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## THE INFLUENCE OF SECURITY GUARANTEEING THE SANCTITY OF A PACKED FOOD PRODUCT ON PACKAGING PERCEIVING BY YOUNGER AND OLDER CONSUMERS

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## WPLYW ZABEZPIECZEŃ GWARANTUJĄCYCH NIENARUSZALNOŚĆ ZAPAKOWANEGO PRODUKTU SPOŻYWCZEGO NA POSTRZEGANIE OPAKOWAŃ PRZEZ MŁODYCH I STARSZYCH KONSUMENTÓW

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**Summary:** The aim of the research is to determine potential differences in perceiving food products packaging with the *tamper evident* protection by consumers belonging to two age groups (young – up to 25 years old and older ones aged over 60). The empirical research connected to perceiving protection guaranteeing sanctity of the packed product by consumers, has been conducted by the direct questionnaire interviews on the sample  $n = 348$  of the south-east Poland inhabitants. The results of the research about the experiences and feelings concerning the securities, which guarantee the sanctity of the food products packaging can be a feedback for manufactures in the context of differentiation of the packaging aimed at different consumer age groups.

**Keywords:** consumer perception, tamper evidence, packaging.

**Streszczenie:** Celem badań jest określenie różnic w postrzeganiu opakowań produktów spożywczych z zabezpieczeniami *tamper evident* przez konsumentów należących do dwóch grup wiekowych (młodzi konsumenci – do 25, lat oraz starsi konsumenci – powyżej 60 lat). Badania empiryczne związane z postrzeganiem przez konsumentów zabezpieczeń gwarantujących nienaruszalność zapakowanego produktu zostały przeprowadzone techniką bezpośrednich wywiadów kwestionariuszowych na próbie  $n = 348$  mieszkańców Polski południowo-wschodniej. Wyniki prowadzonych badań na temat doświadczeń i odczuć dotyczących zabezpieczeń gwarantujących nienaruszalność opakowań produktów żywnościowych mogą stanowić informację zwrotną dla producentów w kontekście dyferencjacji opakowań skierowanych do różnych grup wiekowych konsumentów.

**Słowa kluczowe:** percepcja konsumenta, zabezpieczenie gwarantujące nienaruszalność zapakowanego produktu, opakowanie.

## 1. Introduction

The first source of information about a product and also an important factor influencing the consumer's decision about buying the product is its packaging.

In literature, it is most often defined as an article intended to store a product to deliver it to consumers in an unchanged state.

In order to efficiently realize this aim, the packaging should mainly protect all physical, chemical and sensory features of a wrapped product against negative influence of internal and external factors.

Harmful activity of the factors, which cause negative quality changes of a packed product can be eliminated or minimized by choosing appropriate packaging material. A construction form of a packaging unit, appropriate technique and technology of packaging (for example in modified or controlled atmosphere, placing oxidative absorbents, vacuum or aseptic packaging, radiative fixation, etc.) are also important [Lisińska-Kuśnierz, Ucherek 2003].

The appropriate choice of packaging material and the proper construction form or the correct wrapping technique and technology, determine the safety of packaging.

The problem of packaging safety can be considered in terms of packaging safety itself, which is a product and a market offer, and in terms of the wrapped products safety directed at consumers. A product with its direct packaging creates so called an integrated product, in other words, the product connected in the inherent (inseparable) way with another product [Lisińska-Kuśnierz, Ucherek 2006].

1. Except the factors which can potentially cause damage, the state of packaging of the wrapped product may cause negative health and safety effects. The threat can be connected with: The packaging flaws, which have critical meaning for safety and customers' requirements, such as improper packaging construction (for example sharp closing elements, lack of wrapping stability during the usage, lack of tightness), a difficulty to open and close again (e.g. for elderly people), incorrect protection against undesirable opening by children, drawbacks of the surface, which can cause injuries during the usage, lack of elements identifying contents (e.g. for blind and visually impaired people) or lack of proper information on the packaging connected to the safety of the product usage.

2. The lack of guarantee of the packaging sanctity and originality of the wrapped product.

The element of packaging which gives the guarantee of the product sanctity and at the same time originality (the lack of falsification) of the packed product, can be its closure. It is an integral part of the packaging and it fulfils the following functions [Czerniawski, Czerniawski 2012]:

- it prevents arising the product's loss,
- it participates in maintaining the product's quality,
- it simplifies the product's usage,
- it ensures the possibility to open and close the packaging again (most frequently repeatedly),

- it participates in creating information about the product and its promotion,
- it participates in providing safety to consumers and environment.

