings of this research as well. Kim (2011) for example also argues that the internet has become an indispensable source of information for products in the health and medication area. Wójta-Kempa and Krzyżanowski (2016, p. 350) observe an increasing trend that OTC products, especially pain reliever, are self-administered more often by consumers. This trend is influencing the importance of the internet as an information tool as well.

Online and social media communication tools offer a lot of possibilities to target people more specifically. More in-depth information can be especially tailored and targeted for people with a higher involvement level. Though this information must be rather educational than promotional. Kamiński, Łoniewski and Marlicz, (2020, p. 355) recommend, that pharmaceutical companies have to take forums and social media platforms, where people share their experiences and recommendations about pain relivers, more into consideration from marketing perspective. This is especially relevant for customers with a higher involvement level. The openness towards online information also enhances the chance for pharmaceutical companies, to offer additional services and mobile applications. Geraghty et al. (2015, p. 4) report that a mobile app which delivers in-depth information about products, services and self-management advices for the treatment of pain also reduces the level of pain from consumers significantly. This goes hand in hand with previous findings about the usage of non-prescription pain relivers and pain management strategies from consumers.

Study limitations

The study investigated the involvement level of customers for one specific product category, non-prescription pain killers in detail. The decision to limit the research to one product has been made due to various reasons. First of all, statistics show that the relevance of this product category is increasing in general, especially among younger people. Therefore, the first part of the research deals with an investigation of the involvement level from this target group in detail. Nonetheless, because of this narrow focus the applicability of the findings to other age groups and medications is limited. Another limitation of this investigation is that data was collected through convenience sampling. Hence, it is recommended that future investigations examine a more demographically diverse group. Thus, not that much is known about involvement with non-prescription medications, especially pain killers. A better understanding of consumers' involvement with non-prescription pain killer purchase decisions might also be generated from further investigations with a qualitative research approach. Employing focus-groups or in-depth-interviews could offer deeper knowledge since respondents are enabled to thoroughly explain their underlying thoughts.

Bibilography

Apte, S. K. – Markale, A. (2018): Role of sources of information and extent of their influence on the buying decision related to OTC herbal pain relivers: An empirical analysis, *International Journal of 360 Management Review*, 6(2), 352-365. ISSN: 2320-7132

Berry, T. M. (2001): *Nursing Nonprescription Drug Handbook.* Williams & Wilkins, PA Lippincott, Philadelphia. ISBN 1-58225-101-4

Bloch, P. H. – Commuri, S. – Arnold, T. J. (2009): Exploring the origins of enduring product involvement. Qualitative Market Research: An International Journal, 12(1), 49–69. https://doi.org/10.1108/13522750910927214

BWB, (2018): Branchenuntersuchung Gesundheit. Teilbericht 1, Der Österreichische Apothekenmarkt, Retrieved April 7, 2019. https://www.bwb.gv.at/fileadmin/user_upload/Veroeffentlichungen/Gesundheits-branchenuntersuchung_Apothekenmarkt_BWB_DE.pdf

Calamusa, A. – Di Marzio, M. – Renza, C. – Arrighetti, P. – Santaniello, V. – Alfani, S. – Carducci, A. (2012): 'Factors that influence Italian consumers' understanding of over-the-counter medicines and risk perception', *Patient Education and Counseling*, 87(3), 395-401. https://doi.org/10.1016/j.pec.2011.10.003.

Dholakia, U. M. (2001): 'A motivational process model of product involvement and consumer risk perception', *European Journal of Marketing*, 35 (11/12), 1340-1362. https://doi.org/10.1108/EUM0000000006479

DeLorme, D. E. – Huh, J. – Reid, L. N. – An, S. (2010): 'The state of public research on over-the-counter drug advertising', *International Journal of Pharmaceutical and Healthcare Marketing*, 4 (3), 208-231. https://doi.org/10.1108/17506121011076156

Faerber, A. E. – Kreling, D. H. (2012): 'Now You See It. Now You Don't: Fair Balance and Adequate Provision in Advertisements for Drugs Before and After the Switch From Prescription to Over-the-Counter', *Health Communication,* 27(1), 66-74. https://doi.org/10.1080/10410236.2011.569001

Geraghty, A. W. A. – Stanford, R. – Little, P. – Roberts, L. – Foster, N. E. – Hill, J. C. – . . . – Yardley, L. (2015): Using an internet intervention to support self-management of low back pain in primary care: Protocol for a randomised controlled feasibility trial *BMJ Open*, *5*(9). https://doi.org/10.1136/bmjopen-2015-009524

Gore, P. – Madhavan, S. – McClung, G. – Riley, D. (1994): 'Consumer involvement in nonprescription medicine purchase decisions', *Journal of health care und marketing*, Vol. 14 (2), 16-23.

