sge Schweizerische Gesellschaft für Ernährung
ssn Société Suisse de Nutrition
ssn Società Svizzera di Nutrizione

Study report

Effectiveness of three different front-of-pack labelling systems on food products to help consumers make the healthy choice

Results of a representative Swiss online consumer study
September 2010

Wissen, was essen. sge-ssn.ch

Credits

Thanks to:
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Report revised by Sara Meyer, Area Manager for Methods and Member of the Custom Research Portfolio Management Team, GfK Switzerland

Bern, 14 September 2010

Glossary

Traffic lights

The traffic light labelling system shows how much fat, saturated fatty acids, sugars and salt a product contains per 100g or 100ml. Red indicates a high, orange a medium and green a low content of the relevant nutrient. The content of the four nutrients is also stated in grams per serving.

The traffic light labelling system originated in England and use of the system is most widespread in that country. To our knowledge, it is not yet possible to purchase any food products with a traffic light labelling system in Switzerland. However, there is a website (www.codecheck.info) on which the nutritional values of food products available in Switzerland have been shown using the traffic light system since the start of 2010. The European Parliament argued against the traffic light system in mid June 2010 and plans to make GDA labelling compulsory.

GDA

GDA stands for "**G**uideline **D**aily **A**mount" and is a system designed by the CIAA Confederation of the Food and Drink Industries of the EU (http://gda.ciaa.eu). The GDA labelling system states how much energy (calories), fat, saturated fatty acids, sugars and sodium or salt a serving of a product contains in grams and the corresponding percentage of the average guideline daily amount for adults. In Switzerland, many products are already labelled with GDAs. The European Parliament agreed in mid June 2010 to make GDA labelling compulsory. However, in contrast to the current GDA labelling system the values will be stated per 100g or 100 ml instead of per serving.

Glossary (continued)

Logo

In the German version of this report, the word "label" is used in the Swiss sense and refers to a logo or symbol based on specific criteria. In the context of this study, the term specifically refers to a "healthy choice logo" which identifies the healthier products within defined food categories (e.g. cheese category or drinks category). The composition of the products must meet certain criteria in relation to their content of various nutrients. These criteria differ from category to category. In the case of bread, for example, the focus is placed on dietary fibre and salt. For sausages the focus is placed on fat and salt. "Healthy choice logos" are already being used in many countries across Europe and around the world, however in Switzerland they are still very rare.

Front-of-pack labelling system

A labelling system that prominently features on the front or display side of a product and that can therefore be seen at first glance.

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Zusammenfassung

Die Schweizerische Gesellschaft für Ernährung SGE - ein gemeinnütziger und nicht-staatlicher Verein - ist die nationale Fachorganisation für Ernährung in der Schweiz. Die SGE klärt sowohl die Bevölkerung als auch Fachleute mit wissenschaftlich abgesicherten Informationen zu Ernährungsfragen auf. Im Rahmen des Nationalen Programms Ernährung und Bewegung NPEB 2008-2012 hat das Bundesamt für Gesundheit BAG der SGE den Auftrag erteilt, die Grundlagen zur Einführung eines einheitlichen und einfach verständlichen Lebensmittel-Labels zu prüfen und allenfalls zu erarbeiten. Die SGE hat in diesem Zusammenhang die vorliegende Konsumentenstudie durchgeführt. Die Resultate dieser Studie sollen das Wissen über Konsumenten in der Schweiz erweitern und das BAG bei der Planung und Umsetzung von Massnahmen betreffend Konsumenteninformation unterstützen.

Ziel der Studie war die Beantwortung der Frage, welche Front-of-Pack-Kennzeichung (Ampel, GDA oder Label) den Konsumenten in der Schweiz besser bzw. wirksamer bei der gesunden Wahl von Lebensmitteln unterstützen kann. Sie wurde im Januar und Februar 2010 bei 1016 erwachsenen Personen mit Wohnsitz in der Schweiz (60% Deutschschweiz, 28% Romandie, 12% Tessin) durchgeführt.

Die GDA besitzen den höchsten Bekanntheitsgrad (81%) der untersuchten Kennzeichnungen und werden beim Lebensmitteleinkauf auch am stärksten beachtet (66% der 81%) und verwendet (55% der 81%). Die Ampel kennt bereits jeder dritte Konsument, das Label ist noch kaum bekannt (14%).

Zu Beginn der Studie wird die Ampel von den Befragten als die hilfreichste Kennzeichnung betrachtet. Auf einer Skala von 1 bis 10 erreicht sie den Wert 8 und in der Rangliste kommt sie auf den 1. Platz. Die GDA-Kennzeichnung wird ähnlich hilfreich bewertet (Wert 7.8), fällt in der Rangliste hingegen klar auf den 2. Platz. Das Label wird von den Verbrauchern ans Rangende (3. Platz) gestellt und erreicht auch in der Skala keinen hohen Wert (5.4).

Tatsächlich verhilft jedoch keine der getesteten Kennzeichnungen den Konsumenten zu einer durchgehend korrekten Erkennung des gesünderen Produktes, weder über die 10 Lebensmittelkategorien hinweg noch innerhalb einer spezifischen Produktkategorie.

Zusammenfassung (Fortsetzung)

Insgesamt verhelfen Ampel und die Kombination GDA+Label den meisten Konsumenten zur korrekten Wahl (71% resp. 69%), jedoch nicht in allen Produktkategorien. Etwas weniger häufiger erkennen die Konsumenten das gesündere Produkt mit Hilfe von Label (67%), dafür durchgehend in allen Kategorien ausser einer. GDA verhilft 66% der Konsumenten zur korrekten Wahl und wie bei Ampel und der Kombination GDA+Label nicht in allen Kategorien.

Die Erwartungen bezüglich dem Nutzen der Kennzeichnungen entsprechen nicht dem tatsächlichen Nutzen. Zum Beispiel werden GDA und vor allem Ampel von den meisten Konsumenten als hilfreich betrachtet. Bei einigen Produktkategorien führen diese beiden Kennzeichnungen jedoch sehr ausgeprägt zur falschen Wahl.

Von den vier getesteten Kennzeichnungsvarianten ermöglicht das Label die raschesten Entscheidungen (durchschnittlich 12.79 Sekunden). Die Interpretation von Ampel und GDA nimmt 35% bzw. 50% mehr Zeit in Anspruch. Für die Interpretation der Kombination GDA+Label benötigen die Konsumenten in etwa gleich viel Zeit wie fürs Lesen der GDA alleine. Tendenziell benötigten Verbraucher, welche falsch wählten, länger für ihre Entscheidungsfindung.

Abschliessend wird die Kombination GDA+Label von den Konsumenten eindeutig als die hilfreichste der vier getesteten Kennzeichnungsvarianten betrachtet. Begründet wird dies von den Verbrauchern unter anderem mit der „doppelten Sicherheit". Die Ampel schneidet zwar signifikant weniger hilfreich als die Kombination GDA+Label ab, jedoch signifikant besser als GDA und Label individuell. Am wenigsten hilfreich wird wiederum das Label eingestuft.

Fazit: Die Studie zeigt, dass alle getesteten Kennzeichnungen den Konsumenten bei der gesunden Wahl unterstützen können, dass aber alle an gewisse Grenzen stossen. Auffallend ist die Diskrepanz zwischen subjektiver Wahrnehmung der Nützlichkeit einer Kennzeichnung und deren effektiven Nützlichkeit. Die Kombination GDA+Label scheint sich als eine Art „Füfi und Weggli" herauszukristallisieren. Sie liefert viel Information für interessierte Konsumenten sowie die Bestätigung der eigenen Wahl, könnte unsichere oder bequeme Konsumenten bei der gesunden Wahl unterstützen und gestressten Konsumenten eine rasche Entscheidung ermöglichen.

Résumé

La Société Suisse de Nutrition (SSN), association d'intérêt public et non gouvernementale, est l'organisation nationale spécialisée dans le domaine de la nutrition. Elle informe la population et les professionnels à l'aide de données scientifiquement fondées concernant l'alimentation. Dans le cadre du Programme national alimentation et activité physique (PNAAP) 2008-2012, l'Office fédéral de la santé publique (OFSP) l'a chargée d'examiner et, le cas échéant, d'élaborer les bases servant à l'instauration d'un label pour les denrées alimentaires, uniforme, simple et compréhensible. Dans ce contexte, la SSN a réalisé la présente enquête auprès des consommateurs. Les résultats devraient permettre de mieux connaître les consommateurs suisses et aider l'OFSP à planifier et mettre en œuvre des mesures concernant leur information.

Le but de l'enquête était de déterminer quel étiquetage apposé sur le recto de l'emballage (« feux de signalisation », repères nutritionnels journaliers [RNJ], ou label) permet d'aider les consommateurs suisses à mieux choisir des denrées alimentaires saines, ou de le faire avec plus d'efficacité. Cette enquête a été réalisée en janvier et février 2010 auprès de 1016 adultes résidant en Suisse (60 % en Suisse alémanique, 28 % en Suisse romande et 12 % au Tessin).

Parmi les étiquetages testés, les RNJ jouissent de la plus forte notoriété (81 %) et sont aussi ceux auxquels les consommateurs font le plus attention (66 % de ces 81 %) et qu'ils utilisent le plus (55 % des 81 %) lors de leurs achats. Un tiers des consommateurs connaissent déjà l'étiquetage dit « des feux de signalisation » (ou code couleurs), alors que le label est encore peu connu (14 %).

Tout d'abord, les feux de signalisation sont considérés par les répondants comme l'étiquetage le plus utile. Sur une échelle de 1 à 10, ils obtiennent 8 et prennent la première place du classement. Les RNJ sont jugés presque aussi utiles (7,8), mais sont clairement deuxièmes du classement. Les consommateurs placent le label en queue de classement (troisième place) et ne lui accordent que 5,4 sur l'échelle de 1 à 10.

Toutefois, aucun des étiquetages testés n'aide véritablement les consommateurs à toujours bien distinguer le produit le plus sain, que ce soit sur l'ensemble des dix catégories de denrées alimentaires ou au sein d'une catégorie spécifique de produits.

Résumé (Continuation)

Dans l'ensemble, les feux de signalisation et la combinaison RNJ+label aident la plupart des consommateurs à faire le bon choix (71 % et 69 %), mais pas dans toutes les catégories de produits. Ils trouvent un peu moins souvent le produit le plus sain au moyen du label (67 %), par contre, dans toutes les catégories sauf une. Les RNJ aident 66 % des consommateurs à faire le bon choix mais, comme pour les feux et la combinaison RNJ+label, pas dans toutes les catégories.

Les attentes relatives à l'utilité de l'étiquetage ne correspondent pas à son utilité réelle : p. ex., les RNJ et les feux, en particulier, sont considérés comme utiles par la plupart des consommateurs. Pour certaines catégories de produits, ces deux étiquetages conduisent toutefois au mauvais choix, et ce très clairement.

Des quatre étiquetages testés, le label est celui qui permet de prendre sa décision le plus rapidement (12,79 secondes en moyenne). L'interprétation des feux de signalisation et des RNJ prend respectivement 35 % et 50 % de temps en plus. Pour interpréter les RNJ+label, les consommateurs ont besoin d'à peu près autant de temps que pour la seule lecture des RNJ. Les consommateurs qui font le mauvais choix tendent à avoir besoin de plus de temps pour prendre leur décision.

Enfin, la combinaison RNJ+label est clairement considérée par les consommateurs comme étant la plus utile parmi les quatre étiquetages testés. Ils motivent notamment ce choix par une « double sécurité ». Question utilité, les feux de signalisation font nettement moins bonne figure que la combinaison RNJ+label, mais bien mieux que les RNJ et le label pris individuellement. De nouveau, c'est le label qui se retrouve en queue de classement.

Conclusion : L'enquête montre que tous les étiquetages testés peuvent aider le consommateur à faire le bon choix pour sa santé, mais qu'ils se heurtent tous à certaines limites. La dichotomie entre la perception subjective de l'utilité d'un étiquetage et son utilité réelle est tout à fait frappante. La combinaison RNJ+label permet en quelque sorte aux consommateurs intéressés d'avoir le beurre et d'argent du beurre. Elle leur livre beaucoup d'informations et conforte leur choix ; elle pourrait également aider les consommateurs peu sûrs d'eux ou paresseux à faire le bon choix pour leur santé et permettre à ceux qui sont pressés de prendre une décision rapidement.

