Social Explanations of Cultural Engagement Changes in Norway 1991 to 2004

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Abstract

In this thesis, the author addresses the possible changing influence of social position and education on lifestyle choices in Norway. Based on a quantitative examination on media and culture participation in 1991 and 2004 in Norway, the author finds three types of behavioural pattern labelled Omnivores, Popvores, and Mediavores. Omnivores refers to a group of individuals who are engaged widely in all forms of culture. Popvores refers to a lifestyle group who mainly consume popular culture. Mediavores refers to a lifestyle group who keep themselves restricted to mass media if engaged in culture at all. From 1991 to 2004, Popvores and Omnivores increased in size while Mediavores decreased. The fastest growing type is Popvores. The cultural engagement changes in the population can be explained through both compositional change as the result of the education expansion, and an effect change for education. Higher tertiary education is increasingly associated with Popvores, while the connection to Omnivores is stable. The primary educated are increasingly likely Omnivores. Social positions, such as status and class, have no effect change in the same time period.

Four main theories guided the research: individualisation, culturalisation, processing capacity theory, and status theory. None of the theoretical expectations regarding social change and lifestyles found any support in this thesis.

The method the author used to create lifestyle is Latent Class Analysis. Re-prediction of cultural engagement changes is modelled with Multinomial Logistic Regression. In order to use survey data containing information from two occupational classification systems, the author has created a bridging system. Plots of lifestyle probabilities has also been created to visualise the development of participation with culture over time and to illustrate the separate and accumulative effects of different mechanisms involved in explaining lifestyle choices.

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Chapter 1 Introduction

… when we say of someone that in doing what he has done he acted freely, that he could have done something different, that he had a choice in the matter, we do not mean that there is no explanation for the fact that he chose as he did and acted as he did.
—John Wisdom, *Paradox and Discovery*

The world, as we know it, is highly complex; and although it may possess structural aspects which are simple in some sense or other, the simplicity of some of our theories—which is of our own making—does not entail the intrinsic simplicity of the world.
—Karl R. Popper, *The Case for Indeterminism*

This thesis aims to explain lifestyle changes in Norway. It is widely believed that in welfare states, such as Norway, the elevation of living standards has changed the way individuals consume culture and affiliate to lifestyles. It is believed individuals are no longer constrained by social position, and show a variety of difference in culture consumption and lifestyle choices. Moreover, it is also perceived that the wide access to higher education makes an impact on cultural choices. People are increasingly highly educated. It is often assumed this compositional change has led to changes related to cultural consumption and lifestyles.

Even though current lifestyle changes is often discussed in public and treated in a vast number of academic publications, few empirical studies have examined the mechanisms that can lead to lifestyle changes. Those who have done this type of research are often limited by their lacking information about social position and education. Only very few studies exist of period changes, which cover both social position and education, and its consequence for cultural participation (e.g. Coulangeon 2009; Jæger and Katz-Gerro 2010).

In my research I will include two dimensions of stratification, class and status, alongside education, to separate possible different effects on cultural engagement in general.

1.1 Research Questions

This thesis focuses on two main research questions:

1. *How are consumers divided into lifestyle groups?*

2. *To what degree does lifestyle choice depend upon social position and educational level and does this dependence change over time?*

Social position refers to class and status. Class is perceived by some scholars, especially Pierre Bourdieu and his followers, as an important explanation for lifestyle choices and lifestyle changes. They believe that those in a 'dominant' position prefers high culture, and those in a 'dominated' position are mostly engaged with only popular culture (Bourdieu 2002; Tampubolon 2008b). Contenders of the class distinction perspective believe that it is status rather than class that explains lifestyle choices. Following a Weberian perspective, they believe that class as a pure economic term, does affect life chances, such as matters of unemployment, however, it does not affect lifestyle choices. Rather, it is status that motivates individuals in lifestyle choices. They believe that status position is reflected in consumption of 'high' and 'low' culture to mark lifestyle (Chan and Goldthorpe 2004). In this study, class and status will be treated as separate concepts to study their possibly differing effect on lifestyles. It is also of interest to see how class and status might influence lifestyle changes.

Another important explanation of lifestyle choices and lifestyle changes is education. Educational attainment is often approached as a mixed result of ascription, and merit. The choice of prolonged education is a question of weighing likely outcomes of success and failure, before committing to a course of action (Breen and Goldthorpe 1997). In lifestyle theory, educational level is not studied as an outcome of ascription and merit, but is included as one important explanation of social behaviour. Educational level is often perceived as a resource mechanism, which indicates individuals' cognitive capacity to consume cultural goods (Chan and Goldthorpe 2007a, pp. 524). Some researchers find that those who have higher education will be increasingly more interested in a variety consumption of cultural goods, including complex and simple culture; while those who have lower education tend to constrain themselves to consume simple culture (Chan and Goldthorpe 2007c; Chan and Goldthorpe 2007d; Ganzeboom 1982). Education is also treated as an important explanation to cultural engagement in my study. The influence of education on lifestyle changes will also be examined in this study.

1.2 Theoretical Perspectives

Four main theories guide research on social change and lifestyles: individualisation, culturalisation, information processing capacity theory, and status theory. All these theories are centred on the possibilities of lifestyle choices offered by improved living conditions and 'democratisation' of educational access. They however suggest different, sometimes overlapping outcomes.

Individualisation theory argues that individuals are no longer constrained by social position, especially class, in the way they used to be. Individuals seek to differentiate themselves when they consume culture, and lifestyle is increasingly an individual choice (Beck and Beck-Gernsheim 2002). Individualisation thesis thereby leads to an expectation of a declining effect of class on lifestyle behaviour.

Culturalisation theory argues that an experienced elevation of material goods in the population has increased the importance of culture. Concomitantly the access to cultural knowledge and relevant experiences is increasingly steered through modern institutions. This theory points out that even though individuals themselves may believe that they are highly individualised, their behaviour is still restricted by social institutions, such as the educational system. Education thereby has a large impact on individuals' possibilities of obtaining cultural resources, which greatly influences their lifestyle choices. This theory further argues that the gap between lower and higher educated groups in consuming culture will increase over time (van Eijck and Bargeman 2004).

As with culturalisation theory, processing capacity theory also emphasises the importance of education in cultural consumption. This theory believes that individuals with higher education normally has a higher capacity to process information, and tend to consume a variety of culture, ranging from complex to simple in content; while those who have lower education normally has lower processing capacity and constrict themselves to consume simple culture (Ganzeboom 1982).

Status theory argues that it is status rather than class which explains lifestyle choices. This theory argues that those of higher social status differentiate themselves by consuming 'high' and 'low' culture, while those in lower social status expresses more restrictedly a taste for 'low' culture only. Status theory further claims that status is perhaps less relevant in contemporary society, and that its connection to culture weakens over time (Chan and Goldthorpe 2007d, pp 14).

These theories will be used to anchor the analysis of my empirical material. The conclusions relating to lifestyle and social change made from these four guiding theories will further be tested in my thesis. I will develop testable propositions after the theoretical chapter and the review of current and relevant research. All four theories in general assume there are some changes in the relationship between either the economic or cultural stratification in society to lifestyle choices. The main assumption in all four theories is that material differences are either not important, or less

influential now compared to earlier periods. Changes on aggregate level is easily observed and often discussed in theories. Still, very little has appeared as a result of these theoretical ideas, in terms of empirical research establishing plausible explanations. My empirical study on lifestyle change in Norway in 1994 and 2001 is intended to make a general contribution to studies on social change and specifically on lifestyle choices.

1.3 Lifestyle Group

Lifestyle is the interest for a whole range of cultural arenas. No single measurement form by type of item or form of scale, is established in lifestyle research. As a result there is no uniform typology of lifestyle 'groups' either. The only terminology that remains as the current starting ground for lifestyle differences, is the typology developed by Richard Peterson from his studies on music genre interest (Peterson 1992). He divides behavioural patterns into two types of lifestyle groups: Omnivores and Univores. The former refers to a group of individuals, mainly elite, who displays an interest in high culture, and extends their interest in breadth to include also, medium, and low culture; the latter refers to a group of individuals who has less breadth and less involvement with high culture. Peterson believes omnivorousness are on the rise, since younger cohorts are more culturally varied than older cohorts, and/or come from a more diversified background (Peterson 2005). He further assumes that Omnivores are replacing Univores (Peterson and Kern 1996).

In my analysis of media and cultural participation in 1991 and 2004 in Norway, I separate cultural consumption into seven domains: pop concerts, cinema, classical concerts, theatre, music listening, dance, and opera. By utilising latent class analysis on these seven categories of culture, I find three types of behavioural pattern on the basis of attendance. These three lifestyle groups are labelled Omnivores, Popvores, and Mediavores. The separation of Omnivores and Mediavores follows the Omnivore/Univore division made by Peterson. Omnivores refers to a lifestyle group whose engagement is scattered all over the cultural spectrum. Mediavores refers to a group of individuals who are almost inactive in cultural participation, and restrict themselves merely to mass media. Novel in my study is the group I have labelled Popvores. Popvores refers to a lifestyle group who are not roundly engaged in all cultural forms, nor are they inactive or restricted to media consumption, but are widely and more than other groups likely engaged in consumption of popular culture. By combining data from two periods in the latent class model, I find that from 1991 to 2004, Popvores and Omnivores increased in size while Mediavores decreased. The fastest growing

type is Popvores. My result does not support Peterson's assumption about Omnivores on the rise. By involving lifestyle patterns across all levels of culture, I conclude that individuals who do not necessarily consume high culture, still can be widely engaged, and these Popvores are increasing in size faster than Omnivores.

1.4 Social Explanations

Status, class, and education as three stratification related variables are tested for their interaction with period, in order to explain why the Popvore and Omnivore lifestyle groups are increasing in size. The findings show that social positions, status and class, do not interact with period. It is only education which changes it's effect in the time period studied. Two explanations of the cultural engagement changes can thereby be forwarded. First the educational expansion has lead to a compositional change which on aggregate level has increased the population's cultural attendance and activity form. Secondly, the effect of education is changing, these effect changes must be related to lifestyle types. I call this an effect type change. Higher tertiary education does increasingly lead to a Popvore lifestyle, while the effect on Omnivore lifestyle is stable. On the lowest educational level, the effect type change leads primary educated to be increasingly likely Omnivores, as well as Mediavores. These type of effect changes, together with the compositional change, are the social explanations behind the observed cultural engagement changes in Norway 1991 to 2004.