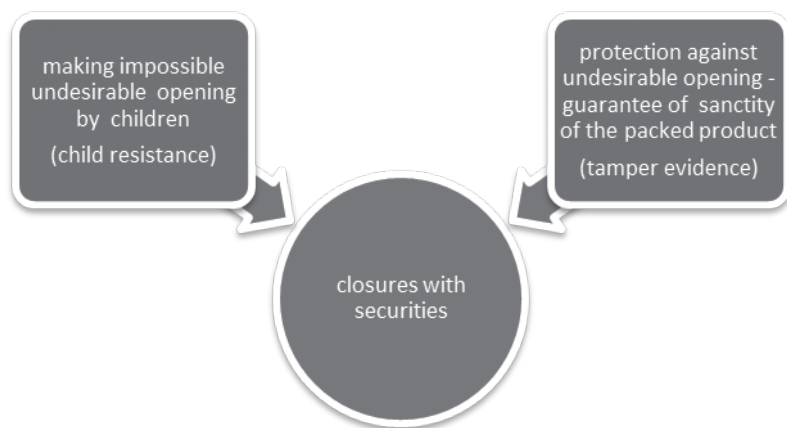
So that the closures could fulfil the last of the above mentioned functions, they are used including security signaling undesirable opening of the packaging referred to as tamper evident.

According to the U.S Food and Drug Administration, the packaging with security signaling undesirable opening (tamper evident) is the packaging which has one or two rates or barriers that are not present or their violation unequivocally indicates the packaging manipulation [Emblem, Emblem 2000].

The closures with securities are not only used to pack food but also pharmaceutical, cosmetic, household chemistry products as well as dissolvents or plant protection products. Except the food products packaging, the packages of the rest mentioned above products, are meant for home use. They require security against undesirable opening by children. These products potentially create a health or even life threatening situation for children.

The packaging with protection against undesirable opening by children, which is called child resistance, is defined as the packaging which is difficult to open by children but can be opened by adults without any difficulty.

It can be said that the closures with protection fulfil the following two functions (fig. 1).



**Fig. 1.** The functions of closures with protection

**Rys. 1.** Funkcje zamknięć z zabezpieczeniami

Source: own elaboration.

Źródło: opracowanie własne.

From the point of view of the user's comfort, one of the most important closures requirements, next to the packaging protection against undesirable opening (tamper evident), is the simplicity of its opening. The closures with securities, however, can

cause certain hindrance connected to the additional manipulations during opening and closing the packaging.

The aim of the research is to determine potential differences in perceiving food products packaging with the tamper evident protection by consumers belonging to two age groups.

## 2. The methodology research

The empirical research connected to perceiving by consumers protection guaranteeing sanctity of the packed product, has been conducted by the direct questionnaire interviews on the sample  $n = 348$  of the south-east Poland inhabitants in the years 2013-2014.



The respondents have been selected from two age groups, assuming that the young consumers are up to 25 years old (182 respondents in the group) and older ones aged over 60 (166 respondents in the group). The choice of the respondents has been random.






The range of research concerned:

- defining the meaning of additional protection of the packaging in making decision about buying a product,
- getting to know the consumers' opinions about the validity of the use of additional protection, which guarantees the first opening of the packaging,
- determining the influence of the protection guaranteeing the first opening of the packaging on the environment and safety of the packed product,
- recognizing the consumers' feelings connected to the way (difficulty/facility) of the opening packaging containing the chosen protection, which guarantee the first opening.

**Table 1.** Proposal of the nomenclature of security (tamper evidence)

**Tabela 1.** Propozycje nazw dla zabezpieczeń

Picture	Name
1	2
	<p>snap-type security zabezpieczenie typu <i>snap</i></p>
	<p>strip-type security zabezpieczenie typu <i>strip</i></p>

1	2
	ring-type security zabezpieczenie typu <i>ring</i>
	overwrap-type security zabezpieczenie typu <i>overwrap</i>
	zipper-type security zabezpieczenie typu <i>zipper</i>
	shrink -type security zabezpieczenie typu <i>shrink</i>
	top-star-type security zabezpieczenie typu <i>top-star</i>

Source: own study.