Riassunto

La Società Svizzera di Nutrizione SSN - un'associazione non governativa di utilità pubblica - è l'organizzazione specializzata per l'alimentazione a nutrizione in Svizzera. La SSN fornisce alla popolazione e agli specialisti informazioni scientificamente fondate su questioni relative alla nutrizione. Nel quadro del Programma nazionale alimentazione e attività fisica 2008-2012 (PNAAF 2008-2012), l'Ufficio federale della sanità pubblica (UFSP) ha incaricato la SSN di verificare ed eventualmente elaborare le basi per l'introduzione di un marchio unificato e di facile comprensione per le derrate alimentari. In questo contesto, la SSN ha condotto la presente indagine, i cui risultati sono destinati ad ampliare le conoscenze dei consumatori in Svizzera e a sostenere l'UFSP nella pianificazione e nell'attuazione di misure informative per i consumatori.

L'obiettivo dello studio era quello di definire quale tra le caratterizzazioni apposte sulla parte frontale dell'imballaggio (*front-of-pack*) - caratterizzazione basata sui colori del semaforo, GDA o marchio - agevola meglio i consumatori nella scelta di alimenti più sani. L'indagine è stata condotta nei mesi di gennaio e febbraio 2010 presso 1016 persone adulte residenti in Svizzera (60 % in Svizzera tedesca, 28 % in Romandia, 12 % in Ticino).

Delle caratterizzazioni oggetto dello studio, la GDA è quella più conosciuta (81 %), la più seguita all'acquisto di derrate alimentari (66 % dell'81%) e la più utilizzata (55 % dell'81 %). La caratterizzazione basata sui colori del semaforo è già conosciuta da un terzo dei consumatori mentre il marchio è ancora poco noto (14 %).

Nella parte iniziale dell'indagine, la caratterizzazione basata sui colori del semaforo è ritenuta quella più utile da parte delle persone interrogate. Su una scala da 1 a 10, tale caratterizzazione raggiunge quota 8, ossia la prima posizione. Di analoga utilità è ritenuta la GDA (valore 7,8), chiaramente in seconda posizione, mentre il marchio occupa il terzo e ultimo posto con un valore modesto (5,4).

Tuttavia, nessuna delle caratterizzazioni verificate riesce ad aiutare concretamente i consumatori a riconoscere sempre e in modo corretto un alimento sano, né tra la 10 categorie di derrate alimentari né nell'ambito di una categoria specifica di prodotti.

Riassunto (Continuazione)

Globalmente, la caratterizzazione basata sui colori del semaforo e la combinazione GDA+marchio aiutano la maggior parte dei consumatori a fare la scelta corretta (71 % risp. 69 %), ma non per tutte le categorie di prodotti. Il marchio permette di riconoscere meno frequentemente il prodotto più sano (67 %); in compenso, il grado di riconoscimento è sempre lo stesso per tutte le categorie tranne una. La GDA aiuta il 66 % dei consumatori a fare la scelta corretta, anche se non per tutte le categorie, come invece succede per la caratterizzazione basata sui colori del semaforo e la combinazione GDA+marchio.

L'aspettativa di utilità delle caratterizzazioni non corrisponde a quella effettiva: ad esempio, la GDA e soprattutto la caratterizzazione basata sui colori del semaforo sono ritenute utili dalla maggioranza dei consumatori interrogati. Tuttavia, entrambe le caratterizzazioni portano chiaramente a compiere la scelta sbagliata per alcune categorie di prodotti.

Tra le quattro caratterizzazioni oggetto dell'indagine, il marchio è quella che consente la scelta più veloce (in media 12,79 secondi). L'interpretazione della caratterizzazione basata sui colori del semaforo e della GDA prende più tempo (risp. 35 % e 50% di tempo in più). Nel caso della combinazione GDA+marchio, i consumatori necessitano più o meno lo stesso tempo che impiegano solo per la GDA. I consumatori che compiono scelte sbagliate tendono a impiegare più tempo per decidere.

Infine, i consumatori ritengono che la combinazione GDA+marchio sia quella più utile tra le quattro caratterizzazioni verificate e motivano, tra l'altro, questa affermazione con la presenza di una «doppia sicurezza». La caratterizzazione basata sui colori del semaforo è ritenuta molto meno utile rispetto alla combinazione GDA+marchio, ma più utile della GDA e del marchio se presi individualmente. Il marchio è ritenuto il metodo meno utile di tutti.

Conclusione: Lo studio mostra che tutte le caratterizzazioni sottoposte a verifica possono aiutare i consumatori a compiere scelte sane, anche se in modo limitato. Ciò che più risalta all'occhio è la discrepanza menzionata tra la percezione soggettiva dell'utilità di una caratterizzazione e la sua utilità effettiva. La combinazione GDA+marchio sembra rivelarsi una soluzione adatta per tutte le esigenze. Offre molte informazioni ai consumatori interessati e anche una conferma della scelta effettuata; potrebbe aiutare i consumatori insicuri o quelli che preferiscono le soluzioni facili a scegliere alimenti sani e agevola i clienti frettolosi a prendere una decisione rapida.

Summary

The Swiss Society for Nutrition (SGE) – a non-profit and non-governmental organisation – is the national organisation in charge of nutrition in Switzerland. It provides scientific information on all nutritional issues to experts and the general public. Within the framework of the National Programme on Diet and Physical Activity (NPDPA) 2008–2012, the Federal Office of Public Health FOPH commissioned the SGE to study and, if warranted, develop the foundation for introducing a standardised and easily comprehensible healthy choices logo for foods. It was in that context that the SGE conducted this consumer survey. The goal of the survey was to expand our knowledge of Swiss consumers and support the FOPH in the planning and implementation of consumer information measures.

The goal of the survey was to determine which front-of-pack labelling system (traffic lights, GDA or logo) is better, i.e. more effective, at supporting Swiss consumers in making healthy food choices. During January and February 2010, 1016 adult residents of Switzerland (60 percent German-speaking, 28 percent French-speaking and 12 percent Italian-speaking Switzerland) were surveyed.

Amongst the studied labelling systems, the awareness level is highest for the GDA (81 percent), which is also the one grocery shoppers observe (66 percent of the 81 percent) and utilise (55 percent of the 81 percent) the most. One out of three consumers is familiar with the traffic lights, whereas the logo is largely unknown (14 percent).

At the start of the survey, respondents consider the traffic lights the most helpful label – an 8 on a scale from 1 to 10, for a first place in the ranking. While the GDA is considered similarly helpful (7.8 on the scale), it still only ranks a clear second. The logo, which reaches a modest 5.4 on the scale, is ranked last (third place) by consumers.

In fact, however, none of the tested labelling systems allows consumers to consistently and reliably recognise healthier products, be it across the 10 food categories or within each specific product category.

Summary (Continuation)

In all, the traffic lights and the GDA/logo combination help most consumers make the correct choice (71 percent and 69 percent, respectively), albeit not in all product categories. While the logo helps consumers recognise healthier products somewhat less frequently (67 percent), it does so across all categories but one. The GDA helps 66 percent of consumers make the correct choice, though not in all categories (comparable to the traffic lights and the GDA/logo combination).

Expectations regarding the benefits of the labelling systems do not match the actual benefits: e.g. the GDA and particularly the traffic lights are considered helpful by most consumers, even though those two labels lead to some pronouncedly wrong choices in several product categories.

Of the four tested label options, the logo allows for the quickest decisions (12.79 seconds on average). Interpreting the traffic lights or the GDA takes 35 percent and 50 percent longer, respectively. Interpreting the GDA/logo combination requires the same amount of time as reading the GDA by itself. Consumers who make the wrong choice tend to require more time to arrive at a decision.

In closing, consumers clearly consider the GDA/logo combination the most helpful of the four tested labelling system options, based, amongst other things, on the perceived "double security". And while the traffic lights are considered significantly less helpful than the GDA/logo combination, it scores significantly higher than either the GDA or the logo individually. The logo, in turn, is rated least helpful.

Conclusion: The survey demonstrates that while each of the tested labelling systems is able to assist the consumer in making healthy choices, they all have certain limitations. The aforementioned discrepancy between subjective perception of a particular labelling system's benefits and its actual benefits is striking. The GDA/logo combination seems to emerge as a kind of "having your cake and eating it too" solution – it offers a good deal of information for interested consumers as well as a validation of their choice, while at the same time assisting uncertain or passive consumers in their choice and enabling harried consumers to make a quick decision.

Initial situation

Initial situation

Many Swiss people consider a healthy diet to be important (Rudolph & Glas, 2008), however they fail to apply this principle in practice. According to the most recent Swiss Nutrition Report (Eichholzer et al, 2005), the average Swiss person consumes too much food in general, too much sugar, too much fat and too much salt.

The main barriers to following nutritional recommendations cited by Swiss people were motivation, time, effort and, to a lesser extent, cost (Rudolph & Glas, 2008; Coop, 2009). This is also reflected in the number of Swiss people who read the nutritional information on packaging. According to a Nielsen study (2008), only 9% do this. 36% at least read this information when purchasing a product for the first time, 10% when purchasing products for their children and 24% if they have time. As many as 14% never read nutritional information on packaging. What's more, those who are overweight are less likely to read nutritional information than people of a normal weight (Schlup, 2005).

More than half of Swiss people state that they understand only some, or none, of the nutritional information on packaging (Nielsen, 2008). This also matches the findings of a study by the Institute of Social and Preventive Medicine (ISPM) in Zürich (Wang, 2007) that many Swiss people (38% in the German-speaking part of Switzerland, 41% in the French-speaking part, 47% in the Italian-speaking part) regarding choosing high-quality food products as a complex decision, and that food labels are even less easy to understand than medicine package inserts.

Measures to improve the comprehensibility of nutritional information on packaging are therefore urgently needed. To this end, the Federal Office of Public Health, in the context of the Swiss National Programme for Diet and Physical Activity NPEB 2008-2012, has commissioned the Swiss Society for Nutrition (SGE) to investigate the foundations for the introduction of a uniform and easy to understand food label and to develop one if necessary.

The SGE has carried out this consumer study as part of this task. The results of this study will increase our knowledge of consumers in Switzerland and support the BAG in planning and implementing measures in respect of consumer information.

Purpose and goals

Purpose and goals

Purpose:

To gather representative data that is specific to Switzerland in order to answer the question as to which front-of-pack labelling system (traffic lights, GDA or healthy choice logo) can provide Swiss consumers with better/more effective support in making healthy food choices.

Goals:

- To collect data on familiarity with, attention to and use of traffic lights, GDAs and healthy choice logo.
- To assess the effectiveness of traffic lights, GDAs and healthy choice logo in helping consumers to make healthy food choices, i.e. to correctly identify the healthier product between two alternatives.
- To identify consumer preferences in relation to labelling systems (traffic lights, GDAs, healthy choice logo).

Methodology

Methodology - study design

- Online survey[1]
- Swiss resident population (aged 18 to 74)
- Representative at a national level for the 3 language regions (60% German-speaking Switzerland, 28% French-speaking Switzerland and 12%[2] Italian-speaking Switzerland)
- 1016 participants, randomly assigned to one of four matching groups (traffic lights, GDAs, healthy choice logo, GDA+healthy choice logo) (with quotas for age, gender and language region)
- Survey period: January and February 2010
- Fully structured questionnaire (approx. 20-minute test)

Comment: *the study was conceived on the basis of an Australian study (Heart Foundation of Australia, 2008), in order to obtain not only data relevant to Switzerland, but also internationally comparable results.*

[1] carried out by GfK Switzerland. The online panel used (>52,000 active members) was recruited via various channels (75% CATI, 10% internet, 10% Face2Face, 5% online self-registration), is exclusively used for research purposes and is carefully maintained and updated.

[2] disproportionately represented, as otherwise the absolute percentage from Italian-speaking Switzerland would be too low to make statistically significant assertions. For the purpose of the analysis, the distribution of the language regions was representatively weighted (73.2% German-speaking Switzerland/22.4% French-speaking Switzerland/4.4% Italian-speaking Switzerland).

Methodology – inclusion and exclusion criteria

Inclusion criteria:

- residing in Switzerland
- aged 18 to 74
- (co-)responsible for making grocery purchasing decisions

Exclusion criteria:

- education or employment in the field of market research, advertising, PR, journalism and marketing -> GfK strictly recommends that people who meet this criterion are excluded.
- education or employment in the field of food and nutrition -> the labelling systems tested must be able to help consumers with no or insufficient knowledge of nutrition to make a "healthy choice".

Methodology – structure of the questionnaire

a) Retrieval of demographic data relating to quotas and inclusion/exclusion criteria (gender, age, postcode, relevant educational/professional fields, (co-)responsible for food purchases)

b) Determination of familiarity, attention, use, preference (scale + order of preference)

c) Experiment (monadic): effectiveness

d) Determination of preference (ranking of preference) incl. reasons

e) Retrieval of further demographic data (nationality, occupation, education, height, weight, income, household composition)

Methodology – compilation of the questionnaire

1) Conception/design

The questionnaire was devised and designed on the basis of the Australian study "*Australians and front of pack labelling: what we want, what we need*" carried out by the Australian Heart Foundation (2008).