All four main theories—individualisation, culturalisation, processing capacity theory, and status theory—about social change and lifestyles failed the test in my study. Individualisation and culturalisation expect class to be less important. Status theory expects status to be less important. However, my empirical data shows that neither class nor status interacts with period. Culturalisation theory expects lower educated to be less likely Omnivores over time. However, my findings show that lower educated individuals are increasingly likely Omnivores. Processing capacity theory assumes that there is an increasing gap between the lower and higher educated in their capacity to consume processing 'demanding' culture. However, my findings show that the gap is decreasing instead of increasing.

1.5 Data and Method

The data for this study is The Culture and Media survey (Kultur og mediebruksundersøkelsen) collected by Statistics Norway in 1991 and 2004. These sample surveys are nationally representative. The questionnaire is divided into three main sections: consumption of various media; consumption of cultural goods, and background information about the respondent. Since the datasets also contain measures of social position, they can be used to answer the research questions outlined above. The dataset from 1991 uses an older occupational classification system which has been replaced by a revised system in recent surveys. Therefore I have made a bridging system updating the older occupational codes to be comparable with the system used in 2004.

I employ Latent Class Analysis (LCA) to identify behaviour patterns out of observed categorical variables, by assuming that there is an unobserved (latent) variable present. Each behavioural pattern represents a lifestyle type. The software I use is Latent Class Gold. I use Bayesian Information Criteria (BIC), bivariate residuals, and misclassification to test LCA model. BIC is used to evaluate how well the clusters in each model describe the observed variation in the dataset. It is employed to decide how many clusters I will include in a final model. Bivariate residuals indicates associations between pairs among the observed variables. It is used to evaluate whether local dependence should be incorporated in the model between specific pairs. Misclassification indicates the probability with which respondents are placed in the correct cluster in a final model.

I then use multinomial logistic regression to model lifestyle membership given knowledge from independent variables, such as period, education, status, class, and so on. The model built through multinomial logistic regression can re-predict lifestyle change. Plots of lifestyle probabilities have also been created, in the programming language Python, to visualise the development of participation with culture over time and to illustrate the effects of different mechanisms involved in explaining lifestyle choices.

1.6 Outline of the Thesis

This thesis will be structured as follows. Chapter 2 introduces four theoretical perspectives on lifestyle and social changes: individualisation, culturalisation, processing capacity theory, and stratification theory with focus on the status perspective. All four perspectives are deployed throughout the thesis, and are finally tested in the model on lifestyle changes in Norway.

Chapter 3 presents previous empirical research on lifestyle choice and lifestyle changes. I summarise the indexes for lifestyle differences, the typology of lifestyle groups, the indicators for lifestyle choices, and the trends of lifestyle change in modern society. Current and relevant research will help me to solve challenges related to operationalisation of data, and interpretation of mechanisms.

In chapter 4, I present data and introduce methods for this thesis. The Culture and Media survey is introduced and the questions from the media and culture modules are presented. The bridging system for occupational classification systems is described. The principles of Latent Class Analysis is emphasised, since the method is challenging to apply. Multinomial Logistic Regression is also briefly presented in this chapter.

The model built through Latent Class Analysis will be presented and explained in chapter 5. The Latent Class Analysis model indicates behavioural pattern of cultural consumption in Norway. Three lifestyle types can be grouped based on cultural engagement: Omnivores, Popvores, and Mediavores.

Then in chapter 6, lifestyle changes are analysed using Multinomial Logistic Regression. Stratification related variables—class, status and education—are assessed for their interaction with period in the model, in order to explain lifestyle affiliation and lifestyle change. The model shows that status and class has no interaction with period, while education interacts with period in the time period studied.

In chapter 7, I create simulations using the Python programming language to model the results from the Multinomial Logistic Regression Model. The simulations can illustrate how three lifestyle groups differ, and how mechanisms predict lifestyle affiliation separately from other variables. Through observing the simulations, I conclude that the reason for lifestyle group changes are a *composition change* in the population from educational expansion, and *effect changes* of primary, lower tertiary, and higher tertiary education. The simulations are also used to test processing capacity theory. In the end of chapter 7 I illustrate how mechanisms related to stratification accumulates. The polarised simulations also show how Popvore affiliation is, to a far less degree than other lifestyles, related to stratification.

Chapter 8 concludes the main argument of this thesis, evaluates the contributions of the thesis in relating to the existing literature of lifestyle changes, and suggests further research to answer the questions posed on the basis of the findings of this thesis.

Chapter 2 Theoretical Perspectives on Lifestyle Changes

In this chapter, I will introduce four theoretical perspectives on lifestyle changes, including individualisation, culturalisation, information processing capacity theory, and stratification theory with focus on the status perspective. These theories are influential in explaining social change, and are all related to both lifestyles and stratification. In each section, I shall first summarise the main argument of each theory, and then point out its weaknesses. I do not intend to introduce all aspects of these theories, rather, I specifically focus on the relations between lifestyle change and social position and education.

Individualisation thesis highlights that the individual is released from the constraints of class and status in contemporary society. This thesis has provided a new perspective in studies of social change. It however has two main weaknesses: 1) the concept of 'individualisation' is ambiguous and the definition of class is vague; 2) little empirical evidence is in favour of its position, rather, a lot of evidence is accumulated against this theory.

Culturalisation theory emphasises the increasing importance of cultural resources in contemporary society. It points out that the educational system plays an important role by providing access to and knowledge about cultural resources. According to culturalisation theory, the increasing importance of culture will lead to a new type of gap in the population. The theory does not question whether or not education has changed its role. As a result it might overlook alternative outcomes of the educational expansion.

Processing capacity theory also emphasises the importance of education in cultural consumption and lifestyle changes. This theory assumes that democratisation of educational access will lead to a gap between individuals with lower and higher education relating to their capacity to consume culture. Processing capacity theory assumes education can be used to indicate individual cognitive capacity, while largely overlooking the alternative interpretation, that education could indicate a socialisation experience.

Stratification theory includes two main perspectives: class distinction and status distinction. The class distinction perspective underlines the importance of class when explaining lifestyle choices, while the status distinction perspective argues that it is status rather than class that explains lifestyle choices. The status distinction perspective assumes that over time status will be of less importance since there might be a growing resistance to deference in society today. These two perspectives are alternatives to each other. It is the status perspective I follow in this thesis in order to see what status might add to analysis of lifestyles.

A critical review of theoretical perspectives on lifestyles and social change will help me to make a testable proposition of the thesis. All four perspectives are deployed throughout the thesis, and are finally tested in the model on lifestyle changes in Norway.

2.1 Individualisation Theory

2.1.1 Institutionalised Individualism

Individualisation thesis is one of the most popular theories in explaining social change. The version proposed by Ulrich Beck and Elisabeth Beck-Gernsheim has especially attracted much attention. It is difficult to specify the *exact* meaning and implication of individualisation theory (Atkinson 2007; de Beer 2007). However, it is necessary to summarise the statements made by Beck over the development of modern society and the change of lifestyles.

The clearest parallel to individualisation theory is individualism, which claims that individuals can make choices about belief, occupation, and family life without interference from the state or communities. Individualisation thesis also emphasises the independence of individuals, but also highlights the importance of institutions. For instance, Beck and Beck-Gernsheim labels their version of individualisation thesis as institutional individualism, arguing that it is the main institution –the welfare state – that gives individuals incentives to break from traditions and families, and to live out independent lives (Beck and Beck-Gernsheim 2002) . According to institutional individualism theory, there are two qualifications for lifestyle choices and changes:

One qualification can be described as the liberation from economic restrains on lifestyle choices. It means that the elevation of living standards has changed the way individuals make choices. People are no longer constrained by material goods. Material resources are sufficient enough for most inhabitants to make choices about their lifestyles. The freedom to choose has thus become available to most individuals.

The other qualification can be described as the decline of the traditionally social. In Beck's theory, and other similar individualisation theories, the social has lost its role as a guide for the individual. According to Beck, the role of any large traditional social institution is in decline: some traditional social institutions, such as 'feudal' status groups, have disappeared; class culture has disappeared; the social role of the church is decline, etc. This is what Paul de Beer simply labels "emancipation" (de Beer 2007).

2.1.2 Criticism of Individualisation Theory

The first weakness of individualisation thesis is that the concept of 'individualisation' is ambiguous. Beck claims that it is not his arguments but the real world, especially the social structure is unclear (Beck 2007, pp. 683). He therefore attempts to capture the 'ambiguity' in society in general (see e.g. Beck and Beck-Gernsheim 2002, pp. 51). If Beck wants to capture the changing feature of modern society, he needs to define clearly what society used to be. For instance, since Beck argues that class has disappeared in late modernity, he needs to have an accurate definition of what class is, in order to develop a clear definition of individualisation. Unfortunately, as Will Atkinson complaints, Beck does not give a clear image of what class is, and presents a flawed and caricatured insight to the historical past and to present class analysis (Atkinson 2007).

The second weakness of individualisation thesis is that there is little empirical evidence in favour of its position. Even though individualisation thesis has been applied to various areas of sociological research, it still lacks of empirical validation, and has neither been tested nor operationalised adequately. Rather, a lot of empirical evidence is accumulated against individualisation theory (Elchardus 2009, pp. 150; Siongers 2007, pp. 7). If society is individualised, one expects lifestyles to be almost unstructured and unpredictable. Instead lifestyles are strongly patterned, and can be summarised in few lifestyle types. For instance, in their studies on music in England, Tak Win Chan and John H. Goldthorpe find three categories of music consumers (Chan and Goldthorpe 2007d, pp. 6). A similar conclusion is also made by Arthur Alderson, Junisbau Azamat and Isaac Heacock, who find three or at most four categories of consumers of culture in America (Alderson, Junisbai, and Heacock 2007, pp. 196). Also according to individualisation thesis, an increased or great autonomy of the individual results in (very) weak relationships between individual's tastes, convictions and practices on the one hand, collective identifiers on the other. However, the above quantitative studies show that lifestyle can still be grouped into few categories, and individuals' tastes, convictions, and practices can still be predicted on the basis of the standard sociological variables, such as social position and level of education.