Źródło: opracowanie własne.

In order to research the consumers' feelings connected to the way (difficulty/facility) of opening the packaging containing the protection, which guarantees the sanctity of the packed product, a few types of security features, most frequently appearing on the market, have been chosen.

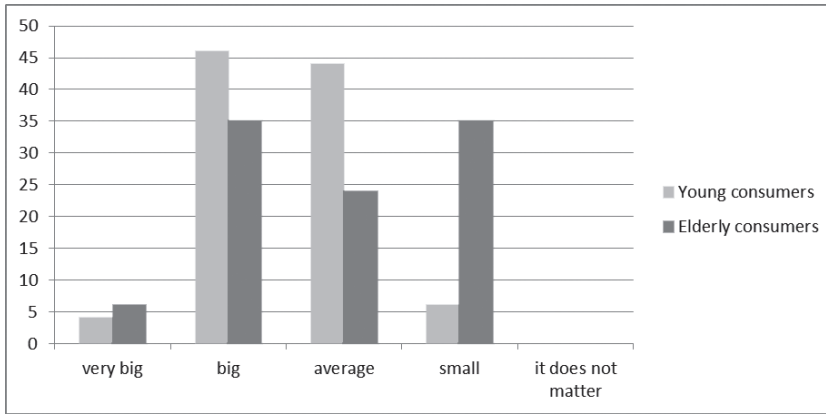
The variety of the securities' names in the literature and catalogues offered by the companies, which produce closures with protection tamper evident, made the author elaborate the unification of the nomenclature in this range. For the needs of the present elaboration, taking into consideration terms used in the literature [Jansen, Schelhove 1999; Carus et al. 2006; Pascall et al. 2009; Davison 2011; Spink et al. 2011; Kucherer 2013], the following names for the securities below have been suggested:

### 3. The research results

The research results concerning the securities perceived by the consumers, which guarantee the sanctity of the packed product, have been presented in fig. 2-7.



The drawing below presents the answers results to the question about the meaning of the packaging with the product choice (fig. 2).



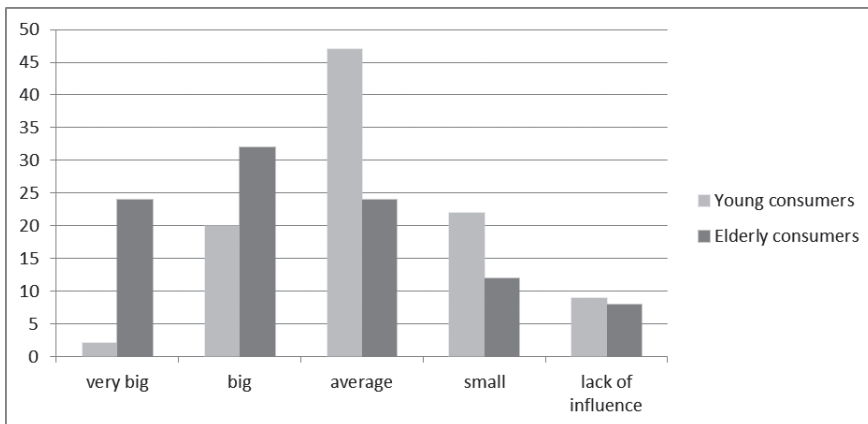
**Fig. 2.** The meaning of the packaging with the product choice

**Rys. 2.** Znaczenie opakowań przy wyborze produktu

Source: own research.

Źródło: opracowanie własne.

As it results from the graph, the young respondents showed mainly big (46%) or average (44%) meaning of the packaging with the product choice. However, in case of the elderly consumers, a particular attention should be paid to the fact that the results were identical (35% each) concerning small and big packaging meaning with the food products choice.