2) Revision/amendment

The German-language questionnaire (structure, content, wording, layout) was examined, reviewed and adapted accordingly by 10 experts from the field of nutrition both before and after the programming. The French and Italian translations were checked by nutrition specialists whose mother tongue is French or Italian respectively.

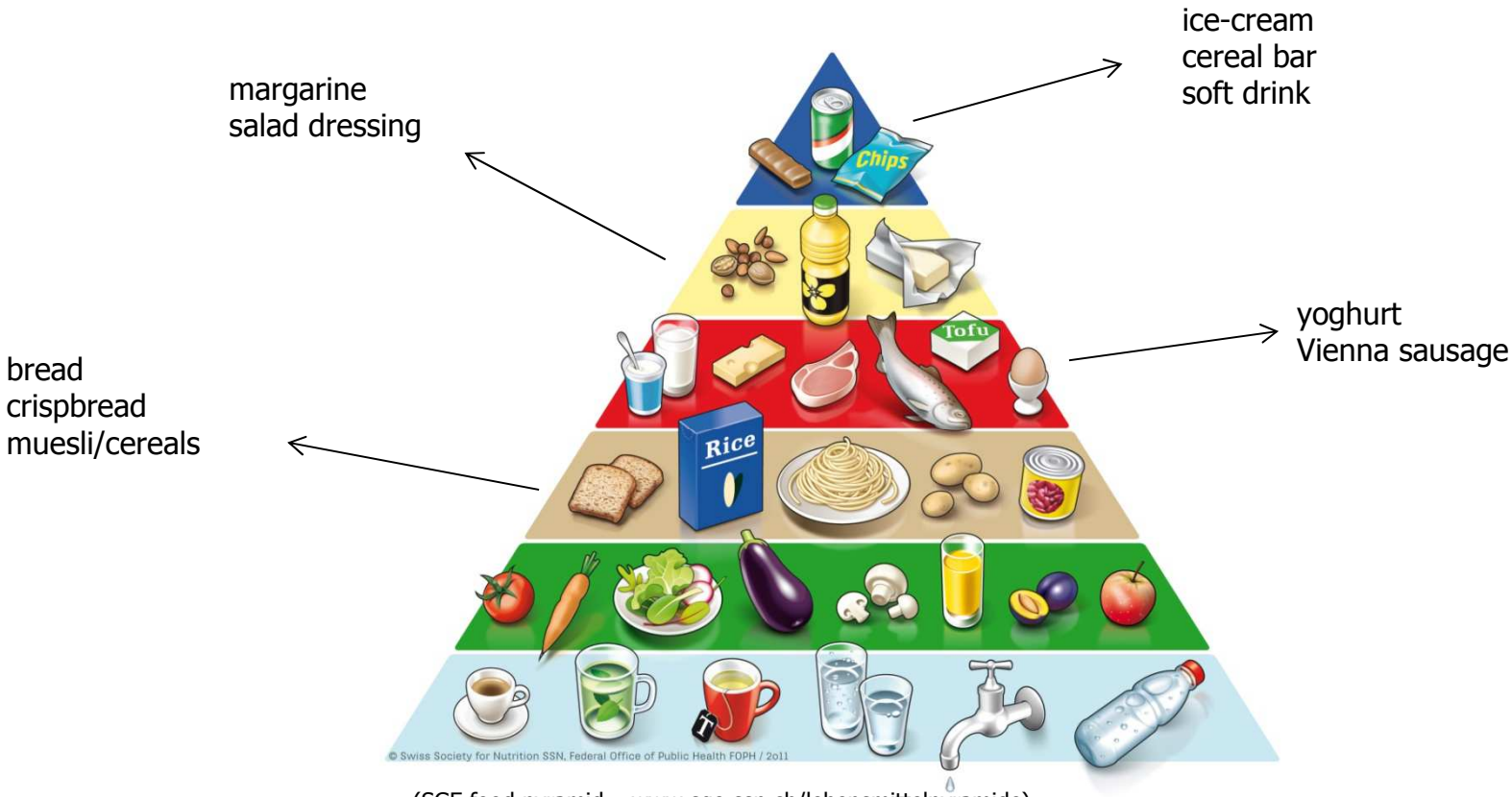
3) Test

The German version of the programmed questionnaire was tested online in a test run of 170 laymen. No further changes were needed, and these 170 test people therefore became part of the total participant number of 1016 people.

Methodology – choice of product categories

A total of 10 product categories were tested.

Two to three categories were selected from the middle level and two to three from the upper level of the food pyramid.



(SGE food pyramid – www.sge-ssn.ch/lebensmittelpyramide)

Methodology – choice of product pairs

Two genuine products available in Swiss grocery stores were chosen for each of the 10 product categories (20 products in total) – one healthier product and one less healthy product. The split into "healthier/less healthy" was carried out using the criteria (version 2.1) for the "Choices" logo (www.choicesprogramme.org).

A conscious decision was made not to only select sample products that cannot be correctly assessed using the traffic lights and GDAs per se because the traffic lights and GDAs do not feature the relevant nutrients (e.g. dietary fibre for breads or cereals). This is likely to have revealed a shortcoming in the traffic lights and GDA labelling systems, however it would not have answered the fundamental question -*Which labelling system is the best at helping Swiss consumers to make healthy food choices?*

Methodology – product pairs

Food category	"healthier"	"less healthy"
muesli/cereals		
crispbread		
bread		
yoghurt		

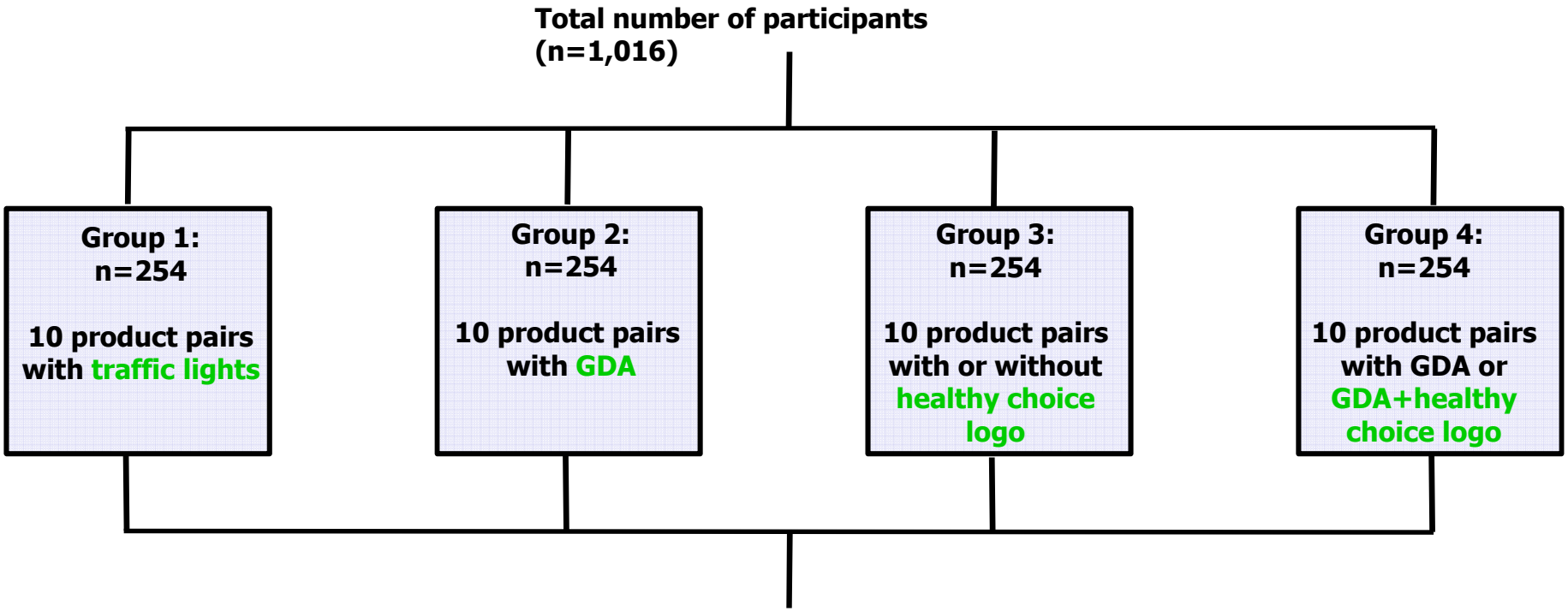
Methodology – product pairs

Food category	"healthier"	"less healthy"
Vienna sausage		
margarine		
salad dressing		
cereal bar		

Methodology – product pairs

Food category	"healthier"	"less healthy"
ice-cream		
soft drink		

Methodology – experiment diagram



In each case, the healthier product must be selected from two different products within 10 product categories (= effectiveness).

The order of the product categories and the product positions was rotated at random.

Methodology – statistical analysis

Statistical programme:

All statistical analyses were carried out by the company GfK Switzerland using Quantum™ (version 5.7) or the company SPSS Schweiz using IBM SPSS® Statistics for Windows (version 18).

Significance level:

The calculations for all tests were carried out with a significance level of $p < 0.05$.

Statistical tests:

- The representativeness of the demographic distribution of the overall sample was tested by means of a sample t test.
- The comparability of the demographic composition of the 4 groups (traffic lights, GDAs, healthy choice logo, GDA+healthy choice logo) was determined by means of z tests (incl. Bonferroni correction).
- The differences between the labelling systems and the 4 groups, as well as the various demographic sub-groups (questions 1 to 7) were tested for significance by means of one-sample t tests and two-tailed t tests (incl. Bonferroni correction).

Methodology – statistical analysis (continued)

Creation of new variables:

- The weight (in kg) and height (in cm) data entries were converted into a Body Mass Index (BMI = kg / m2) and assigned to 4 weight categories according to the WHO classification (BMI <18.5 = underweight/BMI 18.5-24.99 = normal weight/BMI 25-29.99 = overweight/BMI ≥30 = obese)
- The data on most advanced education completed was assigned to 3 categories (Compulsory = primary + secondary modern school (year 1-9) // Secondary education = highschool, grammar school, vocational school // Tertiary education = university, university of applied scienes)
- The ages were grouped into 4 age categories (18-24/25-44/45-64/65-74)*

Elimination of outliers:

- In the case of weight and height, two clearly incorrect values (height 80cm/weight 1 kg) were eliminated and assigned to the category «not specified".
- In the case of decision time, times of >120s were disregarded.

Weighting of the language regions:

- A disproportionately large number of people from Italian-speaking Switzerland were surveyed, in order to achieve a sufficient sample size in absolute terms for significant statistical tests. For the purpose of the analysis, the distribution of the language regions was representatively weighted (73.2% German-speaking Switzerland/22.4% French-speaking Switzerland/4.4% Italian-speaking Switzerland).

* These 4 age categories differ from the quota categories that were used during the survey to ensure representativeness.

Methodology – statistical analysis (continued)

Analysis of sub-groups:

- All analyses were also carried out on the following sub-groups:
  - Language regions (G/F/I)
  - Gender (m/f)
  - Age (18-24/25-44/45-64/65-74)
  - Nationality (Swiss/non-Swiss)
  - Education (compulsory schooling/secondary education/tertiary education)
  - Occupation (student/housewife or husband/retired/unemployed/other/>90%/50-89%/<50%
  - Income (<4,500/4,500-6,999/7,000-8,999/9,000-11,999/12,000-14,999/≥15,000)
  - Household size (1-2 persons/3-4 persons/>5 persons)
  - Responsibility for food purchases (sole/shared)
  - BMI (underweight, normal weight, overweight, obese)

Results

Results – participant structure

Total of 1016 interviews (254 per group)

Language region*	
German-speaking Switzerland	73.2%
French-speaking Switzerland	22.4%
Italian-speaking Switzerland (weighted)	4.4%
Gender*	
Male	47.9%
Female	52.1%
Age*	
18-24	4.5%
25-44	42.9%
45-64	42.4%
65-74	10.2%
Average (SD)	45.8 (13.2)
Minimum	20
Maximum	74
Nationality	
Swiss	94.4%
Non-Swiss	5.2%
Not specified	0.4%

BMI	
<18.5	2%
18.5-24.99	50.1%
25-29.99	33.9%
≥30	12%
Not specified	2%
Average (SD)	25.2 kg/m2 (4.3)
Minimum	16 kg/m2
Maximum	51 kg/m2
Education	
Compulsory schooling (yr 1-9)	4.5%
Secondary education	59.5%
Tertiary education	36.0%
Gross household income in CHF	
<4'500	6.8%
4'500 – 6'999	18.5%
7'000 – 8'999	18.0%
9'000 – 11'999	16.9%
12'000 – 14'999	7.1%
≥15'000	5.9%
Not specified	26.8%

* Quotas (in the case of age, representative quotas applied to the survey for the following 3 age categories: 18-29/30-49/50-74. Four slightly different age categories were defined for the analysis: 18-24: young people/25-44 young adults/45-64 older adults/65-74 retired adults)

Results – participant structure (continued)

Occupation	
Full-time	49.6%
50-89%	17.4%
<50%	10.6%
Unemployed	0.8%
Retired	12.3%
In training	1.1%
Househusband, housewife	6.6%
Other	1.7%
Household size	
1-2 people	60.3%
3-4 people	32.1%
≥5 people	7.6%
Average (SD)	2.5 people (1.3)
Minimum	1 person
Maximum	8 people
Buying behaviour	
Primarily responsible for food purchases	41.2%
Co-responsible for food purchases	58.8%

Results – participant structure (continued)

The weighted total sample has a representative distribution based on age, gender and language region (using quotas).