2.2 Culturalisation Theory

2.2.1 Increasing Importance of Culture

From the same premises as Beck and Beck-Gernsheim, Koen van Eijck and Bertine Bargeman

stipulate that social changes occurs when the population in general has been materially elevated. They assert that this elevation of material goods leaves room for cultural change. In other words, if material conditions have diminished effects on lifestyle, culture becomes increasingly important. There is more cultural resources, such as information available now in society. And information currently plays a role in both occupational and leisure life. This type of social change where culture is given a specific new role is described by van Eijck and Bargeman as 'culturalisation' (van Eijck and Bargeman 2004).

On the other hand, culturalisation theory has a different perspective from individualisation on changing importance of institutions, social status and education. van Eijck and Bargeman believe that some demographics is still important in modern society. They argue that the society is increasingly stratified or structured by cultural resources, which mainly include knowledge and information. The possibilities of obtaining cultural resources largely depend on the educational system and some other social institutions. van Eijck and Bargeman argue that even though individuals themselves are perhaps convinced that they are in control of their own life, make their own choices, and are independent from their social positions or social institutions, they are in fact not individualised, but are experiencing a new form of social control. Traditions are less important, and younger generations are brought up with less discipline and authority. Their behaviour however is still restricted. Both the family and social institutions, such as the educational system and media, influence their decision-making processes. Therefore, the educational system and other social institutions are still believed to be the most potent modern socialising agents.

2.2.2 Criticism of Culturalisation Theory

Culturalisation theory assumes: 1) Education has only changed its effect, but not its role. 2) Culturalisation leads to a gap between lower and higher educated. And this gap is the beginning of a new type of inequality, which is based on cultural competence differences. 3) Culture can be described in largely binary terms, as highbrow or popular culture.

The theory of culturalisation largely ignores educational expansion. Educational expansion alone could explain the increasing interest in culture. People with higher education consume culture more than those with lower education. More individuals have higher education today, both in Netherlands where culturalisation is tested, and in Norway. The causal link between the individual and the macro result is then, as more individuals chooses to educate themselves, the aggregated result is more consumption of culture in general.

Since there has been an educational expansion, one must ask why education would be more important, and how this influences individuals through socialisation. How is the individual socialised in the current educational system? From the curriculum, teachers, or peers? Eijck does not spend text on this subject. I will come back to the issue of educational expansion, when criticising processing capacity theory.

2.3 Processing Capacity Theory

2.3.1 Simple and Complex Cultural Goods

In terms of analysing social change from the perspective of culture, a parallel route to culturalisation is processing capacity theory, which is proposed by Harry Ganzeboom. According to Ganzeboom, processing capacity is a psychological attribute, referring to people's ability of processing information. Ganzeboom believes that processing information capability can be used to study cultural participation and to explain why people have different interests in culture (Ganzeboom 1982).

Ganzeboom categorises cultural goods in accordance with its complexity. He asserts that some culture, such as arts and theater, are more complex in content than other culture. Simple cultural forms are not stated specifically, but I must assume mass culture such as television or popular culture in general are examples of the simple. Ganzeboom believes that people who have high processing capability tend to consume complex culture, that is, high culture, and variation; while people who have low processing capability on the contrary, tend to consume simple culture, that is, low culture and seeks less variation.

As with culturalisation theory, Ganzeboom's processing capacity theory also emphasises the importance of education in cultural consumption. Information processing theory predicts a growth of cultural interest over time. This theory assumes that average education has increased, and more individuals have acquired relevant skills and knowledge about cultural goods. By assuming that 'democratisation' of education leads to a more efficient recruitment of intelligent individuals, the remaining population with lower education can perhaps be regarded as an 'intellectual "residue" with few capacities (Ganzeboom 1982, pp. 191). The consequence is a developing *gap* between individuals with lower and higher education in interest for processing demanding cultural goods. Those who have higher education will be increasingly more interested in a variety consumption of cultural goods, including complex and simple culture. While those who have lower education tend

to constrain themselves to consume just simple culture if any.

2.3.2 Criticism of Processing Capacity Theory

While culturalisation and processing capacity theory lead to an expectation that there is a gap developing due to educational differences, an alternative view is offered by Philippe Coulangeon. Coulangeon focuses on educational expansion, believing that educational expansion will lead to a composition change in the population, as well as a possible changing role of education. He argues that when education gives access to more individuals from a larger social background, the result is a changing effect of education, that is, education will have a less high cultural connection, and educational institutions will loose their cultural authority (Coulangeon 2009, pp. 132).

For instance, in his study on cultural consumption in France, Coulangeon finds that people who have upper secondary and higher education is increasingly less associated with reading, but more with television. He believes that the changing cultural consumption habits are the result of education expansion, when more and more people from different social background get higher education. People from different social background also bring with them a variety interests in culture, for instance a wide interest in popular culture. Educational expansion therefore brings a changing relation between higher education and cultural practices (Coulangeon 2009).

Since both culturalisation and processing capacity theory predicts developing gaps, a change in role and effect of education challenges both assumptions about social change. It may not be complex culture, or high culture, which benefits from educational expansion.

Coulangeon also questions if education increases the skill to consume culture, it may do so in terms of specific skills, like reading. Other arts are not commonly part of the curriculum, and there is likely no link between these arts and the curriculum, which may be more technical and not arts related. Therefore theatre, fine arts, and cinema, which are not part of ordinary studies, would probably not be influenced directly from the skills learned from longer education (Coulangeon 2009, pp. 129).

2.4 Stratification Theory

2.4.1 The Class Distinction Perspective on Lifestyle Changes

Class is perceived by Pierre Bourdieu and his followers as an important explanation for lifestyle

choices. Bourdieu´s work rests upon a theory of 'homology' between social position and lifestyle choices. In his work 'Distinction. A Social Critique of the Judgement of Taste', Bourdieu argues that those in 'higher' social positions are connected to 'high' culture, and those in 'lower' social positions are connected to 'popular' culture (Bourdieu 2002). A reformulated 'homology' theory has been forwarded over a series of works following the theory from Bourdieu. As Tampubolon specifies, those in higher social positions consume more legitimate culture than those in lower social positions (Tampubolon 2008b). In Class Distinction theory, lifestyle provides a way to euphemise economic inequality, hiding economic advantages behind differences in taste. The main assumption is that life chances explains lifestyle.

Bourdieu's version of 'homology' thesis has been challenged both by his followers and critics. For instance, one critic, Richard A. Peterson suggests that the contemporary elite consumes 'high' culture (e.g. opera) *in combination* with 'medium' and/or 'low' culture. The lifestyle type which combined interest is labelled Omnivores by Peterson. The audience group who do not belong to the elites and who have a more limited repertoire is labelled Univores. Peterson connects cultural consumption with social change, arguing that the Omnivore/Univore divide has replaced the old elite/mass divide in lifestyles (Peterson 1992; Peterson 2005).

Peterson's work is challenged by Bernard Lahire. Bernard Lahire argues that the type of behaviour Omnivore has been rather common throughout the previous century, especially since the sixties when producers of culture intentionally combined genres to reach larger audiences. It therefore should be perceived as the outcome of testing a new model, rather than the outcome of social change. Moreover, Lahire warns against over-interpreting the relationship between class and lifestyle. He believes that it is not only class, but also other communities, such as family, or religious congregation, influence individuals' lifestyle choice. Lahire argues that consumers have always belonged to more than one group, and not only the group associated with their social position. As their taste is shaped by the groups or 'communities' they belong to, belonging to many 'communities' results in variation of culture on the individual level. Consumers who restrict themselves to the culture which is consumed by their 'social peers', shows 'consonant' behaviour. Consumers who also participate and like culture consumed by others than their 'peers', shows 'dissonant' behaviour (Lahire 2008).

2.4.2 The Status Distinction Perspective on Lifestyle Changes

In contrast to the class distinction perspective, Tak Win Chan and John H. Goldthorpe argue that it

is status rather than class that explains lifestyle choices. In class distinction perspective, status is perceived as a result of class, and cannot be separated from class, while for Chan and Goldthorpe, status is a separate dimension from class. They understand class as a pure economic term, and perceive it as a result of work relations. They believe that class does affect life chances, such as matters of unemployment, however, it does not affect lifestyle choices. Different from class, status is considered by them as a motivational mechanism when people make lifestyle choices. When possible, individuals wants to achieve higher status. Status seeking individuals can partly protect their position through consume, or possibly enhance it. Chan and Goldthorpe believe that those who have high social status tend to consume high culture, and those of lower social status tend to consume popular or mass culture (Chan and Goldthorpe 2004; Chan and Goldthorpe 2007a)

The status hierarchy and status related norms are not formed or protected by any current institution. Also in Britain, they believe, status is now 'less openly asserted from above and deferentially acknowledged from below'. This could in turn lead to over time a weaker connection between lifestyles and status (Chan and Goldthorpe 2007d). This argument is in line with the initial work from Ganzeboom on status versus information processing theory. Ganzeboom also supports the idea that there are fewer status motives in modern society (Ganzeboom 1982, pp. 191).

Status theory also discusses the role of education in social change. Following processing capacity theory, Chan and Goldthorpe assert that regardless of the life chances and life choices each individual may have, educational level influences individuals' processing capacity. Educational level is therefore a resource mechanism, which indicates individuals' capacity to consume cultural goods (Chan and Goldthorpe 2007a, pp. 524). A processing skill, Arthur S. Alderson et. al. note, that might be acquired in education (Alderson, Junisbai, and Heacock 2007).

2.5 Conclusion

How lifestyles change over time, and what explains the change, is debatable. In this chapter, I have introduced four theories, which discuss lifestyle changes. These theories are all related to the elevation of living standard and the recent educational expansion. The theoretical expectations are partly overlapping, partly diverging.

Individualisation predicts declining impact of social position on lifestyle choices due to living standard elevation and welfare changes. Culturalisation predicts declining impact of material resources and increasing impact of cultural competence which is available through higher education. Processing capacity theory predicts an increasing gap between lower and higher

educational groups in terms of their engagement with culture. Status theory predicts declining impact of status as resistance to deference is expected in contemporary society.