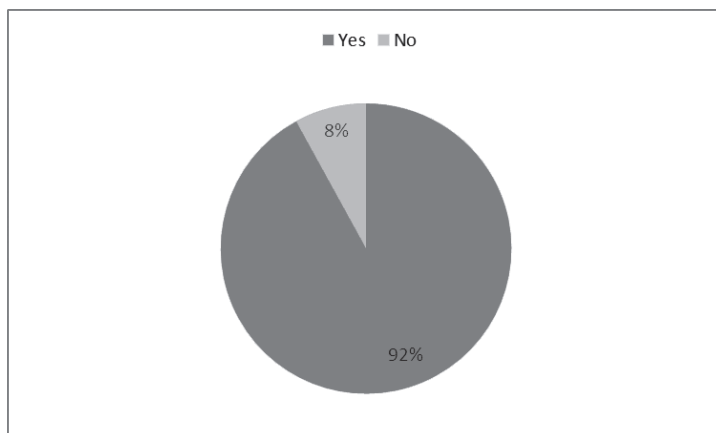
**Fig. 3.** The influence of the way/facility of the packaging opening on the purchasing decision

**Rys. 3.** Wpływ sposobu/łatwości otwierania opakowania na decyzję o zakupie produktu

Source: own research.

Źródło: opracowanie własne.

Another question concerned the influence of the way (difficulty/ease) of the product opening on the product purchasing decision (fig. 3).

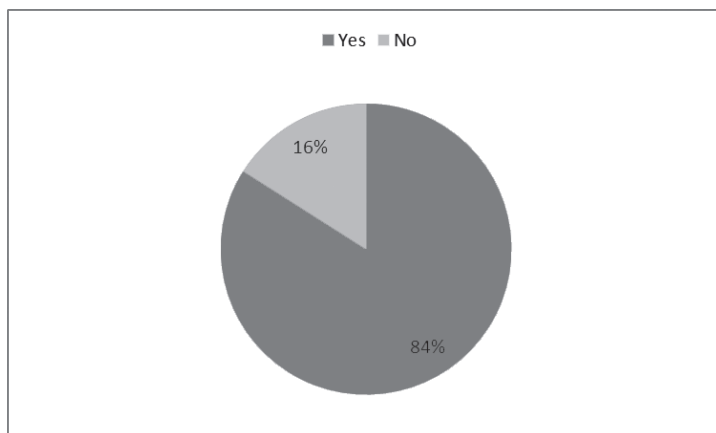


**Fig. 4.** Paying attention to additional protection, which proves the packaging had been opened for the first time ( young consumers)

**Rys. 4.** Zwracanie uwagi na dodatkowe zabezpieczenie świadczące o pierwszym otwarciu opakowania (młodzi konsumenci)

Source: own research.

Źródło: opracowanie własne.



**Fig. 5.** Paying attention to additional protection, which proves the packaging had been opened for the first time (elderly consumers)

**Rys. 5.** Zwracanie uwagi na dodatkowe zabezpieczenie świadczące o pierwszym otwarciu opakowania (starsi konsumenci)

Source: own research.

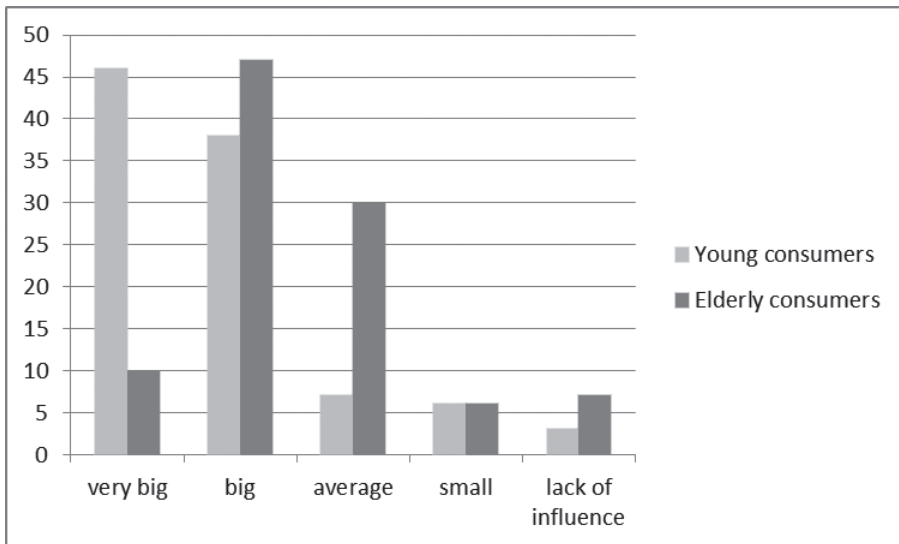
Źródło: opracowanie własne.

