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Exploring dairy farmers' quality of life perceptions – A Swiss case study

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ABSTRACT

Dairy farming is physically hard, with limited freedom due to twice-daily milking duties and low revenues. Moreover, globalization, deregulation and trade liberalization have significantly changed the conditions of dairy farming. How can dairy farmers in this context maintain good quality of life? What makes a life one of good quality? This paper uses a qualitative bottom-up approach to understand Swiss dairy farmers' and their families' individual criteria of quality of life, aiming to reconsider and complement the often used, standardized criteria of quality of life surveys. The analysis of the qualitative interview data reveals the importance of objective non-material as well as subjective components of quality of life. The paper shows that, contrary to what could be expected based on the farmer's ethic of being hardworking over long hours, farmers emphasize 'time' as an important criterion of quality of life, referring not only to leisure time, time with the family or time to lie in, but also time to think and plan. The paper further stresses the importance of eudaimonic wellbeing, which is largely missing in standardized quality of life studies on farming families and also some general quality of life concepts. In this regard, the paper highlights the lack of social recognition of farmers and the extent to which pressure and criticism from the non-farming population negatively influences farmers' quality of life. The paper concludes that to fully understand farming families' quality of life and thus the social sustainability of family farming, the subjective dimension of quality of life, especially eudaimonic wellbeing, needs to be fully incorporated in future studies, regardless of their methodological approach. Moreover, alluding to resilience research, the paper urges researchers to include 'time to think and plan' into future investigations, assuming that more time for self-reflection increases not only the subjective but also the objective dimension of quality of life.

1. Introducing the problem

In recent decades, dairy farming worldwide has undergone significant structural changes as a consequence of globalization, deregulation and trade liberalization processes. Since the 1990s, in the aftermath of the General Agreement on Tariffs and Trade (GATT) Uruguay round, Swiss agricultural policy too has changed from being a protectionist system, focusing on production, to one aligned with neoliberal logic (partly liberalized markets) paired with 'multifunctionality rhetoric' (Forney, 2010: 3; Chappuis et al., 2008). State price and market guarantees have been abolished, and market support reduced, which has led to a drop in prices, especially for milk and meat, while production costs have remained stable or even increased. Borders have gradually been

opened in order to access international markets, e.g. with the European Union (EU) free trade of cheese or the reduction of customs duties on animal fodder. The direct payment system has been reformed and linked to ecological performance (FOAG, 2009). And finally, the milk quota system, which had been put in place in 1977 to maintain milk prices by controlling the level of production, has been eliminated. This elimination of milk quotas, which took place in 2009, six years before the EU eliminated its quotas, was the last crucial step in this process.

Despite the deceleration effect of these reforms on structural change (FOAG, 2009,¹), the number of Swiss dairy farms is declining faster than that of Swiss farms in other sectors. While the overall decline in farm numbers between 1990 and 2019 amounts to 46% (from 92,815 to 50,038 farms), dairy farms declined by 64% (from 53,251 to 19,075 farms)

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¹ The speed of the structural change in Switzerland was comparable to that of Austria and France, but slower than in Germany, the Netherlands or Denmark (see FOAG, 2009).

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in the same period (FOAG, 2020; SwissMilk, 2020). In contrast to the decline in the number of farms, the number of milking cows only declined by 34% (SwissMilk, 2020; SMP 2017a).² Thus, fewer farmers own more cows and land than in previous decades, a trend which can be observed at global level (e.g. Lunner Kolstrup et al., 2013). The milk price has also been steadily declining: the price peaked at CHF 1.07 per kg milk in 1990 (SwissMilk, 2020), whereas producers now receive CHF 0.56 per kg milk (Mariani, 2019), the same price as in the mid-1970s. For many dairy farmers these political, economic and structural changes have led to financial, physical and psychological stress (see Eiselen and Pidoux, 2017; Contzen et al., 2015), a phenomenon which has been witnessed globally (Lunner Kolstrup et al., 2013). Coupled with dairy farming itself being physically hard work (Kallioniemi et al., 2018) and requiring a constant presence on the farm, we expect this to negatively impact the quality of life of dairy farming families in the long run and consequently to put at risk the social sustainability of dairy farms (e.g. Rööös et al., 2019), an area of agriculture so far neglected in quality of life studies in agriculture (see section 3).

From a very broad understanding, quality of life (QoL) refers to how well individuals or societies live. In academic discourse, however, there is no consensus about what the term exactly means. Nevertheless, according to Noll (2000: 7), a common opinion exists that QoL firstly “is something different from standard of living and cannot be reduced to welfare in the sense of the provision with goods and services” (own translation) and secondly that it encompasses both objective (material) and subjective dimensions. Rooted in earlier concepts such as economic welfare and measured by indicators like gross domestic product (GDP) or unemployment rates (Moser et al., 2018), QoL has mostly been assessed using criteria predefined and standardized by the researchers, despite QoL being personal and dynamic and thus “better left to the individual” (Meares, 1997: 31). Indeed, QoL research is often based on standardized surveys (e.g. Mercer’s Quality of Living survey; European Quality of Life Surveys (EQLS) used among others by Shucksmith et al. (2009); Eurostat Quality of Life Indicators; Survey on Income and Living Conditions (SILC)). Also in Switzerland, predefined criteria have been used to measure the QoL of the general population (e.g. SILC; Urban Audit) as well as of farmers (e.g. FOAG, 2017; Radlinsky et al., 2000). Although these criteria have partly been developed based on preceding bottom-up studies – as in the case of the study done by Radlinsky et al. (2000) – the target population itself is only rarely asked about their own perceptions and definitions of QoL.

The study informing this paper aimed to overcome the above-presented research gap and methodological limitation by using a qualitative bottom-up approach to understand the QoL of dairy farming families. The study’s objective was to gain an in-depth understanding of the individual QoL criteria of dairy farmers and their families and to consider these criteria against the background of current QoL concepts and standard QoL criteria proposed e.g. by the Organization for Economic Co-operation and Development (OECD) or used in (national) surveys (e.g. by the Federal Office of Agriculture (FOAG) of Switzerland). Accordingly, this paper aims to contribute to a more thorough understanding and definition of the QoL of dairy farmers in Switzerland and beyond. We expect the results to be relevant for other farmers in Switzerland, as the general context of farming is the same. We also expect that the results are meaningful for other countries’ agricultural sectors, at least in the EU and Norway/United Kingdom, because despite important differences, certain framework conditions and trends are similar (e.g. direct payment system, family-farm-based agriculture, pressure on the dairy sector). Thus, the contribution is limited neither to Switzerland nor to dairy farmers.

The article begins with theoretical and conceptual reflections on the

concept of QoL and previous research results on QoL in agriculture. This is followed by a presentation of the Swiss case. The fourth section describes the methods and data used, including a description of the sample drawn. In the results section, we present our findings on the bottom-up emergent individual criteria of the QoL of dairy farmers, on their evaluation of their own QoL, on factors reducing QoL and on the role of eudaimonic wellbeing. Finally, we compare our findings with the concepts and findings of other studies on QoL of farming families and draw conclusions on implications for future research on QoL in agriculture.

