**Snacks - are they better than their reputation?**

***Snacks are increasingly the subject of research and media reports. These are mainly full of accusations along the following lines: they are too fatty, too sugary or altogether unhealthy "fattening foods"; they are the industry’s trend products and lead consumers astray; they replace set meal times and lead to undisciplined eating. Snacks are considered to be a cause of health, physiological and sociocultural problems. But is snack food actually as bad as it seems? What is the basis for these accusations and how tenable are they?***

**Snack associations**

Snacking is not a recent phenomenon. Quick eating in between meals can be traced back to the Stone Age. Back then food was primarily eaten immediately at the place where it was found - so in evolutionary terms, eating "from hand to mouth" is a natural behaviour and a long-standing part of human eating culture [1].

That is certainly the only constant, because *the* snack or *the* snacker does not exist. The spectrum of what constitutes a snack, when, where, how, why, by and with whom snacking takes place, is just as diverse as many other areas of food culture. Even more surprising is that debates about snacks are always limited to their fat, salt and sugar content. The term "snack" is considered self-explanatory nowadays, but finding a clear definition can prove difficult. There are plenty of different ideas about what constitutes a snack - and as if that weren't enough, the word is also tied up with countless subjective connotations (cf. figure 1). To start with, the English term simply means "(pro-) portion". In culinary terms, "to snack" means "to grab a bite to eat".

In general, a "snack" is understood as an in-between meal, i.e. eating something small, mainly between meals, designed to appease one's hunger or appetite [2]. In recent years, the definitions and associations of the word “snack” have broadened in a way that the spectrum now ranges from a snack being something eaten between meals to the modern slang version "snack equals food".

A universal definition would be ideal. However, this proves rather difficult as literature describes snacks by different characteristics. These relate, amongst others, to a nutritional profile, energy content, time of consumption, food group or frequency of consumption. On top of this, the definitions can contradict or complement one another depending on the context. As a result, the nutritional physiology is not always consistent with cultural or colloquial concepts (of eating) [3]. Three basic snack categories can be identified in literature, which are distinguished mainly by the motivational factors that drive consumption. Snacks can be eaten despite lack of hunger, e.g. boredom or craving, (snack as a treat), or because of a physiologically perceived feeling of hunger (snack as an in-between meal) or the snack can replace a full meal [3, 4].

One thing common to all categories is their informal nature: individual, flexible, with little structure, standardisation or habit, characterised as being quick, easily available and casual. There are no fixed requirements. People snack from paper bags, hands, paper plates or even from porcelain; whilst standing, walking or sitting. Snacks can be eaten spontaneously, anywhere and in any shape or form, without any commitment or constraint and at any time of the day. They are generally quick to obtain, quick to eat and remains are easily disposed of. They constitute an unstructured eating event without rules about consistency and frequency [3]. In the debate over snacks, it does not suffice, therefore, to limit oneself to (nutritional and physiological) criticisms such as "too fatty and too sugary". When, where, how, why, by and with whom the snack is eaten is just as important as the question of what is consumed.

**Decline of the meal?**

Snacks replace set meals and contribute to the decline of eating culture. This criticism is based on the results of studies which suggest that main meals are being replaced by snacks and eating quickly on the go is becoming more and more common [5]. A study from 2011 showed that around 40% of the German population replace main meals with snacks from time to time [6]. What those participants surveyed exactly associate with the term "bite" or "snack" was not disclosed in the study. The lack of a universal definition makes it difficult to interpret this and many other studies. As a result it is hardly possible to draw sound conclusions regarding actual snack consumption without a universal consensus [7].

Snacks as a meal replacement and the increased consumption of snacks in general are primarily expounded by media. This type of discussion, however, needs to be evaluated critically. Not only the definition of snacks but also a clear differentiation between snacks and meals have proven to be difficult. In principle, full meals limit eating to a specific time and place. Across all cultures, meals serve as eating in gemeinschaft and originate in early forms of labour division. For meals certain rules and standards always apply (e.g. order of courses, etiquette; cf. [8, 9]). Snacks, on the other hand, are exempt from many of these rules and standards. They are also often considered to be marginal, casual and incidental and are not perceived as a "full" or "proper" meal. Some people have the feeling of "not yet having eaten anything". Moreover, subjective assessment plays a large role. Thus, a sandwich, for example, can be a snack for one person and a meal for another, which complicates the empirical analysis of snacking behaviour [7, 8].

As a result, snacks and meals are closely connected. They complement one another and compete at the same time. In the same way as online trade and shop sales, or e-books and printed books complement and yet also compete with one another, the snack opens up "new" options for eating culture. Rather than decay, a change of direction becomes apparent while full meals still withstand. The snack is the option for eating when a meal should not or cannot take place. It is a popular way of eating, because it easily fits into one’s daily life.