Anomalies:

- People of Swiss nationality[1] are considerably over-represented (94.4% vs. 78.3%).
- People with only compulsory schooling[2] are under-represented (4.5% vs. 13.2%), those educated on secondary level[2] are over-represented (59.5% vs. 51.8%).
- People who are underweight or of normal weight[3] are under-represented (2% vs. 3.5% resp. 50.1% vs. 59.2%), people who are overweight and obese[3] are accordingly over-represented (33.9% vs. 29.1% resp. 12% vs. 8.2%).

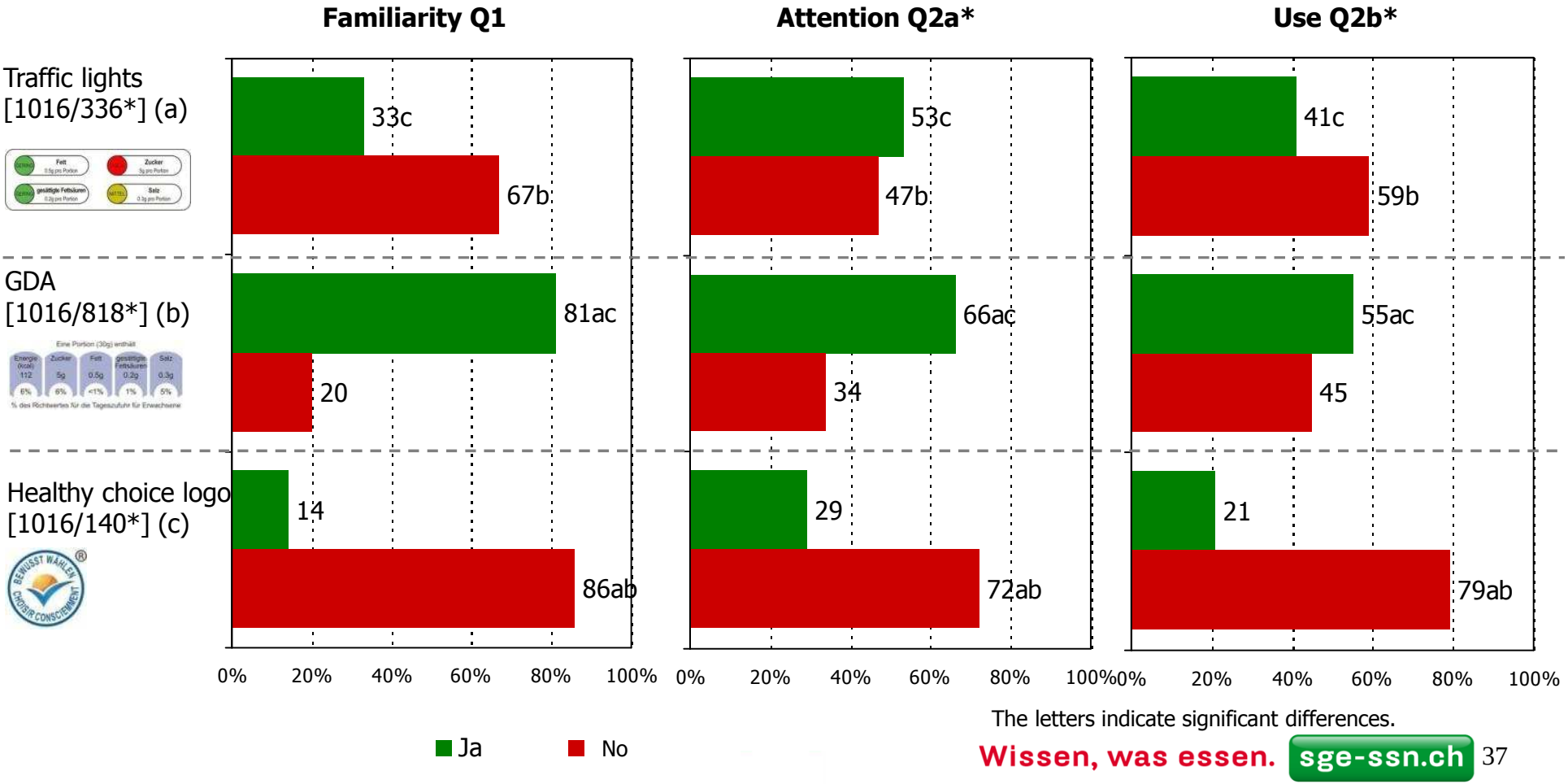
[1] The Swiss Population (BFS 2009)

[2] Swiss Labour Force Survey 2009 (BFS 2010)

[3] Swiss Health Survey 2007 (BFS 2009)

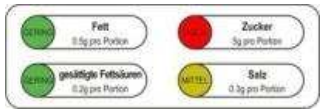
Results – degree of familiarity/attention/use

Question 1: Have you ever seen the following information on food packaging?
Question 2a: When choosing a food product, have you ever consciously paid attention to the following information?
Question 2b: When choosing a food product, have you ever consciously used the following information?
Basis: [ ] people (*filter Q2a/2b: if known)/closed question/data in %



Results – degree of familiarity/attention/use

>



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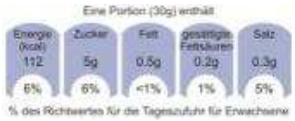
The consumers were significantly more familiar with the GDAs than the traffic lights and healthy choice logo, and were also significantly more likely to pay attention to and use the GDAs. With a small number of (insignificant) exceptions, this picture applied across all sub-groups, however the difference between the GDAs and the traffic lights and healthy choice label was not always significant for all sub-groups.

The traffic lights came second in terms of familiarity after the GDAs and before the healthy choice logo, and significantly differs from both. With a small number of (insignificant) exceptions, this picture applied across all sub-groups, however the differences were not always significant for all sub-groups.

The consumers were significantly less familiar with the healthy choice label than the traffic lights and GDAs, and were also significantly less likely to pay attention to and use the logo. With a small number of (insignificant) exceptions, this picture applied across all sub-groups, however the differences between the healthy choice label and the GDAs and traffic lights were not always significant for all sub-groups.

Results – GDA: degree of familiarity/attention/use



Overall, consumers were most familiar with the «guideline daily amount» labelling system (GDA). This corresponds to the greater prevalence of this labelling system in Switzerland compared to the two other labelling systems.

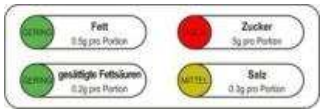
81% stated that they had seen the GDA information on food packaging. Of these, 66% had consciously paid attention to the GDAs and 55% had used this information when choosing a food product.

The GDAs are significantly better known in German-speaking Switzerland and in Italian-speaking Switzerland than in French-speaking Switzerland, among females than among males, among young people (18-44) compared to older people (45-74) and among employed people as opposed to retired people.

People in Italian-speaking Switzerland were significantly more likely to pay attention to the GDAs than in German-speaking Switzerland and French-speaking Switzerland, females more than males and higher education graduates more than non-graduates.

The GDAs were used significantly more often in French-speaking Switzerland and Italian-speaking Switzerland than in German-speaking Switzerland, by older people (45-74) than young people (25-44) and by graduates than non-graduates.

Results – traffic lights: degree of familiarity/attention/use



33% of the consumers were familiar with the traffic lights, with 53% of these stating that they had consciously paid attention to these and 41% stating that they had consciously used this information when choosing a food product.

The statistics in relation to attention and use must be viewed with caution, as to our knowledge no food products featuring a traffic light labelling system are currently available on the Swiss market. However, there is a German-language website (www.codecheck.info) on which the nutritional values of food products available in Switzerland have been shown using the traffic light system since the start of 2010.

The traffic lights are significantly better known among younger and middle aged people (25-64) than among older people (65-74).

Results – logo: degree of familiarity/attention/use

Overall, the healthy choice logo is the least well known. Only 14% were familiar with it, 29% had consciously paid attention to it and 21% had consciously used this information when choosing a food product.

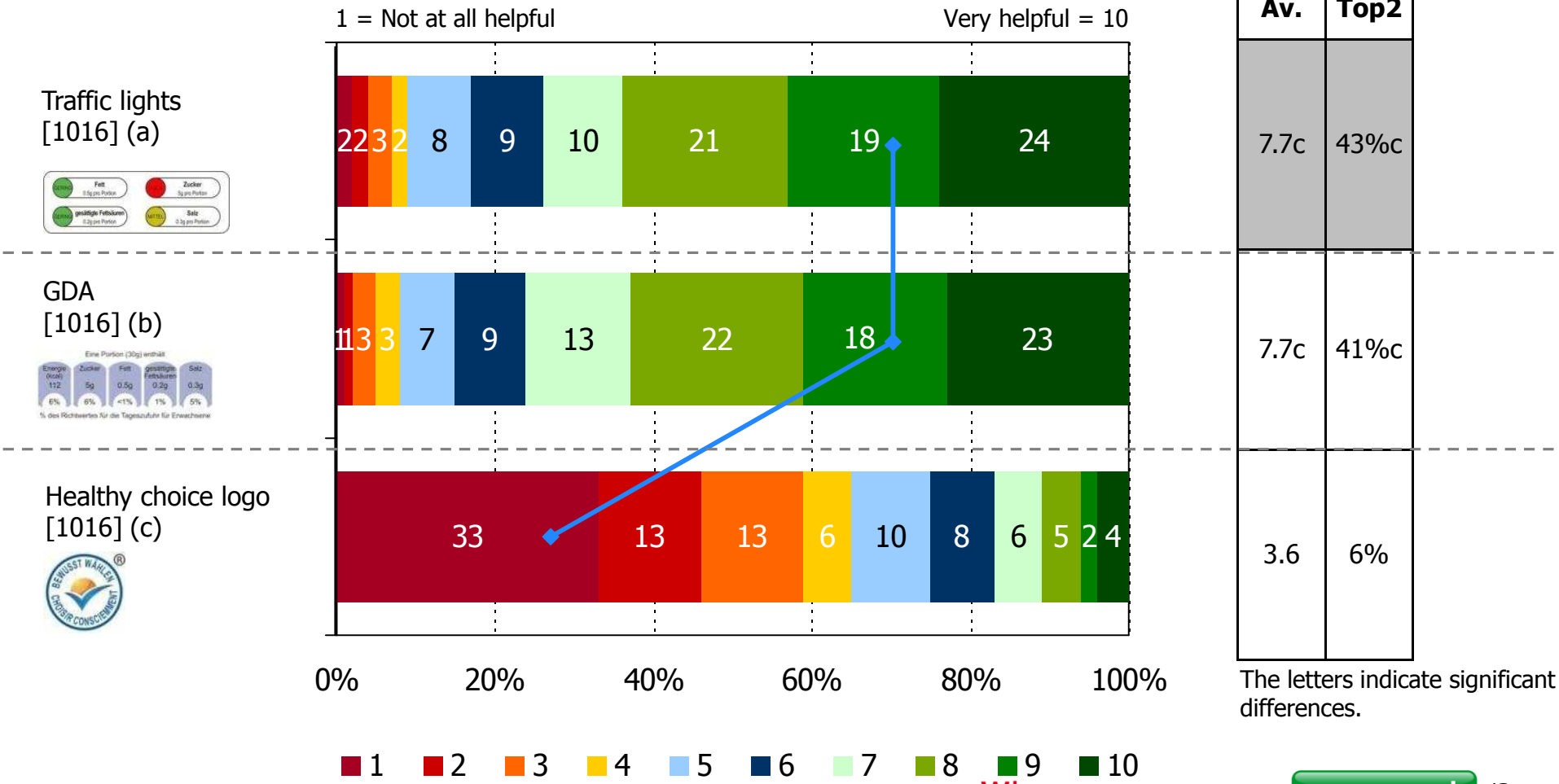
It should be noted here that the healthy choice logo tested (the "choices" logo) can only be found in Switzerland on a handful of Unilever products (e.g. Knorr Vie, Knorr soups, Lipton teas).