As it results from the above figure, the way (difficulty/ease) of the packaging opening in a large measure, moderately determines 47% of young people's purchasing decisions. The research results of the elderly consumers shape differently – the way (difficulty/ease) of opening the packaging determines the product purchasing decision to a slightly bigger extent (32% of the respondents showed big influence and 24% of the respondents showed very big and average influence).

Thereafter, the respondents were asked if they paid attention to additional protection, which proves the packaging had been opened for the first time (fig. 4 and 5).

As much as 92 % of the young and 84% of the elderly consumers affirmatively answered the question, what in practice proves the lack of influence of the consumers age on perceiving this fact (statistically, the confirmation was obtained with the use of the t-Student test).

Another two questions concerned the influence of the securities, which guarantee the first opening of the packaging, on the safety of the packed product and natural environment (fig. 6 and 7).



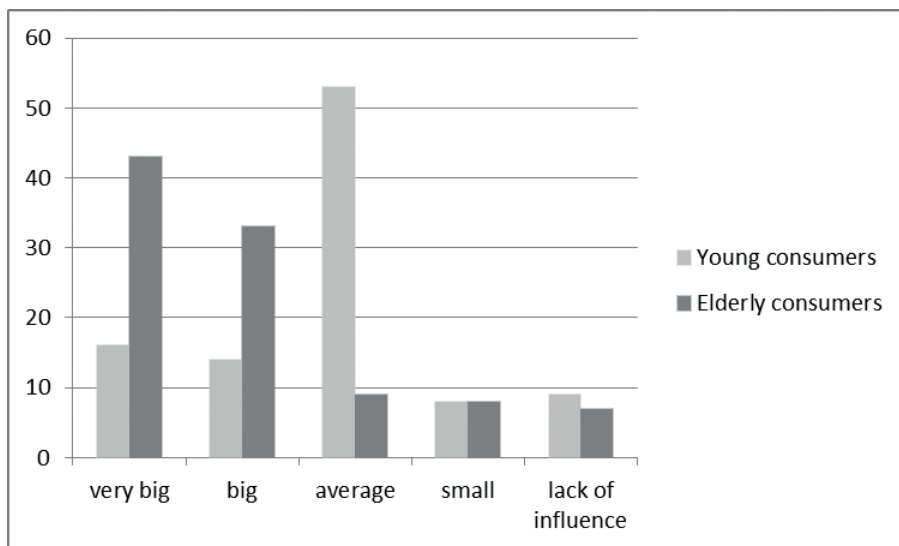
**Fig. 6.** The influence of the securities, which guarantee the first opening of the packaging, on the safety of the packed product

**Rys. 6.** Wpływ zabezpieczeń gwarantujących pierwsze otwarcie opakowania na bezpieczeństwo zapakowanego produktu

Source: own research.

Źródło: opracowanie własne.

The research results show, that according to the young respondents, the securities guaranteeing the first opening of the packaging have very big (46%) and big (38%) influence on the safety of the packed product (fig. 6). However, their influence on the

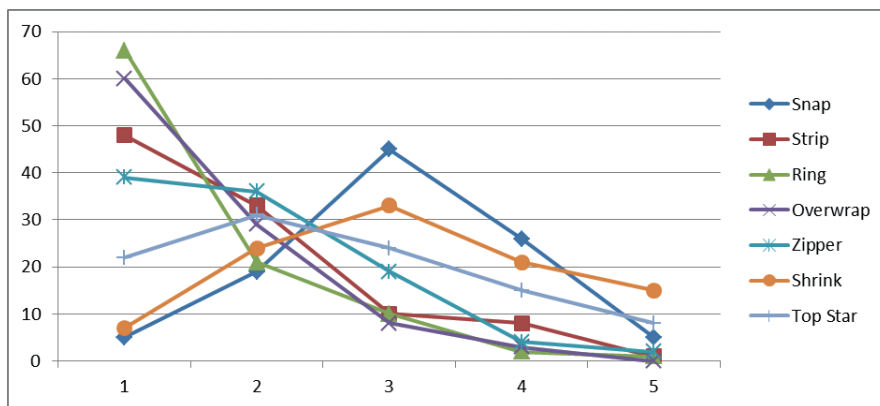


**Fig. 7.** The influence of the securities, which guarantee the first opening of the packaging, on the natural environment's safety

**Rys. 7.** Wpływ zabezpieczeń gwarantujących pierwsze otwarcie opakowania na środowisko naturalne

Source: own research.