2. Theoretical and conceptual approach to quality of life

QoL is a broad concept describing and measuring how well societies and individuals live. It is regarded as an essential aspect of the social dimension of sustainability (e.g. Quendler, 2011; Radlinsky et al., 2000; Rööös et al., 2019). The result of the increased use and popularity of QoL and related terms like wellbeing or happiness in research is that they are sometimes “used as an umbrella for all that is good, but on other occasions they denote specific merit” (Veenhoven, 2000: 1). In the past, the level of a society’s quality of life was measured by concepts such as economic welfare, using real wages or GDP as the main indicator, social welfare in the sense of services provided by the welfare state, or happiness (e.g. de Jong, 2015; Diefenbacher, 2001; Veenhoven, 2000). The Stiglitz report (Stiglitz et al., 2009) can be seen as the turning point in the debate on societies’ and individuals’ welfare, criticizing the narrowness of these approaches and calling for the integration of subjective factors, although Noll (2011) labels the report as ‘old wine in new skins’, given that social indicator research had already started taking into account subjective measures in the 1970s, e.g. by Campbell et al. (1976). Noll’s comments notwithstanding, the concept of QoL nowadays differs significantly from the ‘old’ concepts. And despite the inconsistent use of the term QoL in the literature, a general agreement seems to exist that QoL is multidimensional and encompasses both an *objective* and a *subjective* dimension (e.g. OECD, 2013; Quendler, 2011; Eriksson and Lindström, 2007; Radlinsky et al., 2000). To recall Stiglitz et al. (2009: 58), “quality of life includes the full range of factors that make life worth living, including those that are not traded in markets and not captured by monetary measures.”

However, similar to the term QoL itself, inconsistency exists in the literature regarding which aspects comprise the *objective* and *subjective* dimensions and how to label them. Among the *objective aspects* are income, wealth, employment, salary, housing conditions, social relations or life balance, all of which enable the standard of living in specific areas of life to be assessed (Quendler, 2011). In some conceptualizations they are split into ‘material aspects’ and ‘other aspects’ (OECD, 2013), in others not. There is, however, consistency in that all of these aspects can be measured or observed and thus objectivized. The literature also contains variability regarding the *subjective aspects*. Radlinsky et al. (2000) operationalize subjective QoL as the satisfaction with areas of life [Lebensbereiche] which the individuals classified as important (similar to Casini et al. (2020) definition of wellbeing). These areas of life are largely congruent with the above-mentioned *objective aspects*. According to the OECD (2013), subjective QoL is broader than that, consisting of three aspects which are a) the cognitive evaluation of one’s life or specific aspects of it – similar to Radlinsky et al.’s operationalization, b) affective aspects in the sense of an individual’s positive (joy, pride) or negative (worries, anger) emotions and c) eudaimonic wellbeing including meaningfulness of and purpose in life. The latter aspect is often conceived as important related to (psychological) health (OECD, 2013: 10; Quendler, 2011) and thus related to Antonovsky’s concept of *sense of coherence* (Antonovsky, 1997) and Bandura’s concept of *self-efficacy* (Bandura, 1977). Indeed, based on their descriptive and analytic review of salutogenic research on the relationship between sense of coherence and QoL, Eriksson and Lindström (2007: 942) conclude that “the SOC [sense of coherence] seems to be a resource that enhances the QoL directly, or mediated by a good perceived health. This could be the

² Despite this decline in cow numbers, the marketed volume of milk per cow increased by 26.4% and the marketed volume of milk per hectare increased by 43.9% between the years 2000/2001 and 2017 (FOAG, 2018).

logical conclusion of the relationship between SOC and QoL.” Even though the studies reviewed by Eriksson and Lindström (2007) mainly focused on groups of disease-specific patients and not on other population groups or the general population, we argue based on Petzold’s ‘five-pillar model’ [Fünf-Säulen-Modell] (Petzold, 1984), Bernoux (2015, quoted in Dupré et al., 2017) and Hatice and Mine (2016) that the concept of *sense of coherence* has in general an important relationship with quality of (working) life.

Therefore, the conceptualization of QoL which we developed for the purpose of this study follows the OECD (2013) approach regarding the subjective dimension of QoL but adds the aspects of *sense of coherence* and *self-efficacy* to *eudaimonic wellbeing*,³ see Fig. 1. Using insights from conceptual approaches and research on poverty and deprivation (Contzen and Crettaz, 2019), we split the objective dimension into a material and a non-material component. Our material component largely corresponds with the OECD’s ‘material aspects’ and our non-material component with the OECD’s ‘other aspects’.

As QoL is multifunctional, including an objective and subjective dimension, the evaluation of a person’s QoL needs to relate or compare both dimensions. However, according to Zapf (1984), QoL research is often confronted by the rather astonishing finding that individuals subjectively perceive their QoL as good despite objectively difficult life conditions or vice versa. In the literature, the explanations for this discrepancy are manifold. Zapf (1984: 25) concludes that “good life conditions can be perfectly paired with negatively perceived wellbeing (dilemma of dissatisfaction [Unzufriedenheitsdilemma]) and bad life conditions with positive evaluations (satisfaction paradox [Zufriedenheitsparadox])” (own translation), the latter alluding to Elster (1982) observation of adaptive preferences, meaning that people adjust their preferences to their situation by downgrading inaccessible options. This is especially the case in situations of long-term poverty or deprivation, observed also in farming (Contzen and Crettaz, 2019).

3. Quality of life of (dairy) farmers – a review of agricultural research

Research on QoL in family farming, or on similar concepts such as wellbeing or life satisfaction, is quite scarce, even more regarding dairy farming (Hansen et al., 2020). In this section we present key aspects revealed by the relevant studies, generally using the term QoL also for studies on related concepts.

Most studies on QoL in farming have used quantitative survey methods (e.g. Egarter and Weber, 2015; Heo et al., 2020; Hansen et al., 2020; Lloyd et al., 2007; Mzoughi, 2014; Radlinsky et al., 2000; Rööös et al., 2019; Strauss et al., 2014; Wojewódzka-Wiewiórska et al., 2020) compared to few qualitative approaches (e.g. Dupré et al., 2017). While some have applied standardized QoL indicators to assess the level of QoL (e.g. Egarter and Weber, 2015; Hansen et al., 2020; Radlinsky et al., 2000), others have sought more relevant indicators of QoL (Wojewódzka-Wiewiórska et al., 2020). Because QoL is multidimensional, some of these studies have not only assessed the individual dimensions and indicators of QoL but also combined them to form one QoL index (e.g. Radlinsky et al., 2000) or analyzed their interdependence using statistical models (Mzoughi, 2014; Wojewódzka-Wiewiórska

³ Ryff (1989) conceptualization of psychological wellbeing, rooted in happiness studies, and especially its dimensions of autonomy, environmental mastery and purpose in life allude to the eudaimonic wellbeing dimension of the QoL approach. About 20 years later, she and her co-author used a “eudaimonic approach to psychological well-being” (Ryff and Singer 2008: 13), before turning to eudaimonic wellbeing as a conclusion after 25 years of scientific inquiry (Ryff 2018). However, the isolated use of psychological or eudaimonic wellbeing, as proposed in wellbeing or happiness studies, seems too narrow. Therefore, we prefer the QoL approach, which is more encompassing due to its multidimensional character.

et al., 2020). The conceptualization of QoL differs on one hand between the more agricultural-economics-oriented papers (e.g. Hansen et al., 2020) and the rural sociology papers (e.g. Dupré et al., 2017) and on the other hand between German-speaking authors (e.g. Strauss et al., 2014) and others (e.g. Mzoughi 2014). Finally, while some authors have looked at agriculture only (e.g. Dupré et al., 2017; Hansen et al., 2020; Mzoughi, 2014), others have compared the farming population with the general population (Egarter and Weber, 2015; FOAG, 2017 based on Radlinsky et al., 2000; Heo et al., 2020). Hence, drawing a general picture about QoL in agriculture based on the relevant studies is rather complicated because their theoretical and conceptual as well as methodological approaches differ. However, tendencies in the findings are discernible.