Even though some of the theories are ambiguous, they offer important theoretical perspectives in studying of lifestyle choice and lifestyle change. These theories will be used to anchor the analysis of my empirical material. My empirical work will further test the conclusion these theories make. It is clear that there is still room for more academic work, either theoretical or empirical, to offer new perspectives to studies on lifestyle changes and lifestyle choice. My study on lifestyle changes in Norway in 1994 and 2001 will apply both information about occupation as well as education. Few studies of lifestyle changes exists where the impact of social position and education is included together. In this study I will apply a status variable alongside class, thereby separating out two dimensions of social position. This multidimensional approach might give new insight on lifestyle changes. It is of essence here to test if these different dimensions of stratification are either fading, changing or mostly stable in their relationship to lifestyle.

Chapter 3 Research on Lifestyles

In this chapter, I review a number of recent empirical studies on lifestyle changes and lifestyle choices. I summarise the vocabularies and the indexes these studies use in studying lifestyle change. The trends of lifestyle change in modern society discovered by previous empirical studies will also be introduced. A careful examination and review of previous quantitative research on lifestyle change will help me to create and to operationalise hypotheses in my empirical work on lifestyle change in Norway.

3.1 The Vocabulary of Lifestyle Research

The lack of standards in lifestyle research makes it difficult to compare projects and results. The vocabulary used to describe behaviour is as a result at times confusing. This brief presentation of vocabulary is meant to clarify and simplify work on lifestyles. Three important aspects of lifestyle measurement and its terminology can be summarised as follows: (i) Indexes of lifestyle differences, (ii) typology of lifestyle groups, (iii) indicators of lifestyle choice.

3.1.1 Indexes of Lifestyle Difference: Breadth/Range; Level; and Volume/Frequency

Lifestyle difference is often understood as respondent's diverging affinity to cultural products and at the same time some converging adherence to cultural items or venues. For instance, it could be that few respondents attend the opera, but most watch television. Those who attended the opera are also likely to watch television. This factuality of diverging and converging practice is difficult to describe in research on lifestyle without adequate terminology. Three different indexes of culture are often applied in research on attendance or taste for culture: breadth/range, level, and volume/ frequency.

    Breadth/range refers to the number of different cultural forms, items or genres etc. The interest in many forms of culture versus the interest in fewer forms of culture has been found significant in numerous studies (e.g. Coulangeon and Lemel 2007, pp. 100; López-Sintas 2007). This aspect of lifestyle index is suggested by researchers to be separated from other indexes of culture (López-Sintas 2007).

    Level refers to the cultural categories placed in a hierarchy of culture: legitimate or

illegitimate; high, medium and low brow culture, etc. The different hierarchical levels of culture consumption have been found significant in numerous studies (e.g. Bourdieu 2002; Lahire 2008; López-Sintas 2007; Peterson 1993; Tampubolon 2008b).

Volume/frequency is another significant difference in cultural forms, items or genres. It refers to the intensity of interest or participation in each specific cultural form, item or genre. It represents a 'quantification' of consumption. This index has also been found significant in research on lifestyles (Sullivan and Katz-Gerro 2007; Tampubolon 2010).

The above three types of index can be combined to represent a totality of lifestyle differences among respondents (Le Roux, Rouanet, Savage, and Warde 2008, pp. 1066). Leaving out either of the indexes will leave out some relevant information on lifestyle changes.

In this thesis, I shall apply the measure of breadth to reveal the extension of consumer's general interests across seven cultural domains in Norway. I will also keep information about level, by combining traditional elite or high status culture, with more pop cultural and mass cultural domains. The volume of attendance is likely to be important, but all these three different indexes are all separate dimensions of lifestyle behaviour, of which I consider the breadth and level as most important in a first study.

3.1.2 Typology of Lifestyle Groups: The Omnivore/Univore Divide and Later Developments

No uniform measurement of lifestyle exists, since lifestyle is the interest for a whole range of possible cultural arenas. As a result there is no uniform typology of lifestyle 'groups' either. The only terminology that remains as the current starting ground for lifestyle differences, is the typology developed by Peterson from his work on music. By combining the indexes of breadth and level, Peterson creates a precedence for dividing behavioural patterns into two types of lifestyle groups: Omnivores and Univores (Peterson 1992; Peterson 2005).

The Omnivore, in the zoological meaning, is an animal that indifferently eats plants and other animals. When it is used in lifestyle studies, Omnivore refers to a lifestyle group, mainly elite, who displays a breadth of interests across all levels of culture. They favourite culture is typical 'highbrow', and is operationalised by Peterson and Kern as individuals liking both classical music and opera, and their taste range further on to 'medium', and includes 'low' culture. The Omnivore has been described as open and tolerant, who can like anything but low status music like Heavy Metal (Bryson 1996). Nevertheless, omnivorousness is still a type of distinguished taste, a

behaviour that helps to draw social boundaries from those outside the elite. What they are open to is the taste experience from different cultural domains they attend for their own benefit or pleasure. The other type of lifestyle in Peterson's initial typology is a limited behaviour placed in opposition to the Omnivore style, labelled univore by Peterson and Kern. Univore refers to a lifestyle group who has less breadth and less involvement with high culture (Peterson and Kern 1996). Peterson and Simkus has envisioned this as a pyramid, with one Omnivore group at the top, and many univore groups below (Peterson 1993, pp. 168-169).

It is the comparison of the two groups, which gives the Omnivore/Univore divide its specific place in theory. The Omnivore must be understood first through cultural *breadth*. The Omnivore is wide in its interest, wider than the Univore. Then, considering cultural *levels and breadth*, the Omnivore consumes more high brow, middle brow, and low brow culture, than the Univore (Chan and Goldthorpe 2007d, pp. 3).

Some additional groups are also found in later studies. For instance Omnivores who only *listen* to music media are termed Omnivore-listeners (Chan and Goldthorpe 2007d, pp. 7). A semi-omnivorous lifestyle group is labelled 'paucivore' (Alderson, Junisbai, and Heacock 2007; Chan and Goldthorpe 2007e). A lifestyle group with no cultural participation is called 'inactives' (Chan and Goldthorpe 2007e). The specific typology varies with the cultural categories and should not be understood as definite typologies of people's lives. A table of recent typologies can be found in Michele Olliviers' article on modes of interest (see table 1 in Ollivier 2008, pp. 124).

Omnivorousness is not the only typology describing openness to culture. Lahire labels them dissonant, if they consume culture outside their own group (Lahire 2008). Ollivier refers to openness by the words Humanist, Populist, Practical, and Inactive (Ollivier 2008). Her wording are meant to capture what and how they show interest across levels, and the extent of breadth of interest they are showing. In the end, most typologies combine elements from both *breadth* and *level* of cultural goods.

Since not only high culture consumers are found to have a wide interest in many different forms of illegitimate culture, it has been suggested more recently to apply the concept Omnivore to anyone with an wide range of interests to any level of culture, thus disengaging breadth from level of culture (López-Sintas 2007). Medium and low culture Omnivores are found in several studies (Peterson 2005). This is the approach I will follow in this thesis, to explore different types of wide interests for cultural forms, not only high cultural omnivorousness.

3.1.3 Indicators of lifestyle choice: Interest and/or Participation

Lifestyle choice is sometimes indicated through interest (Peterson 1993), disinterest (Bryson 1996; Tampubolon 2008a), through participation (Chan and Goldthorpe 2005), and sometimes through the combination of both. The preferred indicator method and operationalization of indicators is debated among researchers on cultural goods. For instance, Peterson suggests the answers respondents give for questions on participation may not be reliable, since respondents may want to impress the interviewer, while the answers to questions on interests are more reliable (Peterson 2007). The reply from researchers favouring attendance, is that one should focus on behaviour. Social action is in particular of interest if one is interested in stratification, as constrains would best be seen by observing behaviour. They also fail to see that desirable answers would only apply to questions of attendance and not interest (Chan and Goldthorpe 2007b, pp.319). An in between position is taken by Brigitte Le Roux et al. They use correspondence analysis, a technique used to structure categorical data into visual axes to interpret relations between different cultural items. They find that the most important axis in cultural taste can be interpreted as an axis of 'disengagement' and 'involvement', which is made up more by information on participation rather than on interest (Le Roux, Rouanet, Savage, and Warde 2008). There is also a tradition for combining interest with information on participation to study lifestyle choices based on both expressed taste and cultural involvement (Lahire 2008). At times surveys, such as the survey for the 'Cultural Capital and Social Exclusion' project running in Britain (Silva 2005), are constructed with information on both interests and participation.

   The data available from Norway does include some information about interest. It still seems most important to explore participation, as Le Roux et al indicated that participation is the most significant dimension. Therefore I use attendance data. It must also be noted that a preliminary test of my first dataset revealed that some may attend without being interested. Attendance and interest could perhaps be considered as different aspects of cultural taste, of which attendance, observed behaviour, would matter the most.

3.2 Explaining Lifestyle Choice and Change

3.2.1 Class, Stratification, and Lifestyle

The project—Cultural Capital and Social Exclusion: A Critical Investigation—led by Tony Bennett,

inquire into cultural tastes and forms of cultural participation, in relation to indicators of social divisions. The starting point of the project is Bourdieu's concept of cultural capital, a capital that exists as a possession in some form, whether as knowledge or experience, or a possession of an object of legitimate culture. Cultural capital exists in a relationship to economic capital, and is the foundation of an agents position in the second dimension of the class system (Bourdieu 2002). In the project, the indication of cultural capital in the models is education. According to the project, higher educated have more experience with legitimate culture, which thereby makes education a form of cultural capital. This type of link between education and cultural capital has been questioned by Coulangeon. In his work on cultural consumption in France, Coulangeon argues that it might be education has changed its role (Coulangeon 2008). He believes higher education has lost its connection to the legitimate culture, thereby undermining education as a possible indicator of cultural capital.