Houston, M. – Rothschild, M. L. (1978): 'Conceptual and Methodological Perspectives on Involvement', *Research Frontiers in Marketing: Dialogues and Directions*,184 (187), 262-270.

IGEPHA, (2017): Perspektiven für den OTC-Markt in Österereich, Benchmarking the world of OTC, Retrieved April 14, 2019. https://igepha.at/website2015/wp-content/uploads/StudieNicolas-Hall_2017_08_31_WEB.pdf

IGEPHA, (2018). Jahresbericht 2018, Retrieved April 14, 2019. https://igepha.at/website2015/wp-content/uploads/Jahresbericht_2018_WEB.pdf

Im, H. – Ha, Y. (2011): 'The effect of perceptual fluency and enduring involvement on situational involvement in an online apparel shopping context', *Journal of Fashion Marketing and Management. An International Journal*, 15(3), 345-362. https://doi.org/10.1108/13612021111151932

Kamiński, M. – Łoniewski, I. – Marlicz, W. (2020): "Dr. Google, I am in Pain"-Global Internet Searches Associated with Pain: A Retrospective Analysis of Google Trends Data. *International Journal of Environmental Research and Public Health*, *17*(3), 354-368. https://doi.org/10.3390/ijerph17030954

Kautsar, A. P. – Widianto, S. – Abdulah, R. – Amalia, H. (2012): 'Relationship of Consumer Involvement, Credibility of the Source of Information and Consumer Satisfaction on Purchase Decision of Non-Prescription Drugs', *Procedia - Social and Behavioral Sciences*, 65, 449-454. https://doi.org/10.1016/j.sbspro.2012.11.147

Kim, H. (2011): 'Pharmaceutical Companies as a Source of Health Information: A Pilot Study of the Effects of Source, Web Site Interactivity, and Involvement', *Health Marketing Quarterly*, 28 (1), 57-85. https://doi.org/10.1080/07359683.2011.545327

Kohli, E. – Buller, A. (2013): 'Factors Influencing Consumer Purchasing Patterns of Generic Versus Brand Name Over-the-Counter Drugs', *Southern Medical Journal*, 106(2), 155-160. https://doi.org/10.1097/SMJ.0b013e3182804c58

Kotler, P. – Armstrong, G. (2016): Principles of Marketing, 16th edition, Pearson education limited, Harlow. ISBN: 9-78129209-248-5

Laroche, M. – Bergeron, J. – Goutaland, C. (2003): 'How intangibility affects perceived risk: the moderating role of knowledge and involvement', Journal of Services Marketing, 17(2), 122-140. https://doi.org/10.1108/08876040310467907

Laurent, G. – Kapferer, J. N. (1985): 'Measuring Consumer Involvement Profiles', *Journal of Marketing Research*, 22, 41-53. https://doi.org/10.1177/002224378502200104

Lee, M. – King, K. – Reid, L. N. (2015): 'Factors Influencing Consumers' Attitudinal and Behavioral Responses to Direct-To-Consumer and Over-the-Counter Drug Advertising', *Journal of Health Communication*, 20(4), 431-444. https://doi.org/10.1080/10810730.2014.965367

Matzler, K. (1997): *Kundenzufriedenheit und Involvement*. Deutscher Universitätsverlag, Wiesbaden. ISBN 978-3-322-95236-3

Michaelidou, N. – Dibb, S. (2008): 'Consumer Involvement - a new perspective', *The Marketing Review*, 8(1), 83-99. https://doi.org/10.1362/146934708X290403

Mittal, B. (1989): 'Measuring Purchase-decision involvement', *Psychology & Marketing,* 6(2), 147-162. https://doi.org/10.1002/mar.4220060206

Mueller, B. (2006): 'The role of product involvement in advertising message perception and believability. In Diehl, S, & Terlutter, R., *International advertising and communication: New insights and empirical findings*, Gabler, Wiesbaden.

O' Cass, A. (2000): 'An assessment of consumers product, purchase decision, advertising and consumption involvement in fashion clothing', *Journal of Economic Psychology, 21*(5), 545-576. https://doi.org/10.1016/S0167-4870(00)00018-0

Österreich Apotheke, (2020): Informationsplattform über den Apotheker-Beruf und aktuelle Gesundheitsthemen, Retrieved December 1, 2020. http://osterreichapotheke.at/kaufen-schmerzmittel/

Park, C. – Moon, B. (2003): 'The relationship between product involvement and product knowledge: Moderating roles of product type and product knowledge type', *Psychology & Marketing*, 20(11), 977-997. https://doi.org/10.1002/mar.10105