According to several studies, the most important QoL indicators for farmers are health, (meaningful) labor, family situation, education, enough time, income, and housing conditions (Radlinsky et al., 2000; Rööös et al., 2019).⁴ For the indicators labor, housing conditions and family situation, satisfaction levels were revealed as relatively high (Egarter and Weber, 2015 on Austria; Radlinsky et al. 2000 on Switzerland; Rööös et al., 2019 on Sweden; Wojewódzka-Wiewiórska et al., 2020 on Poland), while health is assessed as moderate (Egarter and Weber, 2015) to high (Rööös et al., 2019; Wojewódzka-Wiewiórska et al., 2020). Although income, according to Radlinsky et al. (2000), is not so important for Swiss farmers, it is in most contexts the indicator with which satisfaction is generally low or very low (e.g. Egarter and Weber, 2015; FOAG, 2017; Wojewódzka-Wiewiórska et al., 2020).

Studies going beyond the analysis of satisfaction levels by investigating interdependences between different QoL indicators show that income and profitability are associated with life satisfaction (Mzoughi, 2014 on organic farmers in France) but that aiming at improving the level of income often implies working harder (Wojewódzka-Wiewiórska et al., 2020) or increasing herd size (Hansen et al., 2020). Increasing workload in turn results in restricted flexibility and additional mental strain, thus lowering subjective wellbeing indicators such as ‘mental comfort’ (including free time) (Wojewódzka-Wiewiórska et al., 2020) or ‘mental health’ (Hansen et al., 2020). In this regard, Mzoughi (2014) called for appropriate financial compensation of (organic) farmers, paired with social compensation as “subjective wellbeing is positively related to satisfaction at work, social recognition and good health” (Mzoughi, 2014: 42; similarly Dupré et al., 2017 on vegetable farmers in France). Or in the words of Wojewódzka-Wiewiórska et al. (2020: 19), the “economic situation is an important factor influencing life quality, but cannot be the only indicator used in such analyses.”

Strauss et al. (2014), in their study on dairy farmers in Austria, pointed to the fact that income alone is not sufficient for satisfactory QoL, stating that high labor satisfaction is strongly related to having enough time for oneself and the family, good intrafamilial relationships and an optimized organization of farm tasks. In concluding this, they highlighted two important aspects of QoL in agriculture in general and in dairy farming specifically: time availability in the sense of enough time, free time, decent working hours etc. including an optimized organization of farm tasks, and relationships, which might go beyond the family (see also Hansen et al., 2020).

Compared to other professions, the working hours of farmers are high, sometimes with seasonal differences and peaks (Brew et al., 2016; FOAG, 2001; Wojewódzka-Wiewiórska et al., 2020). The workload of dairy (livestock) farmers might even be higher, but certainly the fact of ‘being tied’ to the farm because of the livestock/milking duty is a ‘time-binding’ specificity (Hansen et al., 2020; Strauss et al., 2014). While some studies report dairy farmers as experiencing limited time to spend on leisure, with the family or on taking holidays (Brew et al., 2016; Strauss et al., 2014), others reveal that some dairy farmers do not

⁴ The studies use different terms for some indicators, e.g. for ‘enough time’ also ‘not too much stress’, ‘decent working hours’, and ‘workload’ is used.

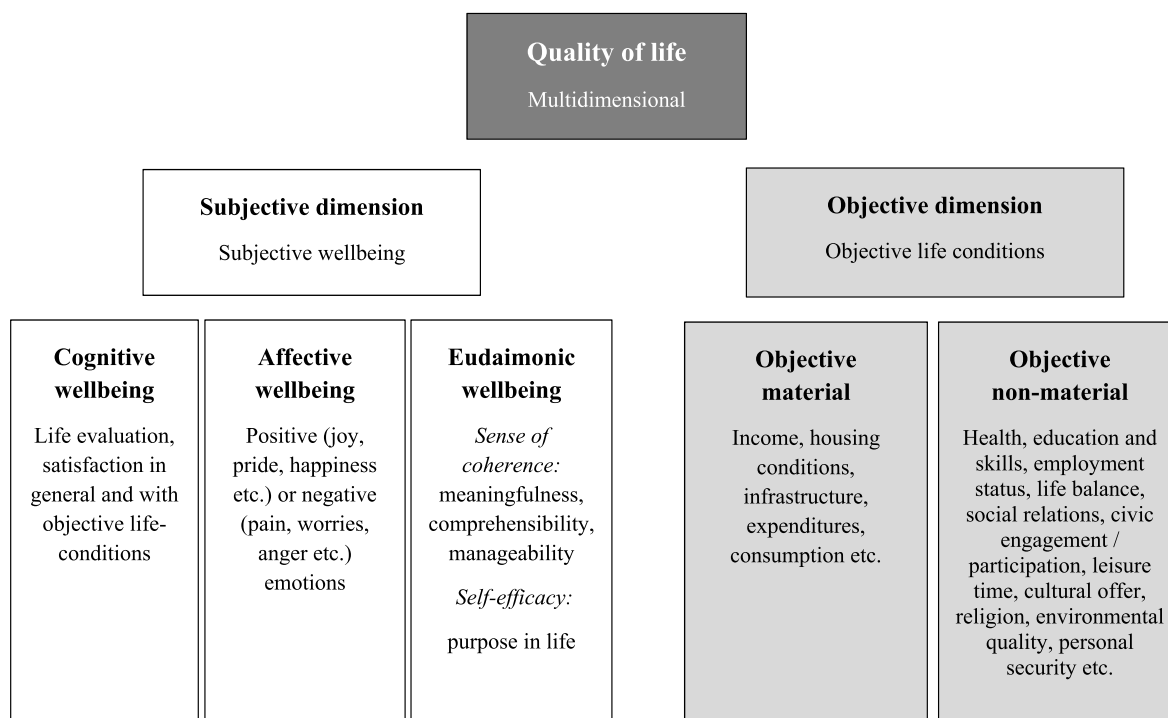


Fig. 1. A conceptual approach to quality of life. Own illustration and adaptation based on the OECD (2013) quality of life concept, Antonovsky (1997) concept of *sense of coherence* and Bandura (1977) concept of *self-efficacy*.

even get enough sleep (Windon, 2014; Wojewódzka-Wiewiórska et al., 2020), both of which lower the QoL of farmers.

Automatic milking systems (AMS) might reduce the workload of dairy farmers (e.g. Butler et al., 2012; Rodenburg, 2017). However, simply using these systems is not sufficient. According to Hansen et al. (2020), adequate training in their use and data flows is vital to benefit from the positive impact of AMS on farmers' QoL, as is a network of other farmers using AMS in order to share knowledge and experiences. In this regard they showed that farmers' QoL improves when they have colleagues or when the farming couple work together on the farm (Hansen et al., 2020, see also Strauss et al., 2014).