The healthy choice logo is significantly better known among people who are solely responsible for making food purchases for their household than among people who share responsibility for food purchases, as well as those who live in a larger household (5+ person household > 3-4 person household > 1-2 person household).

Results – preference before explanations

Question 3: Imagine that you want to buy the healthier of two products. How helpful do you personally find the following information on packaging?

Basis: [ ] people/scaled question/optimum value 10/data in %



	Av.	Top2
Traffic lights [1016] (a)	7.7c	43%c
GDA [1016] (b)	7.7c	41%c
Healthy choice logo [1016] (c)	3.6	6%

The letters indicate significant differences.

Results – preference before explanations

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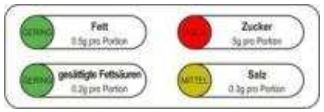

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Before reading the explanations, the consumers rated the GDAs and traffic lights as more helpful than the healthy choice logo (average of 7.7 on the scale in each case with an optimum value of 10). The consumers rated the healthy choice logo as significantly less helpful (av. 3.6).

This rating continued across all sub-groups.

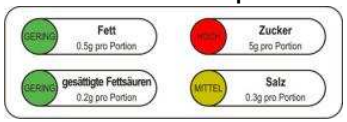
The GDAs were rated as significantly more helpful in Italian-speaking Switzerland than in German-speaking Switzerland and by females than by males.

The traffic lights received similar ratings in all sub-groups.

The healthy choice logo was rated as significantly more helpful in Italian-speaking Switzerland and French-speaking Switzerland than in German-speaking Switzerland, and among older people compared to younger people, among lower educated people than higher educated people and among people with a lower income than people with a higher income.

Explanations

Traffic lights labelling system
The traffic light labelling system shows how much fat, saturated fatty acids, sugar and salt a product contains. Red indicates a high, orange a medium and green a low content of the relevant nutrient per 100g or 100ml. The same high-medium-low limits apply to all food products. This labelling system also states the absolute content of the nutrients shown per serving.



GDA: guideline daily amount labelling system
The guideline daily amount labelling system states how much energy, sugar, fat, saturated fatty acids and sodium or salt a serving of a product contains in grams and the corresponding percentage of the average guideline daily amount for adults.

'Choices' logo
The 'Choices' logo identifies the healthier products within a food category (e.g. the cheese category or drinks category). A product only bears the healthy choice logo if the saturated fatty acids, trans fatty acids, added sugar, sodium, dietary fibre and energy content fall within certain guideline values. Products bearing a label are tested and regularly monitored by an independent body. Products that are less recommended are not awarded the label.

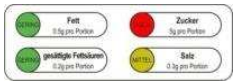
Results – preference after explanations

Question 4: Imagine that you want to buy the healthier of two products. How helpful do you now find this information on packaging, after reading the explanations?

Basis: [ ] people/scaled question/optimum value 10/data in %

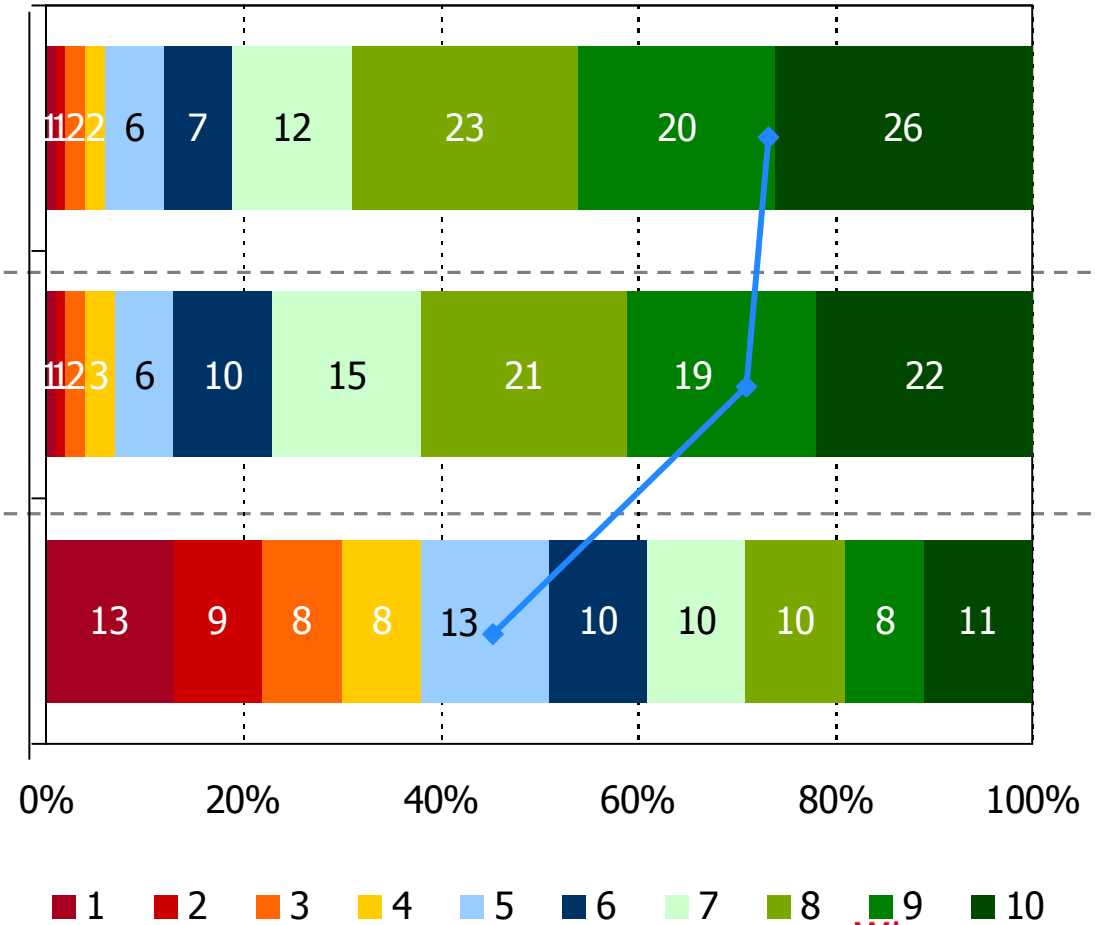
1 = Not at all helpful Very helpful = 10

Traffic lights [1016] (a)



GDA [1016] (b)

Healthy choice logo [1016] (c)



Before explanation		After explanation	
Av.	Top2	Av.	Top2
7.7c	43%c	8.0c	46%c
7.7c	41%c	7.8c	41%c
3.6	6%	5.4	18%

The letters indicate significant differences.

Results – preference after explanations

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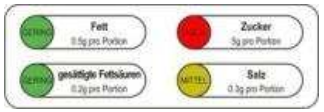

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After the brief textual explanation the average for the traffic lights increases from 7.7 to 8.0, however remains at a similar level to the GDAs. The GDAs remain at a similar level as before the explanation (av. 7.8) and the healthy choice logo significantly rises in the ranking from 3.6 to 5.4, however is still regarded as significantly less helpful as the other two labelling systems.

This rating continues across all sub-groups with a small number of exceptions. The traffic lights achieved significantly higher scores among people in full-time employment than the GDA labelling system.

The GDAs were rated as significantly more helpful in Italian-speaking Switzerland than in German-speaking Switzerland and by females than by males.

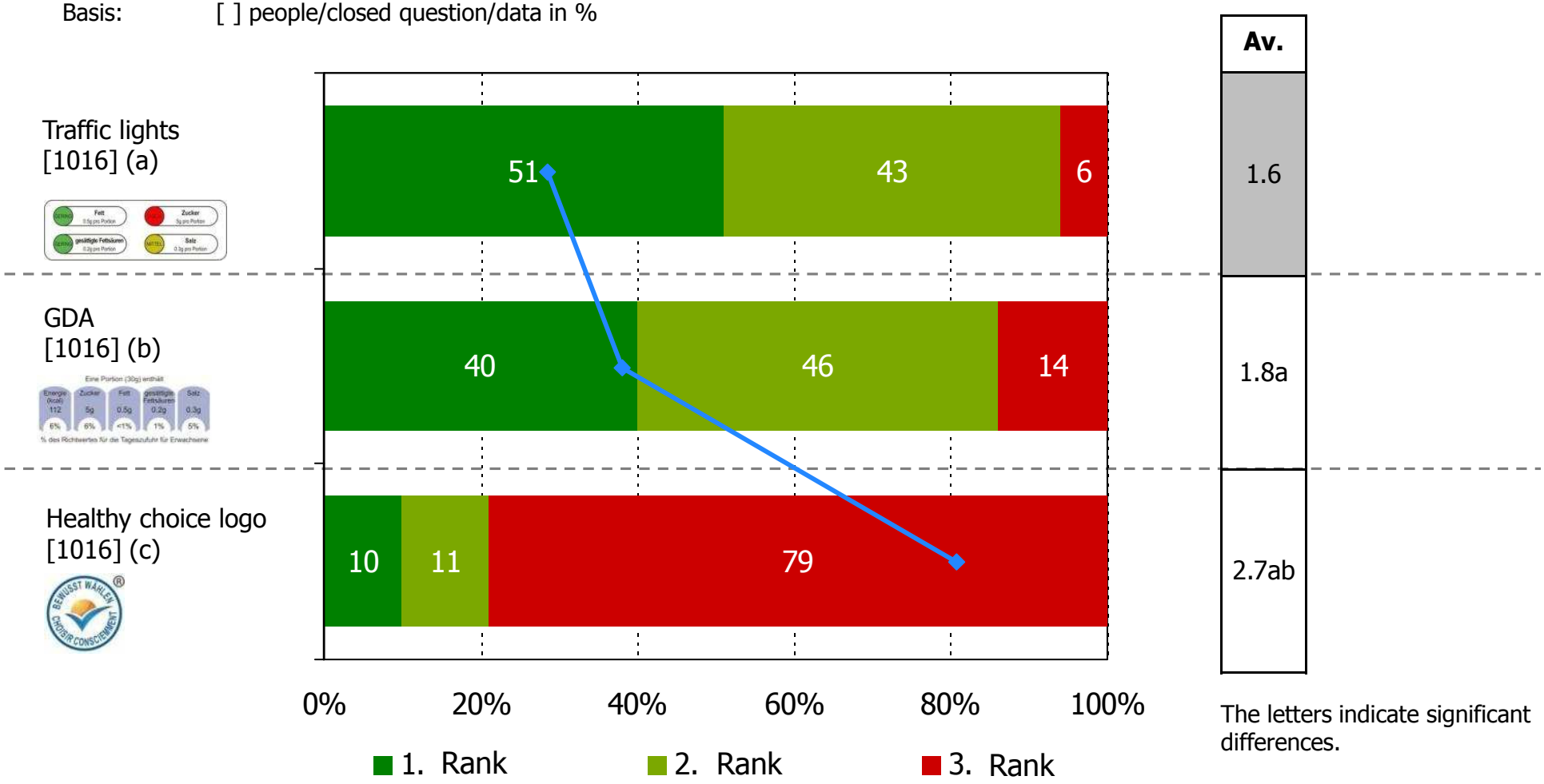
The traffic lights were rated as significantly more helpful by those who had completed secondary education than by higher education graduates.

The healthy choice logo was rated as significantly more helpful in Italian-speaking and French-speaking Switzerland than in German-speaking Switzerland, as well as by females than by males, by older people (45-74) than by younger people (25-44) and by non-higher education graduates than by higher education graduates.

Results – ranking of preference before experiment

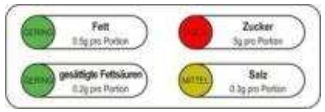
Question 5: Now that you have learned about all of the labels, which you do personally find the most helpful in choosing the healthier product, and which the second most helpful etc.?

Basis: [ ] people/closed question/data in %



The letters indicate significant differences.

Results – ranking of preference before experiment



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In summary, the traffic lights were clearly rated as the most helpful of the three labelling systems after the explanations. 51% of the consumers ranked the traffic lights in first place (av. 1.6), followed by the GDA guideline daily amount labelling system (first place: in the case of 40%; av. 1.8) and the healthy choice logo (first place: in the case of 10%; av. 2.7). The traffic lights were therefore rated as significantly more helpful than the GDAs and the healthy choice logo, and the GDAs as significantly more helpful than the healthy choice logo.