The cultural capital project constructed a specific dataset for their research project where they investigate several domains of culture. Studying several domains at once, Le Roux et al. find that the most important lifestyle axis of disengagement and involvement is strongly associated with class. They distinguish three classes: a professional class, occupying about 24% of the whole population, an intermediate class of 32%, and a relatively large working class of 44%. They go on to conclude that lifestyle is not about social exclusion, but rather about boundary making (Le Roux, Rouanet, Savage, and Warde 2008).

Class and cultural goods has been researched by many other researchers. The research covers genres within music, literature, visual art, television etc.

In his study on music consumption in England, Tampubolon finds that class together with other co-variates structured music preferences in England. Tampubolon lends support to a redefined homology theory with two findings.

First Tampubolon uses information on cultural engagement, by studying music genres listened to at home and attended at concerts. He derives taste patterns by using latent class analysis, and identifies two clusters, neither of which consumes all genres of music both at home and out. He labels the lifestyle clusters 'Dominant' and 'Popular'. The main difference between them is related to listening to rock and pop music at home. The 'Popular' cluster listens to rock and pop at home, while the 'Dominant' does not listen much to rock and pop at home. The 'Dominant' cluster attends all sorts of concerts, while the 'Popular' cluster seldom attends. The question then is whether not listening to rock and pop at home can be explained through class.

Tampubolon then finds a link between class and placement in one of the two lifestyle clusters.

In his study, individuals in managerial and professional occupations is more than four times as likely to belong to the 'Dominant' lifestyle cluster, compared to anyone in routine occupations. Working with a five class scheme, when compared to a routine class, the four other classes have much better odds for being in the 'Dominant' cluster (Tampubolon 2008b).

Mike Savage finds no mainstream or universally liked music in his research. He finds that the closest to mainstream is classical music, since it is this category people dislike the least. Education explains much of the preferences, especially liking Classical music. He also finds an axis in preferences from age, all music carried an age profile, with jazz as the only exception. Gender differences is not especially marked, part from for Rock and Heavy Metal. Savage finds that occupation is not generally very significant to predicting liking of a music genre. It is however much more important in predicting the liking of particular musical works (Savage 2006).

David Wright is interested in the social infrastructure and the divided nature of reading preferences. He believes that a diffused readership does not have to mean a diffusion of high and low culture. He finds that women participate more than men in reading, and that a few genres are gender neutral (biographies and modern literature). Wright identifies a minority in the literary field, who consume all kind of literature, part from romantic novels, and they like modern novels. The taste for books is connected to education and occupation. Biographies in particular is read by managers and professionals, and modern literature is read by large employers. Even though the reader groups are diffused, according to Wright, modern literature and biographies is the high culture and romantic novels is low (Wright 2006).

Elizabeth D. Silva explores the visual arts in Britain. The population in general is engaged with visual arts in some form. She finds that the respondents who like impressionists, are likely to be Omnivores. Those who do not engage with visual arts are likely to be low on cultural capital and economic capital. Possession of paintings correlates with higher occupational groups. Women are more engaged with the visual arts (Silva 2006).

Tony Bennett examines the practise of television viewers and the role of distinction 'on the box'. His question is: in what way is the audience divided in groups by their cultural choice? He finds that the audiences overlap and tend to be fluid, and the divisions are less sharply drawn than in other cultural domains. Bennett refers to Lahire who writes that television has flattened out the relationship between culture and classes, e.g. professionals and managers show appreciation of genres on television that are ranked low in traditional hierarchies of legitimacy (Lahire in Bennett 2006).

3.2.2 Status, Capacity, and Lifestyle

In line with Weber's theory of distinguishing status from class, Chan and Goldthorpe argue that status explains lifestyle better than class. The difference between class, status, and education for Chan and Goldthorpe has been outlined in the theory chapter. In their studies, they see these different dimension as combining to explain cultural consumption. Income, as an economic resource, is important to facilitate and engage individuals to moderate levels of consumption. But high income in itself, separate from other variables, does not result in high levels of consumption. They describe education as a cultural resource in this summary article, and considers this type of resource to be of a more general importance. High education quite likely results in a minimum of cultural attendance. Higher education more likely leads to cultural engagement, and this is by them considered as evidence of consumption of culture for 'its own sake'. The capacity to consume, indicated by education, leads to cultural consumption as for pleasure. They conclude their dimensional outline on a note about the difference of status related to other variables. Since status is still significant, status consumption is motivated by prestige, and acts as a *separate mechanism*, 'over and above' education and income (Chan and Goldthorpe 2007f).

In their empirical research on musical listening and attendance at concerts in Britain, Chan and Goldthorpe find that there are three main lifestyle clusters that divides the British population. The clusters are along the Omnivore-Univore line. The clusters are Omnivore, Omnivore-Listeners and Univores. By applying a multinomial logistic regression on the lifestyle clusters, they find that education and status explains much of the consumer behaviour. They also find that education predicts more than status. Therefore they go on to suggest that the education related capacity mechanism is not so much consumption to seek esteem, but rather for satisfaction (Chan and Goldthorpe 2007d, pp. 14). From their cluster presentation, it seems probability of a Omnivore-Listener membership is much less responsive to variation of education, income and status, than Univore and Omnivore membership (see table 8 in Chan and Goldthorpe 2007d, pp. 12).

3.2.3 Education and Socialisation

Many scholars find that education is an important indicator of lifestyle change. In their study of omnivorousness in America from 1982 to 2002, Garía-Álvarez el al. use education as an indicator of social class. They find that education has different impact on the number of genres liked by respondents (*breadth*). They also discover that among the underprivileged group, those with low

education, differences among gender are starker than among the privileged (López-Sintas 2007, pp. 438).

In the Netherlands, Koen van Eijck has conducted studies on Dutch lifestyle patterns. He was interested in how educational mobility influences lifestyle preferences among status groups. He argued that the cultural *heterogeneity* among those with high education can be explained by educational mobility. That is, after an education expansion, the new educationally mobile had different lifestyle preferences than those whose mobility was more constant. Moreover, he found that parental educational background also significantly affected children's tendency to participate in legitimate culture activities. The highly educated respondents who had been upwardly mobile were less likely to participate in legitimate culture (van Eijck 1999). In his later work on lifestyle and social hierarchies, van Eijck coins the term culturalisation to describe the changing in modern society, where economic resources are becoming less important while cultural resources are becoming increasingly significant. As a result, indicators of cultural socialisation, such as age and education, become more influential determinants of all forms of cultural interests (van Eijck and Bargeman 2004, pp. 444).

3.2.4 Gender Differences

It used to be assumed that women are less empowered than men, and are left with insufficient time and means to consume high culture. Erik Bihagen and Tally Katz-Gerro however find that this 'constraint model' cannot explain general development of gender related cultural consumption. In their study of the relationship between gender and cultural consumption, Bihagen and Katz-Gerro find that women who are less frequently placed in a dominant class than men, participate more often than men in high culture activities. They also find an interaction between gender and class, and gender and family status. There is weaker gender difference in consuming high culture for skilled manual workers than for those who are outside labour market. Even though women could in theory be 'constrained' because they are more home centred, the gender gap is in fact large when considering interest in high brow culture, and holds true for all ages. Therefore Bihagen and Katz-Gerro conclude that the gender gap can be attributed to socialisation in early age (Bihagen and Katz-Gerro 2000).

In their study of patterns of cultural interest, López-Sintas et al. find that the relationship between gender and cultural interest is different among the privileged and underprivileged. In the privileged group, gender difference in cultural consumption is small, while in lower class, gender

difference in cultural consumption is bigger. It is explained by them as a result of greater specialisation in tasks among the underprivileged (López-Sintas 2007, pp. 438).

From Bihagen and Katz-Gerro one can expect large differences between men and women in their interest for high culture, while from López-Sintas et al. the expectation is small differences for the privileged groups.

3.2.5 Demographic Control Variables, Region

Demographic information is often included as controls in models on cultural consumption. One point regarding information about regional variation is made clear by Chan and Goldthorpe in their study of Theatre, Dance, and Cinema attendance. The regional variation of engagement does by inspection first seem to be following an opportunity structure that appear to be regional. In a multivariate model, the regional variation becomes non-significant, as stratification variables are placed in the model. Thus regional variation reflects the stratification composition of particular areas, and the interpretation by them is that region is not an explanation for opportunity and attendance. They state specifically that the regional variable is just picking up initially concealed effect of stratification, until the effect is tested in a multivariate model (Chan and Goldthorpe 2005, pp. 204).

3.3 Trends of Lifestyle Change in Modern Society

Lifestyle is changing as the volume of consuming popular culture is increasing. It is also becoming complex to study lifestyle change, as groups develop differently. A few studies touch upon lifestyle changes. These studies provide some findings as follows:

3.3.1 Increasing Narrowness

As I mentioned in the above, the term omnivorousness was created by Peterson in his 1992 study, referring to a lifestyle group who displays a broad interests across all levels of culture, such as various taste for music genres. Peterson believes that those who do not belong to the elite normally have a more limited repertoire, and often constrain themselves to consume simple culture. He later analysed the development of omnivorousness in America between 1982 and 1992, and find that

omnivorousness is on the rise (Peterson and Kern 1996).

Peterson asserts that the Omnivore/Univore divide has replaced the old elite/mass divide in lifestyles. The old elite could display snobbish taste and shun lower cultural forms, while this type of behaviour is today replaced by a more open taste. Peterson also expects omnivorousness to be increasing, since younger cohorts are more culturally varied than older cohorts, and/or come from a more diversified background. However, on the other hand, he believes that omnivorousness can disappear again, and that snobbery as elite lifestyle could return (Peterson 2005).

Using the same survey as Peterson used from 1982 to 1992, and add 2002 data, López-Sintas however finds that Americans in general show an increasing narrowness of taste for different musical genres. Increasing omnivorousness is only concentrated to a group of less than 9 percent of the population (López-Sintas 2007). López-Sintas convincingly points out that the reason Peterson indicates an increasing omnivorousness is that he never analyses omnivorousness among non-legitimate culture consumers.