Finally, different studies show the importance of eudaimonic wellbeing for farmers' QoL, although only Lloyd et al. (2007) explicitly refer to the term eudaimonia in their conceptualization of QoL.⁵ These studies reveal the crucial and positive aspect of having an active role in decision-making and in farm work for levels of QoL (Dupré et al., 2017; Heo et al., 2020). Furthermore, the positive impact of meaningfulness of work, fulfillment in the job, or job satisfaction on QoL is reported (Llyod et al., 2007; Rööös et al., 2019; Strauss et al., 2014). In this regard, Mzoughi (2014) not only mentions the importance of social recognition but also points to the specific area of organic agriculture, assuming ecologically friendly practices and environmental awareness leads to higher satisfaction. This positive influence of agriculture on eudaimonic wellbeing is even used in some forms of green care (e.g. García-Llorente et al., 2018).⁶

To sum up, the existing literature shows that while working in

⁵ There are many other indicators influencing QoL such as succession (Hansen et al., 2020), i.e. the long-term existence of the farm business (FOAG, 2017), the possibility of having savings (FOAG, 2017), animal diseases (Wojewódzka-Wiewiórska et al., 2020), etc. However, it is not possible to highlight all of them in the present literature review.

⁶ More therapeutic forms of green care focus on enhancing health-related quality of life (e.g. Berget et al., 2008).

agriculture often implies high workload, low income, sometimes mental stress, all negatively impacting QoL, it also offers many aspects positively impacting QoL, such as working in nature and with animals (e.g. FOAG, 2001), working autonomously or with family members. However, the cited studies, due to their mainly quantitative approach, are often limited regarding the measurement of the subjective dimension of QoL. They are restricted to analyzing satisfaction with QoL indicators, only touching the cognitive component of QoL but neither the affective nor eudaimonic. To bridge this gap in the existing research and to understand the individual definitions of QoL of dairy farmers, the study on which this paper is based took a qualitative bottom-up approach as described further below.

4. The swiss agricultural context

This paper is based on a qualitative case study of Swiss dairy farmers and their families. As is typical for agriculture around the world, family farms are the dominant business form in Swiss agriculture. This means that 78 per cent of the workforce (FOAG, 2018) are farm operators and members of their families, among the latter most often the spouse. The number of family workers declined by 47% from 217,477 in 1990 to 115,339 in 2019 (FOAG, 2016, 2020). While the number of farms also declined during the same period from 92,815 in 1990 to 50,038 in 2019 (FOAG, 2020), their size almost doubled to an average of 20 ha per farm today (SFSO, 2017, 2018). Nevertheless, Swiss farm structures remain small compared to other European countries, leading to productivity deficits (Swiss Federal Council, 2017). The reasons for these structures are the country's topographic, climatic and economic conditions, as well as protectionist policies lasting until the end of the 1990s.

Due to the Swiss climate and topography, agricultural land is dominated by pastures and meadows and thus about three-quarters of the current 50,852 farms are active in livestock production, of which about 19,700 are dairy farms. Roughly one fifth of all farms produce crops; these farms are mostly located in the lowlands. The remaining farms are mixed production (SFSSO, 2018). Typically, the total income of farms is composed of two-thirds farm income, which includes direct payments, and one-third off-farm income. Total farm incomes tend to be higher in the lowlands than in the hill and mountain regions (SFSSO, 2018).

On average, a dairy farm produces about 172,043 kg of milk per year from 27 cows on 27 ha, (FOAG, 2020; SwissMilk, 2020). However, there are big differences in farm size, number of cows and amount of milk produced between regions (lowlands versus uplands) as well as between production systems. The produced milk is processed in about 600 cheese factories and 90 dairy factories (SMP, 2017b); about 44% of the total milk is processed by four big dairy companies ((Forney and Häberli, 2017)).

5. Methods, data and sample

The data informing this paper were collected as part of a research project looking at the meaning of QoL for dairy farmers in Switzerland and at the strategies these farmers use to reach and maintain a good level of QoL. A qualitative case-study design was used focusing on those farmers and their families who stated that they have a good level of QoL⁷ in order to investigate not only their perceptions and definitions of QoL but also their strategies to reach and maintain good QoL.⁸

The aim was to draw a qualitative sample following the method of ‘selecting sampling’ proposed by Schatzmann and Strauss (1973) using predefined criteria, reaching both homogeneity in terms of the farmers’ evaluation of their QoL (main sample selection criterion) and diversity regarding family and farm structures (criteria such as family members involved in farm labor, age and education of farm operator, production activities, production zone). The sample drawn consists of members from sixteen farms selected with the help of representatives of farming organizations and agricultural advisors who had links to dairy farmers and who knew our predefined criteria. While using gatekeepers to select interviewees is a common and often the only strategy to gain access to the field (e.g. Crowhurst and Kennedy-Macfoy, 2013), it might restrict the sample to certain types of individuals or groups, in our case for example help-seeking or well-connected individuals.⁹

Fieldwork was carried out between autumn 2017 and the end of 2019. The sixteen farming families (in total 30 individuals) participated in either a qualitative topic-guide interview or a focus-group discussion, as shown in Table 1. Where possible, we interviewed two people separately per farm to grasp different views within one household or one farm, following the understanding that households are not homogeneous units but composed of individuals with individual perceptions, values etc. (Kaspar and Kollmair, 2006).

Our conceptual approach to QoL (see Fig. 1) formed the basis for our empirical research. However, it was not elaborated in order to be tested in the field, but rather to make transparent our own understanding of

QoL and thus enhance our objectivity in qualitative research. The conceptual approach helped us to structure the topic-guided interviews and focus-group discussions. Thus, deduced from this approach, the interviews and focus-group discussions centered on the following topics: criteria of QoL, satisfaction with QoL and life, influencing factors of QoL, changes in QoL, strategies which changed QoL unexpectedly, strategies aimed at changing QoL, meaningfulness and motivation, worries, life balance and material condition.

The interviews were carried out in the interviewee’s first language (French or Swiss-German), recorded, and transcribed literally.¹⁰ The interviews were analyzed applying qualitative structuring content analysis following Kuckartz (2013) and Mayring (2015), representing a more structured and rule-based method suitable for the analysis of larger sets of qualitative data compared to more interpretative methods appropriate for more explorative inquiries with few cases (for a discussion see e.g. Schreier et al., 2019). To this end, the transcripts were imported into the software MAXQDA 2018 and coded using a coding guide. The coding guide elaborated by the research team as a whole comprised deductively constructed codes based on our conceptual approach to QoL and our research questions (Mayring 2015), which were complemented by inductively constructed codes emerging from the interviews (Strauss and Corbin 1996). The analysis and interpretation of the coded text passages was then done based on the code’s topic, the context of the passage and our theoretical approach (Kuckartz, 2013). The analysis and interpretation done as a team (investigator triangulation), the embeddedness in theoretical approaches (theory triangulation), and the thick and contextual descriptions of the results contribute to the validity of our process and results (credibility and transferability, see e.g. Guion et al., 2011; Lewis, 2009; Whitemore et al., 2001). The quotations used for illustrative purposes in this paper were translated by the authors from French or Standard German into English.

On the farms A to K, individual qualitative topic-guide interviews were conducted, while from the farms M to R one or two individuals each participated in the focus-group discussion.