**Unhealthy fattening foods?**

Because of poor nutrition and physiological qualities such as the high contents of sugar, salt and fat, many pre-prepared snacks are frequently equated with an "unhealthy diet". Snacking complicates control of individual eating behaviour because it often happens casually and absent-mindedly, remaining putatively insignificant. Over time, a snack routine, an "undisciplined eating", can creep in, which – according to critics - can potentially increase energy intake and body weight [10, 11]. There are population groups for whom it can be reasonable to regularly consume snacks between meals, e.g. small children or elderly. If meals are spread too far apart, snacks can "re-energise" and bridge the feeling of hunger [12]. Satisfying hunger immediately is thus consistent with rational physiological behaviour.

Many studies hypothesise a connection between snack consumption and the prevalence of overweight, but results are conflicting. It is evident that the snack per se is not the cause of overweight. More important is the total daily energy intake and its nutritional and physiological quality. Only when snacks are consumed in addition to main meals and the additional energy intake is not compensated for, total energy intake and as a result, body weight, will increase in the long-run [11, 13]. A such, snacking does not automatically mean eating too much, wrongly or unhealthily, which is why snacks should not be classified as "fattening foods" per se.

**Tempting trend products?**

Snacks are often perceived as an industry product. It is criticised that the constant stimulus and the permanent availability tempt the consumer and automatically lead to an increased consumption. This is a lucrative part of business for many manufacturers and retailers, especially (quick service) restaurant chains, take-away shops and the entire Deli and convenience sector. With constantly new offers and promotions, they respond to the increasing demand for fast food supply [2, 14]. The variety of snacks is also reflected in the many promises they make. Cereal bars promise a fast energy boost, burgers satisfy the appetite for something savoury, and sweets treat and reward [15]. The constant stimulus through appealing product presentation also increases sales success. For example, visual stimulation with appetite-inducing images increases the release of ghrelin, an appetite-stimulating hormone [14, 16]. The ubiquitous presence of snack options can increase demand accordingly. However, the consumers themselves determine the dynamics in this market sector. Snack purchase decisions are made (and changed) spontaneously; they are individual and depending highly on the situation, one’s needs and momentary mood. Lastly, it needs to be noted that, in principle, any food can be a snack - from natural fruits to nuts and from baked goods to full menus. Hence, snacks can be more than just an industrially manufactured trend product.

**A logical consequence of modern everyday life?**

The success of snacks as a modern form of eating can be attributed primarily to their informal nature - they are flexible and individual. Today's daily routine is complex. Work, education, family, partners, leisure, friends and culture all demand their place and a personal time budget arises as a result of work and private life. Priorities must be set in order to meet all these demands adequately. Eating often competes for the individual’s time against other activities. This is where snacks come in: they do render (timely) prearrangement or preparation unnecessary. Instead of waiting for fixed eating or meal times, small bites are eaten to satisfy acute hunger quickly. In this situation, snacks perform a subjective function. Short-term satiation is deemed more advantageous than extended waiting for a later meal [17, 18]. In addition to this, work life demands flexibility and mobility. Being flexible means less planning. As such, working hours, tasks and work places affect eating behaviour – changed conditions under which snacks become an attractive option. They are easily available when hunger arises or simply when one has a craving. Beside this time aspect, snacks are a reflection of societal ideals and values. Snacks make it possible to reward oneself quickly, to pass away time or to satisfy spontaneous needs.

Snacks address values such as individuality and freedom. They represent spontaneous, self-determined and effortless decisions and are particularly popular in young people's eating culture [10]. Snacks form a part of how we orchestrate our lifestyle. Since a change in lifestyle always results in the restructuring of behavioural patterns and hence possibly the development of new ways of eating, snacking can be seen as a logical consequence of today's daily eating routine.

**It's fine for snacks to become routine!**

The above elaborations show that snacks should be seen in a more differentiated way. Many of the accusations made about snacks are too sweeping, since snacks are defined extremely subjectively and can be evaluated differently depending on the situation. Snacking does not automatically mean eating too much or the wrong thing nor are snacks inherently healthy or unhealthy, good or bad. The crucial factor is that the long-term food intake is varied and meets nutritional requirements. Snacks can certainly replace traditional meals, but they also enable free and spontaneous eating choices and immediate satisfaction of needs. They conflict with traditional values but at the same time fit in with the modern daily (eating) routine and its demands.

Snacking has become an integral part of today’s nutritional world. Therefore, the informal character of the situation or the motivation to eat appear to be much more important factors than the mere choice of food itself. As a result, this topic should not just be reduced to the question "what are we snacking?" because the when, where, how, why, by and with whom we eat snack are just as important. As with many other things, one should keep a conscious handling of one's own eating behaviour. Those who can keep it under control are in a position to distinguish between nutritionally beneficial and less beneficial snacking behaviour and to use snacks as a modern form of eating. It’s fine for snacks to become routine.

**Further information**

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