Źródło: opracowanie własne.

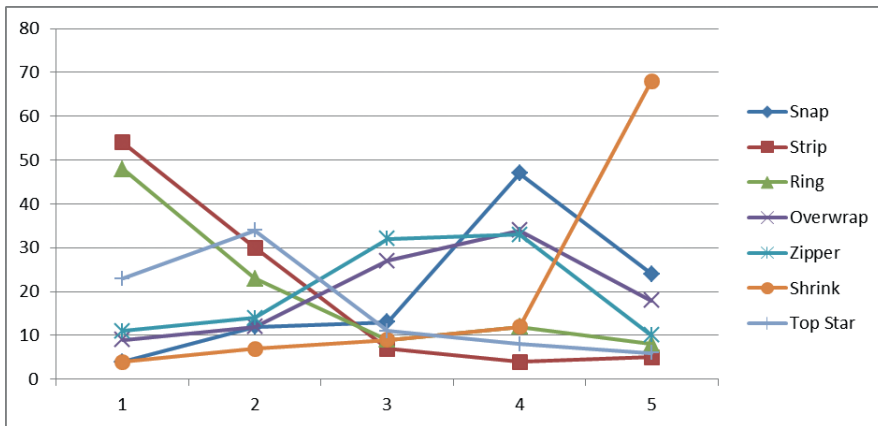


**Fig. 8.** The respondents' feelings connected to the facility of opening the packaging, including the chosen securities, which guarantee the first opening (the young consumers)

**Rys. 8.** Odczucia respondentów związane z łatwością otwierania opakowań zawierających wybrane zabezpieczenia gwarantujące pierwsze otwarcie opakowania (młodzi konsumenci)

Source: own research.

Źródło: opracowanie własne.



**Fig. 9.** The respondents' feelings connected to the facility of opening of the packaging, including the chosen securities, which guarantee the first opening (the elderly consumers)

**Rys. 9.** Odczucia respondentów związane z łatwością otwierania opakowań zawierających wybrane zabezpieczenia gwarantujące pierwsze otwarcie opakowania (starsi konsumenci)

Source: own research.

Źródło: opracowanie własne.

natural environment is average (fig. 7). 47% of the elderly consumers defined the securities' influence guaranteeing the first opening on the safety of the packed product as big and 30% as average (fig. 6). In contrast, the influence of the securities, which guarantee the first opening on the natural environment is very big (43%) and big (33%) according to the elderly consumers (fig. 7).

The last question concerned the consumers' feelings, (in the sale from 1 to 5, where 1 meant easy, and 5 difficult opening of the packaging), connected to the way (difficulty/ease) of the packaging opening, including the chosen securities, which guarantee the sanctity of the wrapped product (fig. 8 and 9).

Among the seven chosen types of closures, according to the young and elderly consumers, a shrink-type security proved to be the most difficult to open. The respondents do not like the snap or top star-type securities either.

The easiest to open, according to the both groups of the respondents, is the closure with a ring-type security. The young respondents did not have bigger difficulties in opening the packaging with overwrap, strip and zipper-type securities. In contrast to them, the elderly consumers had difficulties in opening the packaging with the closure with overwrap and zipper-type securities.

## 4. Conclusions

The conducted research allows to claim that the consumers' age does not influence the meaning which the consumers assign to the closures with additional securities

against undesirable opening of the packaging (tamper evident). (They have a big meaning for older and younger consumers in the range of making a decision about buying a food product).

Consumers can see the validity of using the additional securities, which guarantee the sanctity of the wrapped product and declare paying particular attention to the securities of this type in packaging. The conducted research proves the differences between younger and older consumers in the context of the influence of the additional securities on the natural environment.

Considering the fact that the two age groups of the respondents emphasize the difficulty connected to the way of packaging opening including the snap, shrink and top star – type securities, striving for the improvement of the used securities in the range of the opening facility or visibility and possibility to understand the communication about the way how to open packaging seems to be crucial.

To conclude, the results of the research about the experiences and feelings concerning the securities which guarantee the sanctity of the food products packaging can be a feedback for manufactures in the context of differentiation of the packaging aimed at different consumer age groups.

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