Unintentionally, the sample consists of rather large farms compared to the Swiss average in terms of farmed area (average sample 44 ha, average Swiss dairy farms 27 ha, Swiss average 22 ha) and head of dairy cattle (average sample 43 head, average Swiss dairy farms 27), see Table 2. Moreover, all interviewees consider themselves financially in a good or relatively good state and have a financial reserve, enabling them to pay unexpected expenses of around CHF 20,000–30,000. This might be due to our focus on milk-producer households with a good level of QoL.¹¹ Four farms deliver milk to a local cheese factory and ten to the industrial channel, i.e. to one of the four biggest Swiss dairy companies, or to an intermediary. Two farms produce milk for their own calf or cattle fattening. In terms of milk production, the sample varies between 5500 and 9870 kg per cow and year, with an average of 7093 kg (compared to the average Swiss dairy farm output of 7660 kg). Two farms are under conversion to organic production, still selling their milk at non-organic milk prices. Four are organic farms. Three farms collaborate with one or more other farms, either in a farm association or in a partial farm association for dairy production.

⁷ As preparation for the main empirical phase, four focus-group discussions with a total of 15 agricultural advisors had already been carried out collecting their views on and experiences of dairy farmers’ QoL and strategies.

⁸ NB This paper focuses solely on the interviewees’ perceptions and definitions of QoL, not on their strategies.

⁹ In what way sample biases might influence the results is discussed in the concluding section.

¹⁰ The Swiss-German interviews were translated into Standard German during transcription.

¹¹ Potential implications of these biases are discussed below.

Table 1

Number of farms and individuals who participated in an interview or focus group; gender and family relation of the interviewees.

	farms	f	m	Couple interviewed	Senior & son or daughter-in-law interviewed	Farm operator only interviewed	Total individuals interviewed
Interviews	10	7	13	6	4	1	20
Focus group	6	4	6	3	1	2	10
Total	16	11	19	9	5	3	30

Table 2

Characteristics of the farms interviewed with zone, number of staff, farm area, number of dairy cows, milk yield, milk channel, milk price, income, equity and special features.

	Zone	Staff ^a	Area ha	Dairy cows	Milk yield kg/cow/year	Milk channel	Milk price CHF/kg	Income ^c CHF	Equity	Special features
A	valley	4	85	40	7200	industry	0.53	250,000	increasing	under conversion to organic prod., off-farm ltd
B	mountain	2	66	35	5700	cheese	0.82	160,000	increasing	organic prod., new barn
C	valley	3	+ alp 57	85	9780	industry	0.605 ^b	83,600	not reported	generation community
D	valley	3	49	50	8500	industry	0.56 ^b	42,000	increasing	partial farm association
E	valley	1	45	30	6800	cheese	0.80 ^b	300,000	increasing	association & barn with other farms
F	valley	3	69	150	8000	cheese	0.80 ^b	190,000	increasing	farm association, partial farm association with 3 farms
G	mountain	2	+ alp 21	10	6800	calf fattening, alp cheese	0.62	54,000	increasing	ewes
H	mountain	2	21	5	7000	cattle fattening	–	170,000	decreasing	new barn
I	mountain	1	38	26	8000	cheese	0.52	160,000	increasing	generation community, agricultural contract work
K	mountain	2	45	55	6000	industry	0.77	90,000	increasing	organic prod., farm association, cattle
M	hill	0	+ alp 33	53	5500	industry	0.525	75,000	decreasing	full-time grazing, seasonal calving, under conversion to organic prod.
N	hill	2	36	30	6800	industry	0.74	180,000	increasing	organic prod.
O	valley	2	47	45	6900	industry	0.80 ^b	114,000	increasing	organic prod., horses (boarding stable)
P	valley	1	32	11	7000	industry	0.75	70,000	decreasing	organic prod., horses (boarding stable)
Q	mountain	2	33	27	7000	industry	0.72	320,000	increasing	organic prod., people doing community service
R	hill	1	+ alp 34	32	6500	industry	0.5	120,000	increasing	recent farm transmission

^a Remunerated employees including apprentices and unpaid family workers. Spouse and temporary staff excluded.^b Average milk price during the last 12 months.^c Income: not verified, may be higher because the values are self-reported.

6. Results

6.1. Bottom-up definitions of quality of life

Unsurprisingly, the interviews revealed that the individuals' criteria of QoL are diverse. Yet some criteria were more dominant than others and mentioned more often and in varied expressions. Table 3 displays these criteria classified into eleven groups along the two dimensions of subjective (subjective wellbeing) and objective (objective material and non-material life conditions) QoL and the five components of QoL (see Fig. 1).

Time is the criteria group which was mentioned the most, highlighted by at least one interviewee per case-study farm and by most focus-group participants. Time as part of the **objective non-material** component of QoL includes criteria such as having time for recreation, for escaping daily stress, for holidays or for the family and oneself. While most study participants do not need four weeks of holiday¹² or to fly far away, they feel the urge to escape from daily routine, to have days off, or to sometimes lie in on a Sunday. Certain dairy farmers described 'time for oneself' as 'time for planning and thinking about farm strategy'. For others, having time means not always being in a rush, having time to do things properly or not being under pressure all the time. One often-mentioned aspect is 'not being always tied to the farm', thus being an

important criterion of good QoL. As displayed in Table 2, all but one case-study farms have employees or apprentices, and four farms are in (partial) farm associations. This enables farmers to organize dairy production in a more flexible way and to be less tied to the farm, for example by sharing milking. One farmer puts it as follows: "For me, quality of life is when we can share tasks on the farm and also have a bit of free time every now and then". But for some, especially women, having employees also ties them to the farm: they must cook for the employees and manage them every day, even when having a day off from the cows. The farming couple without employees has a system of full-time grazing and seasonal calving, allowing them to organize the work simply between themselves, and holiday replacements can also be found more easily. Thus, most interviewees had already managed to have leisure time and holidays, depending on seasons and work peaks. While being quite satisfied with this, some would still like to have breaks or days off more regularly, especially at least every second weekend off.

A second important group of objective non-material criteria is 'relationships', which for many interviewees are central for their QoL. For some, the family and a stable partnership are most important, involving good relations among the members, spending time together, supporting each other and working well together. Social contacts off the farm, e.g. with neighbors or in a sports club, were also mentioned, ensuring that they are not dulled by routine.

Further objective non-material criteria are 'free space' – expressed as having privacy – and 'health'. One's own good health and the health of the family seem to be a basic condition for the QoL of some interviewees, although few mentioned it explicitly when defining QoL.

¹² Employees in Switzerland have the right to at least four weeks of paid holiday per year.

Table 3
Criteria of quality of life and number of mentions by the study participants (n = 30).