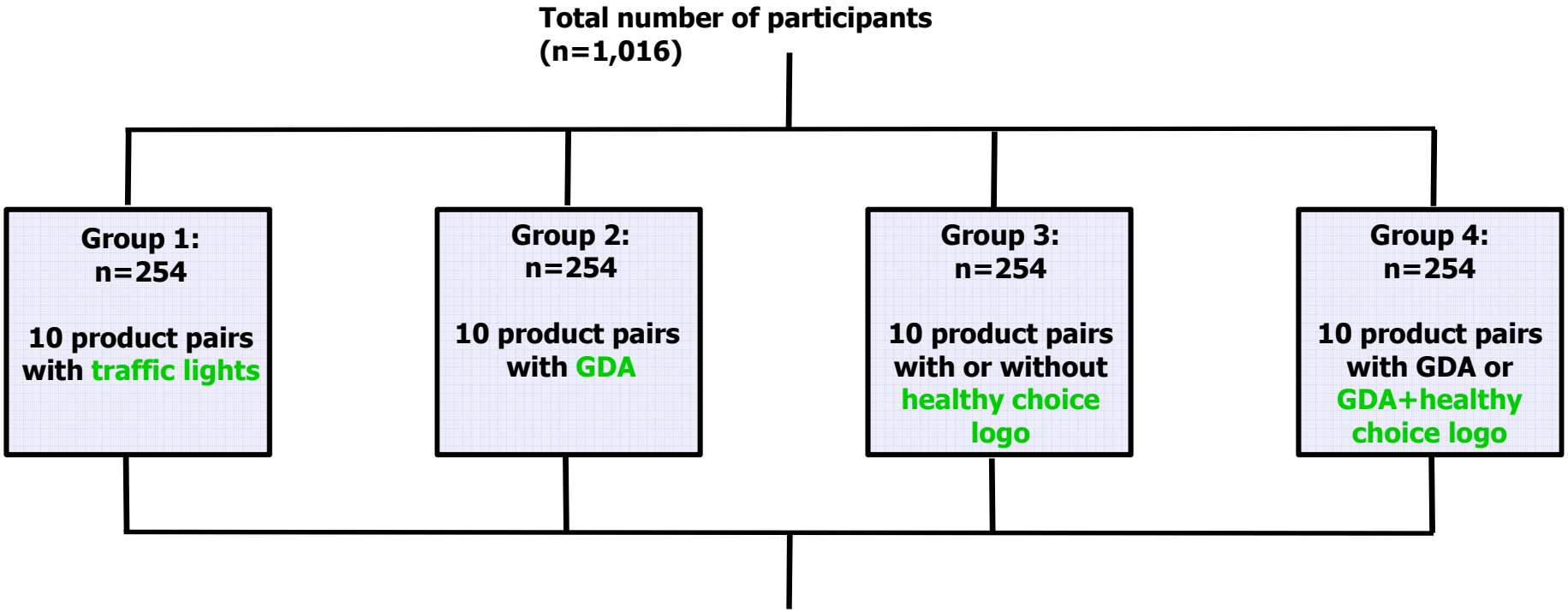
With a small number of (insignificant) exceptions, this rating of the traffic lights over the GDA applied across all sub-groups, however the differences between the three labelling systems were not always significant for all sub-groups.

The traffic lights received a significantly higher rating in German-speaking than in Italian-speaking Switzerland.

The GDAs received a significantly higher rating from higher education graduates than from people with only compulsory schooling, and from people from a 1-2 person household than from people with a household of 5 or more people.

The healthy choice logo received significantly higher ratings in French-speaking than in German-speaking Switzerland and from people with only compulsory schooling than from higher educated people.

Results – effectiveness (methodology)



In each case the healthier product must be selected from two different products within 10 product categories (= effectiveness).

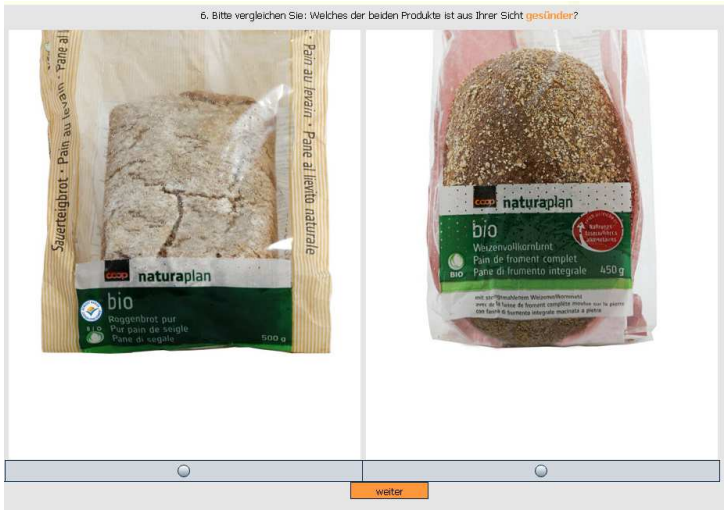
The order of the product categories and the product positions was rotated at random.

Results – effectiveness (screenshots from online questionnaire)

Group 1: Traffic lights

Group 2: GDA

Group 3: healthy choice logo



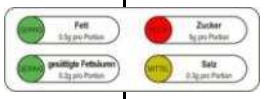
Group 4: GDA+healthy choice logo

Results – effectiveness (screenshots from online questionnaire)

It was possible to zoom in on all product images for a higher resolution image of the front of pack.

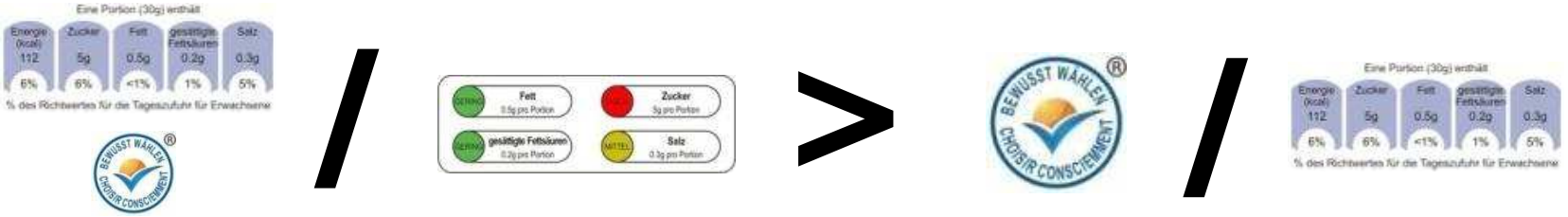
Results – effectiveness (correct choice)

Question 6: Which of the two products do you think is healthier?
Basis: [ ] people/closed question/data in %

	 Correct a	Incorrect b	 Correct c	Incorrect d	 Correct e	Incorrect f	 Correct g	Incorrect h
muesli/cereals	7%	93%afh	12%	88%cf	79%acfg	21%	20%a	80%fg
crispbread	92%bceg	8%	82%de	18%b	45%	55%bdeh	82%eh	18%b
bread	95%ecb	5%	88%de	12%b	65.5%f	34.5%bdh	90.5%eh	9.5%
cereal bar	93%be	7%	88%de	12%	56%f	44%bdh	90%eh	10%
yoghurt	82%be	18%	74%d	26%	65%f	35%bh	79.5%eh	20.5%
salad dressing	60%bcg	40%f	25.5%	74.5%bcf	79%cdfg	21%	33%	67%bfg
margarine	78%be	22%	83%de	17%	52%	48%bdh	82%eh	18%
ice-cream	88%be	12%	80%de	20%	58%f	42%bdh	82%eh	18%
Vienna sausage	97%be	3%	98%de	2%	86%f	14%bdh	93%eh	7%
soft drink	22%	78%afh	31%	69%cf	86%acfg	14%	38%	62%fg
Average	**71.3%ce**	**28.7%**	**66.2%**	**33.8%a**	**67.3%**	**32.7%a**	**69%**	**31%**

The letters indicate significant differences.

Results – effectiveness (correct choice)

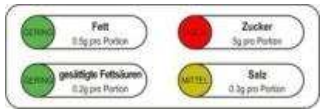


None of the labelling systems helped the consumers to correctly identify the healthier product every time, either overall across the 10 food categories or within one specific product category.

Overall (across the 10 food categories), the consumers were most likely to correctly identify the healthier product with the help of the traffic lights and the combination of GDA+healthy choice logo (71% resp. 69%). The consumers were somewhat less likely to identify the healthier product with the help of the healthy choice logo (67%) or GDAs alone (66%). This meant that overall, the traffic lights enabled a significantly higher number of consumers to make the right choice than the GDAs or the healthy choice logo alone, however not than with the help of the combination of GDA+healthy choice logo.

With a small number of (insignificant) exceptions, this picture applied across all sub-groups.

Results – effectiveness (correct choice)



Overall (across the 10 food categories), the consumers were significantly more likely to correctly identify the healthier product with the help of the traffic lights (71%) than with the help of the healthy choice logo (67%) or GDAs alone (66%). Compared to the combination of GDA+healthy choice logo (69%), the traffic lights were around equally as helpful.

Except in the categories of cereals and soft drinks, in each case the traffic lights helped more than half of the consumers to correctly identify the healthier product. The results were closest in the case of salad dressing (60% correct/40% incorrect).

In the case of cereals and soft drinks, the traffic lights did not help the consumer to choose correctly. 93% resp. 78% of the consumers made the incorrect choice for these two product categories. In these two product categories the consumers were also unable to make the correct choice with the help of the GDAs and GDA+healthy choice logo, however the margin of error was somewhat less pronounced.

Results – effectiveness (correct choice)

Overall (across the 10 food categories), consumers were somewhat less likely to make the correct choice with the help of the combination of GDA+healthy choice logo (69%) than with the traffic lights (71%), but more likely than with the GDAs (66%) or healthy choice logo alone (67%). However, the differences between GDA+healthy choice logo and the other three labelling systems were insignificant.

Except in the categories of cereals, salad dressings and soft drinks, in each case the combination of GDA+healthy choice logo helped more than half of the consumers to correctly identify the healthier product.

In the case of cereals, salad dressings and soft drinks 80%, 67% and 62% of the consumers respectively made the incorrect choice. For cereals and soft drinks this is a lower margin of error than with the traffic lights, but a higher margin of error for salad dressings. Compared to the GDAs alone, the margin of error with the help of the combination of GDA+healthy choice logo was always lower for these 3 product categories.

Results – effectiveness (correct choice)

Overall (across the 10 food categories), consumers were significantly less likely to choose correctly with the help of the healthy choice logo (67%) than with the traffic lights (71%), and the results were similar to those with the two other labelling systems (GDA 66%, GDA+healthy choice logo 69%).

Except in the case of crispbreads, however, the healthy choice label always helped more than half of the consumers to choose correctly, although in some cases the correct choice was less clearly pronounced than with the other labelling systems. The healthy choice logo is the only labelling system that led to the correct choice in the case of product pairs that were less clearly defined such as cereals, salad dressings and soft drinks, whereas the other labelling systems usually led to the wrong classification or did not enable consumers to make the correct choice.

In the case of crispbreads, 55% of the consumers chose incorrectly with the help of the healthy choice logo. Compared to the three other labelling systems (62%-93%) this is the lowest margin of error within the product categories in which more than 50% of consumers chose incorrectly.

Results – effectiveness (correct choice)

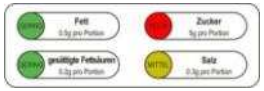
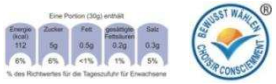
Overall (across the 10 food categories), the costumers were least likely to choose correctly with the help of the GDAs (69%), even significantly less likely than with the traffic lights (71%).

Except in the categories of cereals, salad dressings and soft drinks, in each case the GDAs helped more than half of the consumers to choose correctly.

In the case of cereals, salad dressings and soft drinks 88%, 75% and 69% of the consumers respectively made the incorrect choice. These margins of error are all higher than those with the combination of GDA+healthy choice logo, however lower than the margins of error with the traffic lights for cereals and soft drinks.