Perepelkin, J. – Zhang, D. Z. (2011): 'Brand personality and customer trust in community pharmacies', *International Journal of Pharmaceutical and Healthcare Marketing*, 5(3), 175-193. https://doi.org/10.1108/17506121111172194

Pettigrew, S. – Charters, S. (2006): 'Product involvement and the evaluation of wine quality', *Qualitative Market Research: An International Journal*, 9(2), 181-193. https://doi.org/10.1108/13522750610658810

Pickover, A. M. – Messina, B. G. – Correia, C. J. – Garza, K. B. – Murphy, J. G. (2016): A behavioral economic analysis of the nonmedical use of prescription drugs among young adults. *Experimental and Clinical Psychopharmacology*, *24*(1), 38–47. https://doi.org/10.1037/pha0000052

Punj, G. N. – Staelin, R. (1983): 'A Model of Consumer Information Search Behavior for New Automobiles', *Journal of Consumer Research*, 9(4), 366-380. https://doi.org/10.1086/208931

Qualtrics (2020): Qualtrics Core XM Erfahrungen sammeln, Einsichten gewinnen, Maßnahmen ergreifen, Retrieved December 5, 2020. https://www.qualtrics.com/de/core-xm/

Sansgiry, S. S. – Cady, P. S. (1996): 'How the Elderly and Young Adults Differ in the Decision Making Process of Nonprescription Medication Purchases', *Health Marketing Quarterly,* 14(1), 3-21. https://doi.org/10.1300/J026v14n01_02

Sansgiry, S. S. – Cady, P. S. (2001): 'Consumer Involvement', *Health Marketing Quarterly*, 19(1), 61-78. https://doi.org/10.1300/J026v19n01_05

Schiffman, L. G. _ Kanuk, L. L. _ Hansen, L. (2012): Consumer Behaviour. A European Outlook. 2nd Edition, Pearson, New York. ISBN: 9-78027373-695-0

Sherif, C. W. _ Sherif, M. _ Nebergall, R. (1965): Attitude and Attitude Change: The Social Judgment Involvement Approach, Saunders Co, Philadelphia & London. ISBN: 978-0313232602

Solomon, M. R. (2011): Consumer behaviour: Buying, Having, and Being. 9th global edition, Pearson, Boston and London. ISBN: 9-78013703-496-3

Statistik Austria (2014): 'Chronische Krankheiten. Bundesanstalt Statistik Austria', Retrieved March 4, 2018. https://www.statistik.at/web_de/statistiken/menschen_und_gesellschaft/gesundheit/gesundheitszustand/chronische_krankheiten/index.html

Statista (2017a): 'Nutzung rezeptfreier Medikamente (Verwendung in den letzten 3 Monaten) in der Bevölkerung nach Anwendungsgebiet im Jahr 2017', Retrieved July 18, 2018. https://de-1statista-1com-1statista-de.han.fhwn.ac.at/statistik/daten/studie/171228/umfrage/verwendung-rezeptfreier-medikamente/

Statista (2017d): 'Wonach suchen Sie Medikamente in der Regel aus, wenn Ihnen kein bestimmtes Präperat vom Arzt verschrieben wurde?', Retrieved July 18, 2018, https://de-1statista-1com-1statista-2de.han.fhwn.ac.at/statistik/daten/studie/669090/umfrage/umfrage-zur-auswahl-von-medikamenten-in-deutschland-nach-alter/

Taylor, M. L. (2011): The impact of the "business" of pain medicine on patient care. *Pain Medicine (Malden, Mass.)*, *12*(5), 763–772. https://doi.org/10.1111/j.1526-4637.2011.01114.x

The Geronological Society of America (2014): 'Over-the-Counter Medication Behaviors of Older Adults: Research is needed to better understand and promote safe and efficient use', Retrieved March 30, 2018. https://secure.geron.org/cvweb/cgi-bin/msascartdll.dll/ProductInfo?productcd=1985_OTC

Wójta-Kempa, M. – Krzyżanowski, D. M. (2016): Correlates of Abusing and Misusing Over-the-Counter Pain Relivers Among Adult Population of Wrocław (Poland).

Advances in Clinical and Experimental Medicine: Official Organ Wroclaw Medical University, *25*(2), 349–360. https://doi.org/10.17219/acem/58887

Yang, S. C. – Hung, W. C. – Sung, K. – Farn, C. K. (2006): 'Investigating initial trust toward e-tailers from the elaboration likelihood model perspective', *Psychology & Marketing*, 23(5), 429-445. https://doi.org/10.1002/mar.20120

Zaichkowsky, J. L. (1985): 'Measuring the involvement construct', *Journal of Consumer Research*, 12(3), 341-352. https://doi.org/10.1086/208520

List of Abbreviations:

OTC = Over the counter

WOM = word of mouth