Criteria of subjective wellbeing	Criteria of objective material life conditions	Criteria of objective non-material conditions
Satisfaction (cognitive)	Finance	Time
Satisfaction (with life situation) (n = 6)	Being able to make a living from my work, enough income, financial security (n = 6)	Leisure time, breaks, rest time, lie in (n = 13)
Doing what I like to do, (inc. being able to carry out work outside the farm) (n = 4)	Always having food and drink (n = 1)	Holidays, several days off, leave for several days (n = 10)
(Keeping) pleasure in my work (n = 5)	Certain profitability of the farm (n = 1)	Time for family, partner (n = 11)
(Dairy) farming (affective)	Being able to afford things (n = 2)	Time for myself, time for planning (n = 4)
Alternation of activities and tasks (n = 1)	Residence	Time for hobbies, for sports (n = 6)
Love of cows, relationship with the animals (n = 3)	Privileged residential location (in nature, freedom of movement for children, no neighbors) (n = 4)	Being able to disconnect (n = 4)
Combination of farm work and external work or activities (n = 2)	Feeling well (n = 1)	Not being always tied to the farm (n = 7)
Working outside, working in and with nature (n = 3)	No commuting (n = 2)	Not always having to rush (n = 1)
Freedom (eudaimonic)	Working conditions	Relationships
Independence, freedom of action (being my own boss) (n = 2)	Technical work facilitation (n = 1)	Family (n = 7)
Being free, deciding for myself (daily routine, life) (n = 3)	Owning something (farm, farmhouse) (n = 2)	Stable partnership (n = 2)
Being able to improve (the farm), possibility to shape the farm myself (n = 4)	Being able to use products for life (n = 1)	Togetherness, cohesion on the farm, understanding each other well, appreciating each other (n = 4)
Free division of working hours (n = 5)		Being able to share burdens and decisions (n = 2)
Meaningfulness (eudaimonic)		Social contacts (outside the farm) (n = 5)
Recognition of the product by consumers (n = 1)		Free space
Having good products (n = 1)		Having privacy (n = 1)
		Health
		Healthy family, healthy children (n = 2)
		Having no health problems (n = 2)

One farmer said: “It also depends on health; I was lucky and was always more or less healthy. (...) If something had happened to my health, I don't think there'd be a compromise. (...) I believe that if you like your job, if you enjoy doing it, you won't get sick so quickly”. Other interviewees referred to health when talking about causes of poor QoL.

When asked about their definition of QoL, nine study participants mentioned one or two financial criteria, part of the **objective material component**. One female interviewee told: “As far as quality of life is concerned, I'm someone who needs a lot of security, especially financial security. I can't imagine, or if we were to have financial difficulties, it would stress me enormously, given the size of the farm”. Another farmer expressed it as follows: “For a certain quality of life, the farm should be more or less profitable”. “To be able to make a living from my work”, or “enough income

to pay bills and to buy the things needed in the shop, without calculating or going only for discounts” were other descriptions of the financial criterion. Some interviewees talked about the role of the financial situation only when describing poor QoL, other did not mention financial criteria at all. This finding could partially be due to our sample over-representing large farms with (relatively) good levels of income. However, large farms do not necessarily imply high income nor do small farms mean low income (Contzen and Crettaz, 2019).

Other aspects related to the objective material component of QoL were mentioned as being criteria contributing to good QoL according to some interviewees: Living comfortably (in a well-constructed, well-furnished house or flat) and in pleasant surroundings (landscape, nature) and with no commuting to work. Having technical equipment to make the work more efficient and less physically arduous was mentioned by a 60-year-old as contributing to QoL. He referred to his younger years and described his current QoL as being better than in those days. A further objective material criterion mentioned is ‘having something of my/our own’,¹³ meaning farm ownership.

The second dimension of QoL is **subjective wellbeing** (see Fig. 1). General satisfaction or satisfaction with the life situation, belonging to the component **cognitive wellbeing**, is often mentioned first when asked to define QoL. In the words of a female interviewee, it means “that you're satisfied with what you do”. A similar criterion, mentioned by some interviewees, is enjoying work, and to being able to maintain this enjoyment even during work peaks.

Other criteria referred to by the interviewees are part of **affective wellbeing** and explicitly relate to (dairy) farming: The diversity of activities in dairy farming, their combinability with other activities, working outside (in and with nature), their ‘love of cows’ and the admiration of this species are important conditions for enjoying work and thus for high QoL.

‘Freedom’ and ‘meaningfulness’ are two groups of criteria which emerged bottom-up and which belong to **eudaimonic wellbeing**, the third component of the subjective QoL dimension. For one farmer, appreciation of his product (cheese) by consumers is a criterion for high QoL in the sense of meaningfulness, for another farmer it was having products of good quality. Freedom was mentioned in terms of independence and freedom of action, including being able to organize one's own work, being one's own boss or having the possibility to change and improve the farm. These eudaimonic aspects of QoL will be analyzed in more depth further below.

Table 4
Current subjective level of quality of life, as evaluated by the interviewees (gender and age indicated) on a scale of 0–10, with 10 being the best level of quality of life possible.

Farm ^a	Interviewee 1 Level QoL (gender/age)	Interviewee 2 Level QoL (gender/age)
A	8 (f/53)	8 (m/53)
B	8 (f/46)	8.5–9 (m/46)
C	6–7 (m/63)	10 (m/38)
D	8–9 (m/62)	8 (m/27)
E	8 (m/57)	
F	5 (f/50)	7 (m/54)
G	8 (m/34)	8 (f/34)
H	8 (m/61)	10 (f/27)
I	8 (f/56)	9.5 (m/57)
K	9.5 (m/48)	8 (f/32)

^a Participants of the focus-group discussions (farms M to R) did not rank their QoL.

¹³ This alludes to Lloyd et al. (2007) using ‘having’ as one dimension of QoL in their study on dairy farmers.

6.2. Evaluation of own quality of life

Although the aim of the study was not to assess the interviewees' QoL with an index, such as used by Radlinsky et al. (2000), we asked them to evaluate their QoL at the moment of the interview by ranking their QoL on a scale with ten levels, zero being the worst and ten the best QoL possible. We were more interested in the explanations of their ranking than in the exact level. As Table 4 shows, 16 of 19 interviewees¹⁴ rated their QoL with eight, nine or ten, indicating satisfaction with their QoL. One farmer explained his high QoL as follows: "I'm quite satisfied. I do the job I like. I can do the hobbies I like. I have a family that is doing well." A female interviewee mentioned that despite having a high QoL (level 8), she was not entirely satisfied: "Well, I'm saying maybe 8 to ... No, actually, high up. I just don't have anyone to relieve me. (...) My husband has ... They [husband and employee] can take turns. I can't. In the household I just have to do it [alone]." Only three interviewees ranked their QoL between five and seven as medium or good.

While differences between members of the same farm or even the same household exist, no patterns relating to gender or age are recognizable. The biggest difference in the individuals' ranking of QoL exists on farm C: The junior farmer ranked his QoL with ten as 'very good', despite seeing potential for improvement, especially in terms of more leisure time. His father instead ranked his QoL with six to seven as 'good' and described many positive aspects of his current QoL, particularly compared with the past when he had a poor QoL below five. Obviously, father and son assess their QoL on a very different personal scale, pointing to the fact that the perception of one's own QoL is fully subjective.¹⁵

Most interviewees commented that it is not possible to reach level ten. Thus, being satisfied with their own QoL means for them ranking it as eight or nine. Interestingly, the junior farmer on farm D gave two scores of his QoL, level eight to nine compared with other farmers, i.e. within the agricultural sector, but only level seven to eight, compared with the general population. He explained the latter ranking as having less leisure time and less freedom than the general population (having more restrictions because he is tied to the farm and therefore cannot, e.g. spend a longer period abroad).

Table 5

Subjective factors reducing own quality of life. Ranking according to number of mentions (n = 20, without focus groups discussion participants).