3.3.2 Questioning the Openness of Omnivores

The Omnivore has at times been described as 'open' or 'tolerant' (Peterson 1992, Bryson 1996). The tolerance of Omnivores was firmly established by Bethany Bryson's in her study from 1996, where she explores the distaste to music, and acceptance to political ideas. Like Peterson and Simkus (Peterson 1993), she assumes that there is a small group that is omnivorous, and many groups that are univorous. She also assumes that the link between status and omnivorousness is bimodal. Her view of education is that it only leads to increased tolerance, either the individual becomes a Omnivore of a tolerant and inclusive kind, or the person becomes one form of a univore. In her study of disinterest in musical genres, she finds that Omnivores are more tolerant than univores, in terms of musical taste, and in terms of political and racist measures. It is education which increases the musical inclusive taste. The highly educated are interested in every type of music, except low status music like Heavy Metal, towards which they show disinterest. Heavy Metal is in her study liked most by low status individuals. The main conclusion is that Omnivores are tolerant and inclusive. In other words, there is only one form of omnivorousness, and this type is inclusive and non-particular. Her conclusion has been questioned in recent studies by Gindo Tampubolon.

Before continuing with Tampubolon's critisim, I want to emphasise the difference between Bryson's and Tampubolon's work. Bryson only think in either results: either one is Omnivore or one

is univore; either one is inclusive, or one is not. The problem with these dichotomous assumptions perhaps begins with the wording Omnivore, described in the section above on vocabulary, and the interpretation of education. Bryson assumes that higher education leads to tolerance. This simplification leads to the simplified operationalisations throughout her study. Tampubolon on the other hand, imagines that Omnivores can have a particular taste, and perhaps restrict themselves to a few genres, and avoid others. In fact he finds more than one type of 'omnivorousness' (Tampubolon 2008a). His two types of 'Omnivores' dislike each others taste, hence he later recalls them as exclusive (Tampubolon 2010).

Tampubolon explains his dissatisfaction with the prevailing conclusion based on one single article, that Omnivores are more tolerant than univores, and that they shun only so called low status culture. He gives an example of how widespread the idea has become, by citing a textbook for cultural goods studies, written by Victoria D. Alexander: '*Bryson discovers evidence that higher status people are more omnivorous in their cultural choices, in that they dislike fewer forms. However, the forms that they disliked the most were precisely those forms preferred the most by lower status people*' (Alexander in Tambubolon 2008).

Tampubolon went on to reanalyse the same 1993 'US-General Social Survey' data as Bryson had used. His first objection is methodological, that missing answers results in removal of the respondents from the model, and that survey questions initially on a scale with 5 steps, from 'liking very much' to 'disliking very much', had become dichotomous in Bryson's study. Tampubolon finds that omitting dislikes, and creating dichotomous answers had resulting in a sampling bias. The first finding is that Heavy Metal is not liked more by respondents with lower education compared to longer educated, it is in fact disliked more by lower educated. The removal of respondents and operationalization of dislikes, had lead Bryson to the wrong conclusion about which music is low status.

Since Heavy Metal isn't low status culture, 'anything but Heavy Metal' must be rewritten. Tampubolon uses latent class analysis to find taste patterns. From the clusters created from the full information from a scale from dislike very much to like very much, he discovers two types of Omnivores, who are not inclusive in their taste, they like very particular genres of music. The music the two Omnivores disliked, was country. Country music is liked the most by the last cluster, the 'univore', or more likely an abstainer, since they dislike the most all other genres. The conclusion about Omnivores then must change. 'Omnivores' don't like anything, but rather prefer some genres of music over others (see Table 3 for all the detail of likes and dislikes for each cluster type in: Tampubolon 2008a, pp. 255). Therefore the link to education, a status variable in these studies, is

not one of either or. Higher education then can lead to *more than one type of interest*, more than one type of 'tolerance'. 'Anything' has with Tampubolon become 'somethings', and 'but Heavy Metal' has in america become 'but Country Music'.

The different 'Omnivores' like some and particular musical genres, except the music liked the most by low status individuals. And, this must be emphasised, the interpretation of education needs to be rethought—education can have more than two outcomes. This throws into question one of the main assumptions of Peterson, 'Omnivores on the rise' theory (Peterson and Kern 1996). If there is more than one type of Omnivore, which one is one the rise? And how restricted are they in their taste, and to what? Because if Omnivores with restricted taste are on the rise, how can one then also conclude that tolerance is rising, even assume that tolerance leads to omnivorousness? What type of Omnivore one has in Norway, and if it is on the rise, can be tested in this thesis later.

3.3.3 Popular Culture and Omnivores

The relationship between cultural levels and high status groups has been changing is Peterson's main argument. He attempts to provide both empirical evidence, and plausible explanations to his main theory, that the cultural elite used to only find taste for high culture and is now involved in all levels. The high status groups have especially after WWII had to adapt to a new situation, a more tolerant society. In order to show tolerance highs status groups have included in their taste also lower forms of culture, an addition to their liking of finer arts. His arguments rest on several assumptions. His first assumption is that high status individuals historically only liked high culture and were snobs, before WWII. His second assumption is that only individuals who prefer finer arts can be Omnivores. His third assumption is that high status groups either avoid popular culture, or combine it with finer arts through a gentrification process (Peterson 2005, pp. 273; Peterson and Kern 1996, pp. 906).

Lahire contents theoretically that finding high status Omnivores to day, is no argument against the potential existence of high status Omnivores in the past. Therefore caution should be taken when considering Peterson's main theory, a shift from snobs to Omnivores (Lahire 2008). There is no clear evidence from surveys for or against Peterson's theory when considering the time before WWII. In a study covering 1964 to 2004, Mads Meier Jæger and Tally Katz-Gerro find Omnivores from the beginning of their study to the end. The finding indicates Omnivores has existed for some time (Jæger and Katz-Gerro 2010), but no conclusion can be made over when they first appeared. Lahire theoretically believes that omnivorousness is not related to social change, but a form of

behaviour resulting from membership in more than one social group. From work, in a community, a family, etc., the cultural taste develops over time for the individual who adapts to his or her surroundings. Peterson himself hints against his own theory, when he considers how the cultural creators of the beginning of the twentieth century would combine lower forms of culture with their own classical productions, when jazz could be combined with classical music (Peterson 1997). Therefore Peterson's first and most important assumption is unclear.

Recent research also question Peterson´s second assumption.Research show that not only high cultural attenders can be Omnivores. As reviewed in the typology section, more than one form of Omnivore is often found in research. Even Peterson himself doubts his second assumption in later work (Peterson 2005).

His third assumption that high status groups either avoid popular culture or gentrify it, is challenging to evaluate in light of recent empirical findings. Omnivores are internally divided in Tampubolon's study of cultural engagement over several domains in Britain 2001-2004 (Tampubolon 2010, pp. 3). The Omnivores who are most strongly engaged in frequency even give evidence of perceiving a cultural hierarchy. It means that the Omnivores do not necessarily gentrify, since they can either combine cultural forms, or restrict themselves to only sections of a cultural hierarchy, and these two ways are different forms of Omnivores. This is evidence against Peterson's assumption about the two alternative strategies, to avoid or to incorporate popular culture. It seems both strategies can co-exist, and the two alternatives are what divides different types of Omnivores.

3.3.4 Questioning Individualisation, Questioning Status

Many empirical studies have questioned individualisation thesis, which assumes that individuals' culture interests cannot be simply categories on the basis of class, education or gender. One type of evidence against individualisation is forwarded, when lifestyle can be grouped into few categories, indicating the existence of structure among consumers. For instance, in their study on music consumption in England, Tak Win Chan and John H. Goldthorpe find that consumers can be categorised into only three classes (Chan and Goldthorpe 2007d, pp 6). A similar conclusion was made by Arthur Alderson, Junisbau Azamat and Isaac Heacock, when they dismissed individualisation based on finding three or at most four LCA categories of culture consumers in America (Alderson, Junisbai, and Heacock 2007, pp. 196).

When Jordi López-Sintas and Tally Katz-Gerro study lifestyle changes in America over twenty years, they find an increasing number of lifestyle types. They analyse data from 1982, 1992,

and 2002, and discover that the number of lifestyle categories increases from three in 1982, to four in 1992, until finally five different lifestyle groups was found in 2002 (López-Sintas and Katz-Gerro 2005). There is some fragmentation among the lifestyle types. An increasing number of lifestyle types can be seen as an evidence against individualisation, which assumes that it should be difficult to find lifestyle patterns at all in contemporary society.

Using more than one occupational variable in their studies of lifestyle, Chan and Goldthorpe has introduced a multidimensional perspective on social action and social change. This leads the authors to speculate on the role of status in contemporary times, and its future. At the conclusion of their study of music in Britain, Chan and Goldthorpe reflect over their findings, connecting status to current lifestyles. They have established a case for a status order in contemporary Britain, but they imagine the boundaries are perhaps less marked than before. Status, they write, is perhaps less openly marked from above or less deferentially acknowledged from below. They go on to ask if weakened status boundaries could affect lifestyle differences: 'It could … be the connection between status and cultural consumption is tending to weaken, and even on Omnivore-univore lines' (Chan and Goldthorpe 2007d, pp. 14). They do not forward any evidence for this claim, but they hope data may become available in order to pursue this question.

3.4 Main and Sub Hypotheses

From the four theoretical perspectives presented in previous chapter, the main hypotheses are developed. Then following the review on lifestyle research, sub hypotheses of social change and social explanations to lifestyle choices are listed.

3.4.1 Hypotheses on Social Change and Lifestyle

Individualisation

Beck and Beck-Gernsheim believe the elevation of living standards together with the decline of the traditionally social is leading to individualisation (Beck and Beck-Gernsheim 2002). As a result individuals are less influenced by their social position, especially class. Lifestyle is increasingly an individual choice. This leads to an expectation of a declining effect of class on lifestyle behaviour.

H 1 *The effect of social position on lifestyle choices is decreasing over time. The difference between classes, e.g. manual labourers and service professions, will diminish over time.*

Culturalisation

Van Eijck and Bargeman believe an experienced elevation of material goods in the population has increased the importance of culture. Their arguments rest on a two folded development. The cause for former lifestyle differences will diminish over time since material access is less important. Concomitantly the access to cultural knowledge and relevant experiences is increasingly steered through modern institutions like the educational system. As a result class and income is expected to be less influential on lifestyle choices. Education, meanwhile, will be increasingly important. The new *gap* in the population will be between lower and higher educated groups, and with educational expansion, this gap will increase. This development is labelled culturalisation (van Eijck and Bargeman 2004).