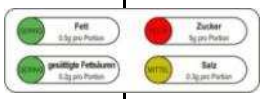
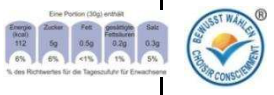
Results – effectiveness (decision time)

Question 6: Which of the two products do you think is healthier?
Basis: [ ] people/closed question/data in seconds

Decision time in seconds	 Total	 Total	 Total	 Total
muesli/cereals	14.24	15.82	11.54	17.35
crispbread	16.73	21.22	17.02	17.87
bread	14.92	19.16	12.73	18.63
cereal bar	19.26	19.51	15.33	18.63
yoghurt	18.36	20.78	12.98	20.5
salad dressing	21.16	22.85	14.48	21.95
margarine	20.6	18.35	11.82	17.86
ice-cream	16.4	18.46	12.11	18.85
Vienna sausage	13.28	16.04	10.24	16.33
soft drink	17.56	19.7	9.66	18.98
Average	**17.25**	**19.19**	**12.79**	**18.69**
Time compared to logo group	**+35%**	**+50%**	**100%**	**+46%**

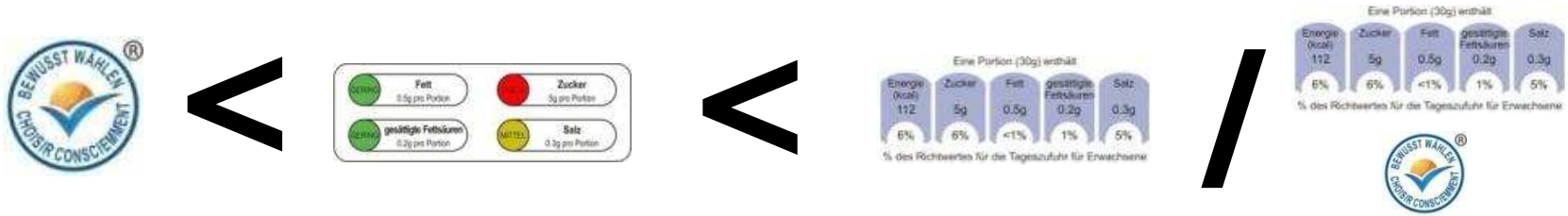
Results – effectiveness (decision time)

Question 6: Which of the two products do you think is healthier?
Basis: [ ] people/closed question/data in seconds

Decision time in seconds	 Correct a	Incorrect b	 Correct c	Incorrect d	 Correct e	Incorrect f	 Correct g	Incorrect h
muesli/cereals	12.57	14.36f	13.07	16.2f	12.05	9.6	18.53e	17.05f
crispbread	16.63	17.95	19.77e	27.74fh	15.31	18.43	17.77	18.36
bread	14.86	16.02	19.27ae	18.36f	13.13	11.96	18.76ae	17.4
cereal bar	18.94e	23.56	18.74e	24.88	13.93	17.16e	18.54e	19.42
yoghurt	18.09e	19.55f	21.2e	19.5f	13.65	11.72	20.86e	19.11f
salad dressing	19.22e	24.06af	24.99ae	22.11f	14.38	14.84	22.1e	21.88f
margarine	19.64e	24.09f	18.0e	20.1f	11.25	12.45	17.89e	17.71
ice-cream	16.03e	19.12f	19.08e	15.91	12.33	11.81	18.66e	19.72f
Vienna sausage	13.34e	11.63	16.04ae	15.91	10.07	11.3	16.29ae	16.8
soft drink	17.97e	17.44f	19.19e	19.93f	9.62	9.89	17.68e	19.79f
Average	**16.89e**	**18.15f**	**18.92ae**	**19.71f**	**12.36**	**13.67**	**18.5ae**	**19.13f**
Time compared to logo group	**+37%**		**+53%**		**100%**		**+50%**	

The letters indicate significant differences.

Results – effectiveness (correct decision time)



The healthy choice label enabled the consumers to make a significantly faster choice between the products than the three other labelling systems. In contrast, the decision time using the GDAs (alone or in combination with the healthy choice logo) was significantly longer than with the traffic lights or healthy choice logo alone.

This gradation of healthy choice logo, then traffic lights followed by GDAs or GDA+healthy logo continued across all sub-groups, with a small number of (usually insignificant) exceptions.

Those who made an incorrect choice tended to take longer than those who correctly identified the healthier product.

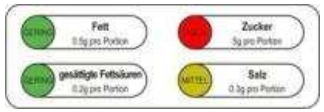
Results – effectiveness (correct decision time)

Overall (across the 10 food categories), consumers needed the least time (12.8 seconds) to decide between the two products with the help of the healthy choice logo. With the traffic lights the consumers needed 35% longer, with the combination of GDA+healthy choice logo 46% and with GDAs alone 50% longer.

If we look exclusively at the consumers who chose correctly, the healthy choice label helped these people to make a faster decision overall (12.4 seconds) as well as in each individual food category (between 9.6 and 15.3 seconds). Overall, consumers who chose correctly needed significantly longer with every other labelling system than with the healthy choice logo, namely 37% longer with the traffic lights, 50% longer with GDA+healthy choice logo and 53% longer with the GDAs.

This faster decision time using the healthy choice logo continued across all sub-groups, but not always to a significant extent.

Results – effectiveness (correct decision time)



Overall (across the 10 food categories), the consumers needed considerably more time with the help of the traffic lights than with the healthy choice logo, however somewhat less than with the GDA or the combination of GDA+healthy choice logo.

If we look exclusively at those consumers who chose correctly, the consumers needed significantly longer with the help of the traffic lights than with the healthy choice logo, and by contrast significantly less time than with the GDAs and the combination of GDA+healthy choice logo.

This picture continued (with a small number of exceptions) across all sub-groups, but not always to a significant extent.

Results – effectiveness (correct decision time)

Overall (across the 10 food categories), consumers needed the most time (19.2 seconds) to decide between the two products with the help of the GDAs.

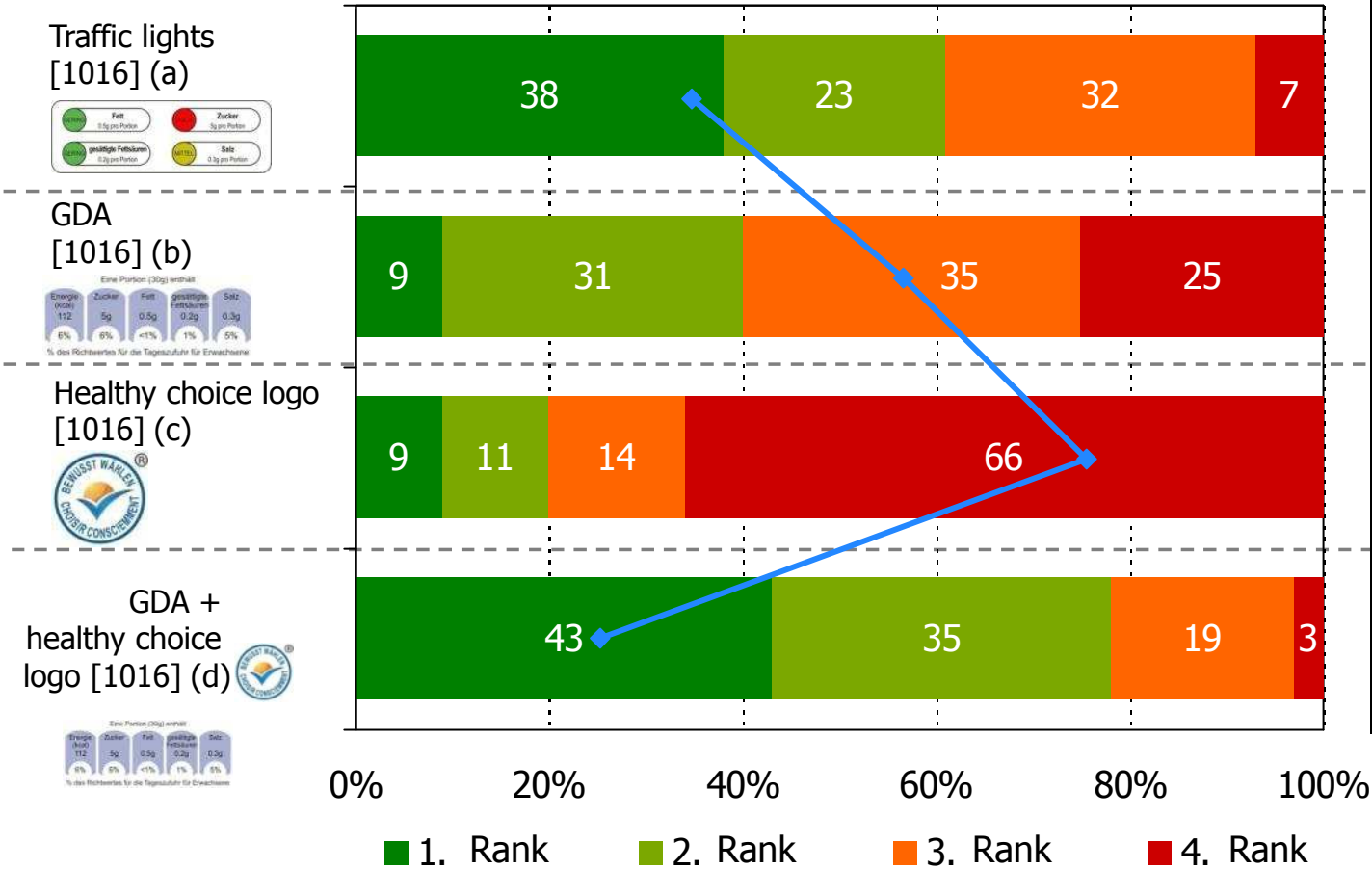
If we look exclusively at those consumers who chose correctly, the consumers also needed the longest (18.9 seconds) with the help of the GDAs, and even significantly more time compared to the traffic lights and the healthy choice logo.

This picture continued (with a small number of exceptions) across all sub-groups, but not always to a significant extent.

Results – ranking of preference after experiment

Question 7: Now that you have learned about all of the labelling systems, which do you personally find the most helpful, which the second most helpful, etc.?

Basis: [ ] people/closed question/data in %

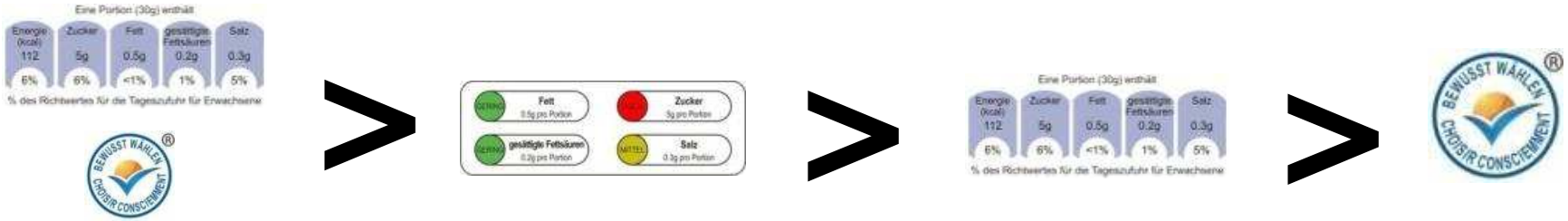


	Before experiment Av.*	After experiment Av.
Traffic lights [1016] (a)	1.6	2.1d
GDA [1016] (b)	1.8a	2.8ad
Healthy choice logo [1016] (c)	2.7ab	3.4abd
GDA + healthy choice logo [1016] (d)	-	1.8

*Only ranked up to third place

The letters indicate significant differences.

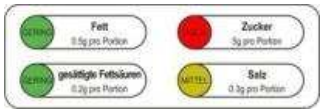
Results – ranking of preference after experiment



In summary, the consumers clearly rated the combination of GDA+healthy choice logo as the most helpful of the four labelling systems tested (*note: the consumers were only asked about the combination of GDA+healthy choice logo after the experiment)*. **43% of the consumers rated the combination of GDA+healthy choice logo in first place (av. 1.8), followed by the traffic lights (first place: in the case of 38%; av. 2.1), the GDAs (first place: in the case of 9%; av. 2.8) and the healthy choice logo (first place: in the case of 9%; av. 3.4). The combination of GDA+healthy choice logo was therefore rated as significantly more helpful than the three other labelling systems. The traffic lights were rated as significantly less helpful than the combination of GDA+healthy choice logo, however still significantly better than the GDAs or healthy choice logo alone. The healthy choice logo alone was once again rated as the least helpful.**

With very few exceptions, this rating of the GDAs and healthy choice logo over the traffic lights applied across all sub-groups, however the differences between the 4 labelling systems were not always significant for all sub-groups. The only significant exception was found for people with a gross household income of between 4,500 and 7,000 Swiss francs: in this category the healthy choice logo performed significantly better than the GDAs, however it still lagged behind the traffic lights and considerably behind the combination of GDA+healthy choice logo.

Results – ranking of preference after experiment



The traffic lights were rated as significantly less helpful by retired people than by people in full-time employment and by older (65-74) than younger (25-44) people.

The GDAs received a significantly higher rating from higher education graduates than from those who completed secondary education, and from people from a 1-2 person household than from people with a household of 3 or more people. People assigned to the healthy choice logo group for experiment 1 rated the GDA as significantly less helpful than people from the traffic lights and GDA group.

The healthy choice label received significantly higher ratings in French-speaking than in German-speaking Switzerland and from people with only compulsory schooling than from higher education graduates. People assigned to the healthy choice logo group for the experiment rated the healthy choice label as significantly more helpful than people from the traffic lights and GDA group.