Always being tied to the farm (responsible for milking or employees every day), no holidays (n = 9)
Financial difficulties, financial uncertainties (n = 7)
Problems in family/partnership/between generations (n = 7)
Health problems, accident (n = 5)
Work overload/no relief (n = 5)
Problems with animal health or milk quality (n = 3)
Having all the responsibility, being alone with all the work (n = 3)
Pressure due to criticism from the general population/politics (n = 2)
Insecurity due to changes, reforms or popular initiatives ^a (n = 1)
Being limited in freedom of action by something or someone (n = 1)
Burdensome changes due to own projects, climate change etc. (n = 1)
Having no prospects (existence, farm development) (n = 1)
Not feeling comfortable in the place of residence (e.g. because of location, climate, neighbors) (n = 1)
Having to do work I don't like (n = 1)

^a The popular initiative is one of the main direct democratic instruments of Switzerland, allowing the population to propose changes to the constitution, see e.g. <https://www.ch.ch/en/demokratie/political-rights/popular-initiative/> (accessed November 2020).

¹⁴ Focus-group discussion participants did not rank their QoL because no individual discussion of their evaluation would have been possible during the discussion.

¹⁵ This confirms the understanding of households as not being homogeneous units (Kaspar and Kollmair, 2006).

The couple on farm F gave the lowest score for their QoL. They experienced a period with several changes on the farm (e.g. construction of new barn), which according to them had been a heavy burden. The woman said that her QoL needs to improve, and to achieve this, her workload must decrease.

6.3. Factors reducing the level of quality of life

Many factors lead to good QoL. But when would farmers evaluate their QoL as poor? For some interviewees, QoL worsens if one or several of the above-mentioned criteria are not fulfilled. For almost half of the interviewees, the main factor reducing QoL would be 'always being tied to the farm' and 'being responsible for milking every day', morning and evening, without any possibility to leave the farm in the evening or for some days (see Table 5). For others, financial problems represent the main factor. Problems within the family, between partners or generations are also important factors reducing farmers' QoL. Poor health, either their own or family members', would also reduce their QoL. As previously mentioned, most interviewees did not list good health and financial security when defining good QoL but referred to them as leading to poor QoL when these aspects are absent.

In the context of dairy farming, animal diseases or milk quality problems can reduce farmers' QoL quite fast and are burdensome if the causes cannot be quickly identified, or if countermeasures are ineffective.

An issue revealed by two individually interviewed younger farmers and discussed in-depth during two focus-group discussions is the criticism from and 'know-it-all-ness' of the general Swiss population negatively influencing their QoL. One young farmer described how his QoL was affected by being forced to justify his actions and his profession when talking to people outside agricultural circles, e.g. when going out. Participants of the focus-group discussion, including the organic farmers, commented on being frequently criticized in direct encounters with the non-farming population or even by visitors to their farm shops. While some farmers argue back and defend their activities, others try to avoid such conversations so as not to become stressed or even have sleepless nights.

6.4. Meaningfulness and quality of life

To grasp the eudaimonic wellbeing of the dairy farmers in our study, we explored topics of meaningfulness and motivations in their life and activities. What emerged in all interviews was that to work in farming is considered very valuable and meaningful because they produce food, knowing that nobody can live without food. Shaping the landscape and working with animals and plants, indeed practical work in general, are also perceived as meaningful tasks. Being able to enjoy the beauty of nature while working was described as motivating. Some farmers mentioned the training of young farmers as a meaningful and motivating part of their work, enabling them to share their knowledge and experience with the younger generation. Activities and commitments outside the farm also contribute to fulfillment, while at the same time bearing the risk of reducing QoL due to a double or triple workload. Finally, being their own boss is a motivating factor for several farmers, contributing to freedom of action and independence, important factors of eudaimonic wellbeing.

Two factors were revealed as being less meaningful or even demotivating: For some interviewees, the growing number of administrative tasks reduces the meaningfulness of their work, because they do not perceive it as part of a farmer's work or because these tasks are burdensome. This point echoes findings of agri-environmental scheme literature stating that administration work might be perceived as negative (e.g. Emery and Frank, 2012), preventing farmers from participation (e.g. Wilson and Hart, 2001). The findings of Burton et al. (2008) suggest that paperwork might even render such schemes less meaningful.

Lack of recognition, related to the above-mentioned criticism and image of agriculture within the general population, expressed in political discussions and popular initiatives¹⁶ as well as in direct contacts between the farming and non-farming populations in the fields or streets, reduce the meaningfulness for some farmers. They experience increasing or constant pressure due to such criticism and the need to justify their existence as farmers. Moreover, low produce and product prices compound the sense of lacking recognition, particularly for lower-income farmers, negatively influencing the meaningfulness of their work and thus their eudaimonic wellbeing. This lack of recognition is particularly expressed in situations of overproduction or lack of demand resulting in produce being sold very cheaply, sometimes happening with conventionally produced milk. Low produce prices and thus low income have an even more negative effect on the meaningfulness of work of those farmers who perceive their workload as high. For organic farmers, recognition has so far been better, as stated by participants in the focus-group discussions, because high demand for organic products still exists, rendering their work meaningful.

7. Discussion and conclusions

In this paper, we have used a qualitative bottom-up approach to understand the QoL of Swiss dairy farmers and their families. We have focused on their own definitions and criteria of QoL, with a special focus on eudaimonic wellbeing, an obviously important but in agricultural research largely neglected part of QoL. In this concluding section, we discuss our conceptual approach and our findings in the context of other QoL approaches and studies on farmers' QoL, highlight some practical recommendations, and draw conclusions on future research and standard instruments to measure the QoL of farming families.

7.1. 'Time' and 'family relations' as important QoL factors

The individual criteria of QoL revealed by the dairy farmers match the two dimensions and five components of our conceptual approach to QoL (see Fig. 1), which is largely based on that of the OECD (2013). Although setting different priorities regarding their QoL, most of the interviewees think in the first place of subjective or objective non-material aspects like satisfaction, family, leisure time or freedom of action, the latter alluding to Bandura's concept of self-efficacy.

Almost all interviewed dairy farmers described 'leisure time' and 'family relations' as being important. These findings not only contradict the farmer's ethic of always working hard and for long hours (e.g. Droz and Forney 2007; Riley 2016)¹⁷ but also the FOAG report (2017) stating that leisure time is unimportant for the Swiss farming population. However, the interviews clearly showed individual understandings of 'leisure time', i.e. its meaning and the frequency and duration needed for good QoL.

As indicated by Hansen et al. (2020) and Strauss et al. (2014), the two criteria 'leisure time' and 'family relations' are connected: having leisure time means having time to spend with the family. Not having enough time for the children and the partner can endanger these relationships. Moreover, the criterion of 'leisure time' is directly related to dairy farming: farm work needs to be organized well to avoid 'being always tied to the farm'. Although work and its organization, as other aspects directly related to (dairy) farming, were not those first mentioned, their importance for (dairy) farmers' QoL was also shown by Strauss et al. (2014) on Austrian dairy farmers. Strauss et al. (2014) conclude that in order to balance the growing psychological pressure on dairy farmers, recreation time including holidays needs to be consciously planned and taken. Based on our interview data of dairy

farmers who also run livery yards, we assume that this criterion might be relevant for all livestock farmers' QoL.¹⁸ Future studies should therefore analyze whether 'not always being tied to the farm' is a dairy farming-specific criterion of QoL or is valid for livestock farms in general.