H 2.1 *High and low income groups, and classes such as labour and service contractors, will become more similar over time in terms of their cultural attendance behaviour.*

H 2.2 *The cultural attendance gap between those with higher and lower education will increase over time.*

Processing Capacity

The educational expansion will lead to a change in the capacity composition in the population, leaving the least capable without higher education. The consequence is larger differences between lower and higher educated (Ganzeboom 1982).

H 3 *The gap between lower and higher educated groups' engagement with complex culture will increase over time.*

Status

Status is perhaps less relevant in contemporary society and its connection to culture weakens over time (Chan and Goldthorpe 2007d, pp 14). Since status as a specific aspect of social position only can be maintained informally, the boundaries between status groups are disappearing. Cultural consume is as a result gradually less influenced by status groups.

H 4 *The impact of status on lifestyle choices is decreasing over time. Higher and lower status groups will become more similar over time.*

3.4.2 Sub-hypotheses: Lifestyle Types

Peterson assumes there is one type of Omnivore, who like high culture and includes middle and low culture in their interest (Peterson 1993). Peterson believes Omnivores are on the rise. From different social changes, including increasing tolerance, snobs are being replaced by Omnivores (Peterson and Kern 1996).

SubH 1 *There is only one type of Omnivores. Omnivores likes culture from all cultural levels, low, medium and high culture.*

SubH 2 *Omnivores, who like high, middle, and low culture, are replacing Univores.*

3.5 Conclusion

There are no standards in lifestyle research, therefore the description of both lifestyles and cultural categories can be confusing. In this chapter, I have presented a short overview of the indexes, typologies and type of indicators in use in research on lifestyles. To distinguish lifestyle differences, indexes of breath/range, level, and volume/frequency can be applied. Breath/range refers to the number of different cultural forms like genres etc., an individual attend. Level refers to where in a cultural hierarchy of low to high the cultural form can be placed. Volume/frequency refers to the intensity of which an individual consumes culture, e.g. how often a respondent attends the cinema. To separate lifestyle groups a typology is often created. Two types often identified by researchers are the Omnivores and univores. The Omnivore is a lifestyle type that displays an interest in many genres, while the univore is interested in few cultural forms. Finally lifestyle affinity is indicated through either their interest or disinterest, or through their participation in cultural forms. At times

these types of indicators are combined.

In research on lifestyles, the affinity of respondents is predicted by class membership, status position, educational level, their gender, and some demographic control variables regularly occurring in models.

Predictions of the trends in lifestyles are also presented in this chapter. One lifestyle group, the Omnivores, is assumed to increase in size and replace former alternatives and univores. This is often questioned in recent research, as it is observed populations can increasingly display a more narrow interest in culture, rather than a wider. The Omnivores has often been described as open and tolerant. This assumption is questioned in recent research controlling the same data initially used to connect Omnivores to tolerance. In the control of the data it was discovered that removing respondents had created a bias leading to the wrong conclusion. Many empirical studies have questioned individualisation theory which assumes that individuals interest in culture is increasingly differentiated. These researchers find that lifestyles can be grouped in few categories also today.

The theoretical perspective has lead to the development of testable proposition presented in four main hypotheses about social change, and sub hypotheses about lifestyle changes. The research review will guide the development of a model of lifestyles in the next chapters.

Chapter 4 Data and Methods

This chapter focuses on introducing data and methods for the thesis. I begin with an introduction of the dataset I use: The Culture and Media survey collected by Statistics Norway in 1991 and 2004. The Culture and Media survey is a nationally representative survey and has been repeated every third or fourth year in Norway. This survey collects information on media use and cultural goods consumption by Norwegians of various backgrounds. Surveys in 1991 and 2004 will be used and compared in order to map patterns of lifestyle change in Norway. I then introduce how I operationalise lifestyle data, including selecting cultural domains, adapting two occupational classification systems, identifying class and status membership etc. Lastly, I introduce the methods I used for analysing the data: latent class analysis and multinomial logistic regression. I use latent class analysis to find patterns out of observed categorical variables. Each behavioural pattern represents a lifestyle type. I then use multinomial logistic regression to model lifestyle membership given knowledge from independent variables, such as period, education, status, class, and so on. The principles of latent class analysis and multinomial logistic regression will be presented in this chapter.

4.1 Datasets

The Culture and Media Survey has been collected by Statistics Norway (SSB) since 1991. The survey has been repeated every third or fourth year. These cross sectional sample surveys are nationally representative. Data are collected through phone interviews. The response rate is between 70% and 80%. The questionnaire is divided into three main sections: 1) Consumption of various media, such as listening to music; 2) Consumption of cultural goods, such as concerts, cinema, theatre, dance performances, and opera; And 3) background information about the respondent, such as the occupation of the household main provider, respondent´s education, gender, and year of birth, etc. The information provided in the dataset, especially the information about the occupation and education of the household's main provider, can be used to answer the research question of this thesis. Digital files and documentation of The Culture and Media Survey were made available from 'Norsk Samfunnsvitenskapelig Datatjeneste', NSD[1]; additional reports on procedures are from SSB

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[1] Anonymised data is made available by "Norsk samfunnsvitenskapelig datatjeneste" (NSD). Surveying and coding the material was initially performed by Statistics Norway. Neither Statistics Norway nor NSD are responsible for the analyses of the data or the interpretations made here.

(see Bengt Oscar Lagerstrøm 2006).

The surveys in 1991 and 2004 are used and compared in my analysis, in order to explore lifestyle changes. By using samples from 1991 and 2004, I have access to respondents from two time periods, necessary to study change over time.

In order to study occupational impact on consumer choices over time, the occupational variable needs to be comparable. In these two surveys, the occupational classification system used differs. The dataset from 1991 uses an older occupational classification system no longer in use. Therefore I have made a bridging system updating the older occupational codes to be comparable with the system used in 2004. The purpose of a bridging system is to be able to use old and new surveys together.

Both samples covers the Norwegian population from 9 to 79 years old. My interest is with the mature population aged 20 to 64 years, since they are independent and likely active participants if they want to be, and it makes the analysis comparable with similar studies. Therefore the datasets were limited to responds 20 to 64 years old.

Both status and class are measures created from occupational information. Removing respondents without occupational codes the sample sizes decreased by 14,3% for 1991, and by 12,9% for 2004, see table 4.1. The two samples were combined, creating a pooled set of (*2309*) individuals.

The background module of the survey is used to create independent variables including cohort, gender and social position indicators. The media and culture modules are applied to create the dependent variable, lifestyle types.

4.2 Operationalization of Data

4.2.1 Index Choices: Selecting Domains from the Media and Culture Modules

There are many procedures for choosing relevant cultural domains, an issue I have treated under the section on vocabulary in lifestyle research. Lifestyle index and indicator choices vary among researchers. Peterson was guided by the academic debate over high brow culture and chose classical music and opera to indicate 'high browness' (Peterson 1992). Other approaches search for cultural activities that are believed to be processing demanding, like broadsheet newspapers (Chan and Goldthorpe 2007c), or classical music and opera. Chan and Goldthorpe in their work on music argue 'high' culture is more processing demanding than 'low' culture. They believe the mechanism

or motivation for consuming culture is not only social but also psychological, the capacity to process information guides the interest in culture (Chan and Goldthorpe 2007d, see especially footnote 6). Some researchers use popularity as an indication of mass media and common interests, and unpopularity to indicate elite activities . These are all reasons to choose cultural domains from more than one *level*, and to make sure one has sufficient *breadth* represented in order to find all ready documented relevant lifestyle differences.

Very few lifestyle studies are devoted to period changes, and as a result there are few guides to follow when it comes to the issue of which domains of culture and which cultural products to follow. Some cultural products are probably substituted over time. Coulangeon faces this dilemma in his work on television and reading habits in France (Coulangeon 2009). His conclusion is that heavy reading is in decline because there are fewer heavy readers of books. Still it seems questionable if books indicates heavy reading well, as printing hasn't declined, and magazines, computers and internet likely has normalised reading at leisure time. Coulangeon has no form of control of the assumption that books alone indicates serious reading well. It could be heavy readers supplant their books more often with alternative products, even serious ones like research journals. In this thesis I have not looked at domains in decline, in order to avoid the substitution problem. In a period when most researchers believe culture is becoming more important, I believe it is more interesting to follow domains that are increasingly more widespread in the population, or that are traditional and stable.

To select particular domains to indicate lifestyles, I first made an overview of what is changing, and what remains stable. A table comparing domains in 1991 and 2004, simply ranks the domains according to the changes in participation among the population[2], see table 5.1 in the next chapter. Various venues are included, even though domains can be selected by other principles, the domains present in the table are both traditional and new, supposedly more or less 'demanding', more or less popular. Opera is included as a reference to a tradition of exclusivity. It often represents 'high browness' in research on cultural interest or participation. The seven variables including Opera, seems to be relevant regardless of selection strategy, they give room for *breadth* over all *levels* of culture. The seven domains are: Pop cultural concerts; cinema; classical concerts; theatre; music listening; dance venues; and opera.

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[2] This idea is guided by a study of educational changes in Norway, where the expansion of studies in humanities and social sciences, are compared to the relative stability in size for law and medical sciences. It creates an illustrative contrast, while it serves as an indication of where the relevant changes might be found, see: Hansen, M. N. 1999. "Educational policy and inequality. Recruitment to higher education 1985-1996." *Tidsskrift for Samfunnsforskning* 40:172-203.