Results – reasons for preferred labelling system

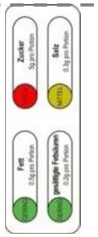
Question 7a: Why do you prefer this labelling system?
Basis: [ ] people/open (unsupported) question/data in %

	Traffic lights [391] (a)	GDA [92] (b)	Healthy choice logo [97] (c)	GDA + healthy choice logo [436] (d)
Colours	38bcd	4d	-	0
Simple/easy to understand	18b	4	44abd	8
Clear	15	22d	12	8
Precise information/large amount of information	5	13ac	-	21ac
Can be quickly interpreted	12	5	19bd	9
Eye-catching/at first glance/stands out	12b	6	8	6
Clearly laid out	13b	12cd	3	5
Conscious choice	1	-	0	13abc
You can see that it is healthy	2	1	9ab	9ab
Combination/double guarantee	1	-	0	10abc
Easy, easier to recognise/easily legible	5	2	12abd	3
Seal of approval/certified	0	0	2a	9abc
Significant	3	5	1	4
Symbol/logo	0	-	1	7abc
Provides good information	4	1	2	4
No need to read/visual representation	4	1	9bd	1
Percentage values	0	11acd	-	4ac
Features a range of data (sugar, salt content etc.)	2	4	0	3
Detailed	1	7ac	-	4a
Traffic lights	7b	-	-	0
Calculated per day	0	11acd	-	3a
Can be referred to for more info	1	1	-	4ac
Guideline values	0	3a	1	4a
Calorie information	0	4ac	-	3a
Helpful	2	1	1	2
Numbers	1	2	-	3a
Easier to compare products	1	3	2	2
Serving defined	1	1	0	2
Confidence	0	1	4ad	1
Attractive/more appealing	2	1	2d	0
Small/medium/large lettering	2	-	0	0
Other	3	6	5	5
Nothing/don't know/no data	1	-	3ad	0

The letters indicate significant differences.

Results – reasons for preferred labelling system

For the combined labelling system of GDA+healthy choice logo, consumers were particularly attracted by the fact that precise information/a large amount of information is provided (21%), that it is possible to make a conscious choice (13%; significantly higher in German-speaking and Italian-speaking Switzerland) and that there is a combination/double guarantee (10%). Other reasons included that it is a seal of approval (9%; significantly higher in Italian-speaking Switzerland), can be quickly interpreted (9%), is simple/easy to understand (8%), clear (8%) and the additional healthy choice logo is appealing (7%).



The main reason for preferring the traffic lights is the colours (38%). The consumers also felt that the traffic lights are simple/easy to understand (18%; significantly higher in French-speaking and Italian-speaking Switzerland), clear (15%), clearly laid out (13%; significantly higher in German-speaking and Italian-speaking Switzerland and in the case of females), eye-catching/stands out (12%) and can be quickly interpreted (12%).

The consumers were attracted to the GDAs because this system is clear (22%), provides precise information/a large amount of information (13%), is clearly laid out (12%), features percentage values (11%), is calculated per day (11%) and is detailed (7%).

Those who preferred the healthy choice logo were mainly attracted by the fact that it is simple and easy to understand (44%; significantly higher in the case of males). It can also be quickly interpreted (19%), is easy to recognise (12%), clear (12%), you can see that it is healthy (9%; significantly higher in the case of females), it is a visual representation (9%; only referred to in German-speaking Switzerland) and is eye-catching (8%).

Results – participants' closing comments

- *"The system with the coloured scores would be better if the information were stated per 100g or the serving size were defined"*
- *"The coloured indications could be combined with the percentage of the daily requirement, that would be ideal"*
- *"Information per 100 g or kg would be easier to compare than per serving; servings indicate misleadingly low values, because eating habits can vary"*
- *"I am in favour of clear, brief and concise information both per 100g and per serving or slice; anything that is unclear and undefinable is window-dressing that irritates customers"*
- *"I am no good at maths, however the daily requirement varies for each family member"*
- *"Simplicity is needed, who can compare the products on the shelves with different weight information and interpret three different systems?"*
- *"Amounts should be stated immediately alongside the traffic light system, otherwise stating the amount of salt, sugar or fat in the product is of no use to anyone"*
- *"I would prefer to see the "traffic lights" and the "Choices" logo on the packaging. Have I overlooked this suggestion?"*
- *"Too many numbers and too much information is counterproductive. Nobody has time to read everything on the shelves"*
- *"This information clearly shown on the product"*
- *"As well as healthy content I also feel that the ingredients are important"*
- *"A small round sticker like the "Choices" sticker doesn't tell you much and can easily be overlooked"*
- *"In my view there are already enough «logos" such as the Knospe Max Havelaar etc.; I don't think there is any need for a new label, I've never wished that there was one and I have therefore given it negative ratings"*
- *"Logos are certainly helpful when making a purchase decision; however, as the underlying criteria can rarely be stated on the packaging I must be given the opportunity to compare the background information myself; I therefore feel that the slogan "Choices" is deceptive as someone else has ultimately chosen for me"*

Results – general summary I

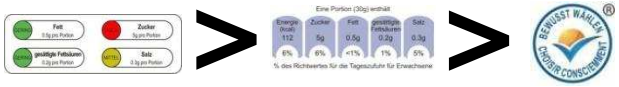
Degree of familiarity/attention/use

Results – general summary II

Preference before explanations (scale)

Preference after explanations (scale)

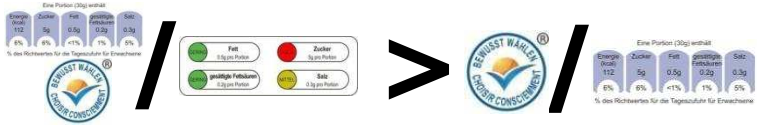
Preference before experiment (order of preference)



Preference after experiment (order of preference)

Results – general summary III

Effectiveness - correct choice



Correct decision time

Discussion + conclusions

Discussion + conclusions

To our knowledge, this study is the first to examine and compare the effectiveness of the three front-of-pack labelling systems traffic lights, GDAs and healthy choice logo among Swiss consumers. It was carried out in the three main languages German, French and Italian and provides **representative results for Switzerland as a whole** (German-speaking, French-speaking and Italian-speaking Switzerland).

As anticipated, the GDAs are the most familiar of the three labelling systems examined, and are also the most likely to be paid attention to and used during purchases. Thanks to media coverage, the traffic lights system is also known to one in three consumers. The healthy choice logo tested is still known to very few people.

Before the experiment the consumers rated the traffic lights as the most helpful labelling system when asked to rank the three systems in order of preference. When the labelling systems were rated independently of one another using a scale, the traffic lights and GDAs were rated as equally helpful. The healthy choice logo was ranked lowest by consumers in both cases.

If we compare the ratings of the labelling systems before and after the explanations, we can see that the explanations of the labelling systems had a negligible impact on the ratings for the traffic lights and the GDAs. By contrast, the ratings for the healthy choice logo went up by 50%. This could be related to the fact that the traffic lights and the GDAs present information in a specific format on the basis of which the consumer can intuitively derive his or her own product rating (even if this is not always correct), without needing an additional explanation. By contrast, a healthy choice logo is only helpful if the consumer is aware of what it stands for and the criteria that apply. The organisation behind this type of healthy choice logo also has an impact on trustworthiness (Feunekes et al, 2008). For this reason, the explanations could have had a considerable positive effect on the rating of the helpfulness of the healthy choice logo.

Discussion + conclusions (continued)

After the experiment the traffic lights were once again rated as more helpful than the GDAs, which in turn were rated as more helpful than the healthy choice logo. **However, the combination of GDA+healthy choice logo introduced during the experiment was rated as the most helpful.** This indicates that on the one hand, Swiss consumers want to receive a large amount of information, whilst on the other hand they value support or confirmation in the form of the healthy choice logo. This is also confirmed by the consumers' comments, which explicitly list **"double guarantee"** as a reason for their preference.

Overall, the traffic lights and the combination of GDA+healthy choice logo help the largest number of consumers to choose correctly, however not in all product categories. By contrast, the healthy choice logo consistently helped more than 50% of consumers to choose correctly in all product categories except for crispbread.

The experiment clearly reveals a **discrepancy between the subjective perception of the helpfulness of a labelling system and its actual helpfulness**. The GDAs and in particular the traffic lights are considered to be helpful by the largest number of consumers. However, in some product categories these two labelling systems led a significant proportion of consumers to choose incorrectly. There are two possible explanations for this in the context of this study: 1) In the case of products for which a nutrient (e.g. dietary fibre for cereals) or ingredient (e.g. artificial sweeteners for soft drinks) that is not stated is relevant or more relevant than others, as expected neither the traffic lights nor the GDAs helped the consumers to choose correctly. 2) In the case of the GDAs, the consumers incorrectly interpret the significance of the nutritional content (e.g. for salad dressings the significance of the sodium content was underestimated, while that of the fat content was overestimated).

The results of the healthy choice logo group indicate that a **healthy choice logo can only be helpful if there are no doubts regarding its credibility**. If the healthy choice logo tested had already been widely known and recognised in Switzerland, the percentage of correct answers would probably have been higher and, in the case of crispbread, fewer consumers would probably have been misled by the clearly visible product name "Wasa Fibres" (vs. "Wasa Originals") to make the wrong choice.

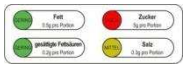
Discussion + conclusions (continued)

If we compare the GDA group to the GDA+healthy choice logo group we can see that the consumers chose incorrectly for the same three product pairs (cereals, salad dressings and soft drinks). However, with the help of the healthy choice logo 7.5% fewer consumers on average chose incorrectly in these categories.

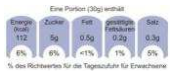
In addition to the ability to help consumers to make a healthy choice, the time needed to interpret a labelling system is also important. The majority of purchase decisions are made when looking at products on the shelves (POS Support gmbH, 2009) and more than half of consumers spend less than 10 seconds, if any time at all, reading the nutritional information on packaging (Choices International Foundation, 2010). **Of the three labelling systems tested, the healthy choice logo enabled the fastest decision times** (12.79 seconds on average). The consumers took 35% and 50% longer respectively to interpret the traffic lights and the GDAs. The consumers took around the same amount of time to interpret the combination of GDA+healthy choice logo as to interpret the GDAs alone. Those consumers who chose incorrectly tended to take longer to make a decision, which could indicate a certain degree of (justifiable) uncertainty among these people.

Discussion + conclusions (continued)

The labelling systems tested were all able to help consumers make a healthy choice to a certain extent, **however all also had their limits**:



Only allows the correct healthy choice if the nutrients stated are relevant for the assessment of the health value of the product. If another nutrient is relevant, the traffic lights are not helpful, or lead to the wrong conclusions.



Only allows the correct healthy choice if the nutrients stated are relevant for the assessment of the health value of the product. If another nutrient is relevant, the GDA labelling system is not helpful, or leads to the wrong conclusions. The GDA information can also lead to the wrong conclusions if the significance of the nutritional content is incorrectly interpreted (i.e. overestimated or underestimated).

Only allows the correct healthy choice if if logo is familiar and is perceived as trustworthy.

Finally, it should be noted that **even the most helpful labelling systems merely support and cannot guarantee a healthy choice**. The health value of a product is always in competition with many other factors, which can vary according to situation and time.

Discussion + conclusions (continued)

In summary:

- Beware of expecting too much from a labelling system.
- Differences between labelling systems are significant, but still relatively minor.
- There is a discrepancy between subjective perception of the helpfulness of a labelling system and its actual helpfulness.
- The combination of GDA+healthy choice logo offers the best of both worlds:
  -> a large amount of information for those who are interested and confirmation of the consumer's own choice
  -> Support for consumers who are uncertain and not overly concerned
  -> Time saving for stressed consumers

Limitations

Limitations

Although the participants were recruited according to representative criteria with quotas for region, gender and age, people of Swiss nationality and who were educated to sixth form level were over-represented. In turn, people of foreign nationality and with only compulsory schooling were under-represented. One of the reasons for these deviations from the Swiss average is that the participants were selected from an existing online pool and that the survey was only carried out in German, French and Italian. Consequently, these results can only conditionally be applied to Swiss consumers as a whole.

The effectiveness of the labelling systems was only tested on a purely experimental basis by means of an online, on-screen survey. The results therefore cannot be directly extrapolated to an actual purchasing situation (e.g. decision time) or predict purchasing behaviour in practice (choice of product depends on many other factors). On the other hand, this process made it possible to examine the labelling systems within a controlled environment and independent of one another. The 4 groups were all exposed to the same influencing factors in terms of the available front-of-pack information (e.g. brand names, promotion etc.) and there was no interaction between the labelling systems.

As actual products were used as examples in the study, the individual decisions could have been influenced by pre-existing knowledge and experience of one of the products. The study design (testing of the same 10 product pairs in four independent groups) was intended to minimise the effect of such influences.

The study does not provide a qualitative insight into the motivations behind the individual decisions. We can only make assumptions about which nutrients were taken into account in the rating of the traffic lights and GDAs and to what extent, or what was considered to be more important in the case of the traffic lights: the absence of red or the presence of green.

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