Concerning 'time' in general as a factor improving QoL, we further identified two important issues. On the one hand, having time not only includes leisure time but also aspects such as 'not being in a rush all the time' or 'having time to do things properly'. The latter alludes to the 'good farmer' (e.g. Wilson, 2001; Burton, 2004; Burton and Wilson, 2006; Burton et al., 2021), valuing among other doing things neatly so that everything looks clean and tidy (for a discussion on tidiness and good farming, see Hunt, 2010). On the other hand, 'time' according to our interviewees also means having 'time to plan and think'. This relates to findings from resilience research stressing the importance of self-reflection for being resilient (Spiegel et al., 2020; Darnhofer, 2021). However, apart from Radlinsky et al. (2000), who used 'time to plan, to think' as an item of their QoL indicator 'labor', none of the considered studies on QoL in agriculture have included it.

Based on our study's results, we thus recommend that 'time' should be included in future studies on farmer's QoL in a twofold manner: on one hand as 'free time' and on the other as 'time to think and plan'. 'Free time' includes leisure time, holidays, time to relax, etc., which in the case of dairy farmers and probably other livestock farmers, calls for the good organization of farm work within the family, with employees, replacement staff and/or in cooperation with other farmers. 'Time to think and plan', similar to Radlinsky et al. (2000) item, is important for QoL as it contributes to 'freedom of action', another QoL criterion revealed by our interviewees, and to eudaimonic wellbeing. Obviously, 'free time' and 'time to think and plan' are related, as a farmer who has 'free time' should thus have 'time to think and plan'. However, it is also possible to disconnect totally from the farm during 'free time', while it is also possible to take 'time to think and plan' while driving a tractor. Hence, these two criteria are connected but not dependent and we thus suggest including both in QoL evaluations.

Going beyond our findings, we also recommend that the importance of free time and time to think and plan for the resilience of farms and the high QoL of farming households be included in farmers' vocational education and training as well as in extension settings regarding strategic planning or the reorientation of farm production.

7.2. The role of eudaimonic wellbeing as part of subjective quality of life

Although we included meaningfulness, as part of eudaimonic wellbeing, in our theoretical and conceptual considerations and approach to QoL, it was not spontaneously referred to by our interview partners. When directly asked, they judged their profession as producers of food to be generally meaningful. However, the interviewees did spontaneously touch on other aspects of eudaimonic wellbeing, mostly in the case of factors lowering QoL. Administrative work, central in the direct-payment system used in Switzerland and many other countries, e.g. those of the European Union, can reduce the sense of meaningfulness and thus QoL, especially if administrative work is not perceived as part of their professional identity as a farmer, referring again to the farmer's ethic (e.g. Droz and Forney, 2007). This might constrain the individual's freedom of action, self-efficacy and sense of coherence and thus their eudaimonic wellbeing. However, other interviewees, understanding themselves as entrepreneurs, did not mention administration as a limiting factor at all.

In this regard and based on insights from research on agri-environmental schemes (e.g. Emery and Frank, 2012), we suggest that incentivizing programs, aiming at changing farmers' behaviors, should

¹⁶ See footnote in Table 5.

¹⁷ The farmer's ethic is related to the concept of the good farmer (e.g. Burton, 2004; Sutherland and Darnhofer, 2012; Burton et al., 2021).

¹⁸ We are aware that horses might not be perceived as livestock in the specific sense of the term but as 'companion animals'.

be designed such that self-efficacy and sense of coherence is upheld.

Political discussions, popular initiatives and criticism from the non-farming population, issues not only relevant in Switzerland but in many other countries (e.g. Bryant 2020; Phelan 2020), negatively impact the eudaimonic wellbeing of dairy farmers. These factors might be perceived as a lack of recognition, reducing the meaningfulness of the farming profession and ultimately resulting in a lower QoL. Furthermore, low product prices reduce the feeling of being valued as a farmer and producer of food, reducing social recognition and finally eudaimonic wellbeing. In line with the findings of Dupré et al. (2017) and Mzoughi (2014), our data show that organic farmers receive more social recognition as well as financial compensation, enabling them to perceive their work as more meaningful.

As revealed in the literature review, studies concerned with QoL in agriculture have so far not explicitly included eudaimonic wellbeing as part of the subjective dimension of QoL in their approaches. However, the results of several of the studies and the findings of our study demonstrate the importance of eudaimonic wellbeing for farmers' QoL and thus for sustainable and resilient farming (Darnhofer, 2021; Rööös et al., 2019). We recommend that future studies on QoL in agriculture include all three components of the subjective dimension of QoL, i.e. cognitive, affective and eudaimonic wellbeing, as proposed by the OECD (2013). According to our findings, it is not enough to ask respondents only for their cognitive evaluation of objective criteria (material and non-material), as e.g. was the case in the FOAG survey of 2017 (FOAG, 2017), and thus neglect the affective and eudaimonic aspects.

7.3. The value of a qualitative bottom-up approach to quality of life

In contrast to most other studies on QoL in agriculture, this research took a qualitative bottom-up approach, i.e. without predefined dimensions of QoL, following the suggestion of Meares (1997) that QoL should be studied using qualitative and dynamic methods. This allowed us to obtain profound insights into individuals' subjective definitions of QoL and to grasp a more nuanced understanding of QoL than the standardized approaches. This was demonstrated in the individuals' ratings of their QoL, revealing that rankings can only be fully understood when informants are asked why they rate their QoL the way they do. Do they answer in comparison to others? Yes, they do. Do they answer in comparison to previous times? Yes, they do. And how do they interpret the scale? Differently. For some interviewees, reaching eight or nine on a scale of ten is possible, but never ten. This echoes the way interviewees argued in a study on the financial precarity of farming families (Contzen and Crettaz, 2019): they perceived the top of the scale as not achievable or even not desirable to achieve. Such arguments can be explained with Zapf (1984) 'satisfaction paradox' (see section 2) or adaptive preferences (e.g. Halleröd, 2006; Teschl and Comim, 2005). This shows the importance of understanding the subjective evaluation of an 'objective' scale and thus of treating the so-called 'objective' measurements of subjective matters with some caution.

Notwithstanding these advantages of a qualitative approach, there are some limitations. Such a case study, providing in-depth insights and explanation, can never be representative. Moreover, the sample was not optimal, representing rather large farms compared to the average Swiss farm, and the interviewees indicated (relatively) good levels of income. This skewedness of our sample might be the result of the sample selection based on the main criterion 'good level of QoL' and with the help of gatekeepers. Nevertheless, we are convinced that our findings are valid for farming households beyond this sample as they are contextualized and embedded in our theoretical approach as well as in a wide range of literature, not only regarding QoL.

The key criteria revealed in and confirmed by this qualitative study, as well as the awareness of interrelations and individual interpretations of QoL criteria, should thus find their way into the routine QoL surveys conducted by the Swiss and other countries' governments. Some characteristics of the 'framework conditions' of the Swiss agricultural sector

are specific, for example, the pressure perceived by farmers due to popular initiatives,¹⁹ a uniqueness of the Swiss political system (e.g. Kriesi and Trechsel, 2008). But other aspects, such as the direct-payment system, generally low income of farmers or pressure from consumers or politics, are similar throughout European and other post-industrialized countries. Thus, we assume that our findings are not only valid for Switzerland but can contribute to the understanding of QoL of (dairy) farmers in general and thus to the understanding of socially sustainable agriculture in many other geographic contexts.

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¹⁹ See footnote in Table 5.

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