4.2.2 Questions About Attendance

The questions about attendance in 1991 and 2004 surveys are listed as follows:

Pop concert; 1991 & 2004: *How many times within the last 12 months did you attend a concert with rock, pop, jazz, or a singer and songwriter, a concert with country and western music, folk music, brass band or wind band music? Include the number of both professional and amateur concerts.*

Cinema; 1991 & 2004: *How many times within the last 12 months did you see a movie at the cinema?*

Classical concert; 1991 & 2004: *How many times within the last 12 months did you attend a concert with classical music, contemporary music, church music, or a choir? Include the number of both professional and amateur concerts.*

Theatre; 1991: *How many times within the last 12 months did you attend a theatrical, musical or variety performance? Include the number of both professional and amateur shows.*

Music Listening; 1991: *Did you listen to a tape recorder, record player, or CD player yesterday (or the day before)?* 2004 *Did you listen to a tape recorder, record player, CD player, Mini disc, or Mp3 player?*

Dance; 1991 & 2004: *How many times within the last 12 months did you attend a ballet or a dance performance? Include the number of both professional and amateur shows.*

Opera; 1991 & 2004: *How many times within the last 12 months did you attend an opera or operetta performance? Include the number of both professional and amateur shows.*

Pop concert follow up questions 1991: How long is it since your last attendance at such a processional or amateur concert? (time options) What type of music was played at the concert? (genre options present in the question)

These questions offer two problems. One is that the wording has changed. In the case of music players, the 2004 survey expanded the list of music player technology. However, I have considered new technology as a comparable product transformation, since all technology offers the same options for the respondent, to play music at home and outdoor.

The second challenge is the inclusive nature of the categories. The logic behind the collection of data is to group many genres in one question probably in order to save interview time. For instance, the variable pop concerts includes 7 genres of music: 1 (rock), 2 (pop), 3 (jazz), 4 (singer and songwriter), 5 (country), 6 (folk), 7 (brass and wind band). A non-inclusive category would contain information about only one cultural genre. Asking the respondent about their attendance of only rock concerts would offer more accurate information, of which e.g. rock could be separated into even more genres since large musical genres are not represented specifically, like punk, heavy metal, indie, etc. The same is true for other genres and other variables. Wideness, the breadth of interest could disappear because of the type of categories used here to gather information.

There is a follow up question to the pop concert category which can be used to split the variable. I want to treat *breadth* as a separate dimension in lifestyle from cultural *level*, therefore I want to avoid making any assumptions about the connection of wideness of attendance to the cultural level. I want to test if other than high level attenders shows wideness in their engagement with culture. That is why I don't assume a connection between classical music and wideness, or between classical music and opera. Combining the opera and classical music reduces an initial wideness of 2 to only 1. It is such an assumption Peterson makes in his studies (Peterson 2005), and specifically an assumption I want to avoid. What categories that are associated with other venues, is better explored later with latent class analysis.

In my analysis, the variables are made dichotomous, several cultural forms represented in one question, will become only one category. In the example of pop cultural concerts, the 7 genres become only one category, pop concerts. The dichotomous variables in my analysis represent more the type of institutions or venues the respondent visits, rather than genres he or she finds interesting.

Domains are not often explored in lifestyle research, often in the case of Omnivores, the focus is on music. There are some examples of domain research recently, and I support the already forwarded argument that omnivorousness and cultural attendance should be explored over domains also (e.g. see Alderson, Junisbai, and Heacock 2007).

The number of cultural goods variables could be larger, but keeping in mind the size of the N, and particular demands in Latent Class Analysis explained later, the limit was set to seven domains. The seven domains with their survey questions are listed above, including one follow up question to illustrate the limitations of splitting a variable.

In the end all variables are quite general, and I would hope for better data in the future. Still, in 2008, the survey collapsed the pop concert genres with the classical concert genres by combining the questions, the opposite of what I could have hoped for. Parallel genre information would be

preferred in the future to explore the connection between genres and wideness, and genres and level.

It would be of interest in a later study to also measure volume and volume changes. As more people are engaged, what happens to the volume on individual level? Perhaps diversity in interest comes at a cost in volume? I acknowledge again the problem in leaving out information. Dichotomous variables are used here as a starting point. I expect that they are sufficient indicators of behaviour also when they are compared to tests of volume, the extent of accuracy can be tested in later research.

4.2.3 Adapting Occupational Classification Systems

If an occupation is described incorrectly, the label is invalid. The dataset from 1991 uses an older occupational classification system The Nordic Classification of Occupations, 'Nordisk yrkesklassifisering' (NYK), which is introduced to Norway in 1967. This schema contained few professional and managerial categories. When the NYK standard has been applied in the Culture and Media survey in 1991, the occupations are described with a largely outdated system. The labourer was described inaccurately by NYK, as e.g. mainly a manual worker, not a machine operator. Machine automation was already by the late sixties introduced and has later replaced much manual labour occupations. The dataset from 2004 uses a revised system 'Standard for yrkesklassifisering' (STYRK), which improves the logical accuracy and offers more managerial categories.

I argue these two systems are comparable for two reasons. First, NYK and STYRK are not different systems. The two systems follows the same principles of classification: classification by skill level and skill specialisation. Secondly, the survey in 1991 is conducted with NYK, still the occupations 'on the job' are almost the same as those surveyed few years later in 2004. Therefore I assume the largest changes are likely to be some skill level upgrading in general and some specialisation within new types of services. This leads to a compositional shift in the occupational structure, especially an expansion of professional occupations. Since the two systems follows the same constructional principles, and are surveying comparable occupations, I opted to update the NYK system through a bridge system, in order to use survey material from 1991 together with the survey from 2004.

It is necessary to update older occupational systems in order to be able to study social changes. This makes it possible to study the impact of both class and status on lifestyle choices.

Before I describe how the older system was reworked, I want to describe the principles of both occupational systems.

NYK and STYRK are constructed from two criteria, 1) the skill level and 2) the skill specialisation of the occupation. NYK did not follow the same clear skill level sectionalisation as STYRK. When the previous occupational classification system has been revised by The International Labour Office, information from an international standard for education has been utilised. It is these occupational system revisions SSB applies when updating the occupational classification system. The International Standard Classification of Education (ISCE) divides educational levels into four groups. Each groups is used to separate skill level requirements in the work classified. This standard is a later addition, and clarifies a skill level description initially used much more vaguely in NYK. Occupations were in NYK also separated by skill level demand, but the conceptual distinction was less clearly defined by educational requirements. In STYRK each level can be divided by educational level for comparison. This does not however mean that the knowledge has to be formally acquired. The level only reflects the mass of 'know how' required to perform the job. The skill levels are divided into jobs requiring knowledge comparable to: primary, secondary, lower tertiary, and higher tertiary education.

The second skill criteria is specialisation. Also specialisation was used in NYK, but then mostly through job descriptions. In STYRK the accuracy has been improved, and there is less demand for general groups bundling occupations otherwise challenging to classify. In NYK many occupations were simply labelled as 'other occupations' of different forms.

NYK also initially applied field of work, to distinguish different types of enterprises and markets with which the respondent was occupied. This market information has since been discarded in newer occupational systems. In STYRK new categories are introduced reflecting occupational changes. There are more forms of specialisation's, and the tasks they perform are not equivalent to previous occupations. As a result the two systems are not entirely comparable. There is more information available in STYRK.

Both systems uses job descriptions to to identify categories. In NYK there are in all 324 groups clearly identified through the description if their tasks. In STYRK this number is 353 unit groups, a slight increase due to increasing differentiation. On this level the systems are comparable by job description. The occupations in both the systems are described in detail in manuals. Therefore, by using the description of each occupation, and keeping in mind the initial inaccuracy, a bridging system from NYK to STYRK can be created. From information about the task, defined in both classification systems, the occupations in NYK can be updated to occupations in STYRK. The

result is NYK jobs described in STYRK codes.

There bridging of these two systems provides some challenges. Some categories in NYK have no counterpart in STYRK. Some historic occupations from NYK, for instance, 'Cutters', 'Uppers preparers', 'Pressurers and lasters', and 'Other footwear workers', are all collapsed into one category named 'Shoemaking- and related machine operators' in the newer STYRK system. Sometimes a category from NYK is split into several occupations, and then combined with others in STYRK. An example is the former label 'Attorney generals, crown prosecutors, chief of police, and police officers', which are split and then combined individually with other occupations in STYRK.

Even though NYK and STYRK have differences, they are still comparable. Both NYK and STYRK are logically attempting to describe the same occupation, only by different words and different numbers.

In the bridging system I created an algorithm which updates the older occupational codes in NYK to be comparable through occupational unit number with the system used in 2004. The first NYK code 001 'Architects' was re-coded to 2141 'Architects, town and traffic planners' in the bridge to STYRK. The NYK occupations are simply given a corresponding code in STYRK. The bridging occupational variable can therefore later be used in algorithms just like a STYRK variable. The NYK coded 002 'Chief engineers' became 2142 'Civil engineers' in the bridge to STYRK. And then two occupational units in NYK 003 'Other engineers, technicians etc' and NYK 004 'Technicians etc' became both 3111 'Civil engineering technicians' in the bridge to STYRK. The final schema for NYK to STYRK contains fewer categories due to necessary combinations of NYK occupational categories.

It is only possible to combine datasets if the occupations are described in detail, on unit group level for NYK, and unit group level for STYRK. The datasets from 1991 and 2004 contains this information. Other datasets collected on culture and media consumption in between these two time periods lacks this occupational information.

The standards and occupations are described in the NYK standard (Arbeidsdirektoratet 1965), the revision of NYK used and described in population studies and a Norwegian socio-economic standard (SSB 1984), and the STYRK standard is documented briefly on paper at the introduction in the late nineties (SSB 1998) and is presently documented through SSB's web pages. This type of documentation could perhaps be supplanted by studies of changes 'on the job', to both verify and improve the bridge system.

After NYK has been transformed to STYRK, the occupation units can be used to create both class and status variables. Since no class schema was available to me in the form of syntax files, I

opted to use a European standard since necessary and detailed documentation was publicly available.

4.2.4 Class: The European Socio-economic Classification (ESeC)

The European Socio-economic Classification (ESeC) is a schema for identifying class membership. It is adopted from the Ericson-Goldthorpe-Portocareto (EGP) Schema. The classification builds on the European version of the International Standard Classification of Occupations 1988 (ISCO88[COM]).

Three criteria are used to create classes in ESeC, of which I could apply only one. The algorithm uses in a full version information about employment status, whether the respondent or the households main provider is employer, self-employed or employed. The second criteria is placement in class according to company or organisational size, to distinguish employers in small organisations from employers in larger corporations. The background module from the Culture and Media Survey does not offer information about occupational status, or company size. It only holds information about occupational unit. In keeping with the ESeC guideline for this situation, the occupational unit information alone was used to place the respondents in their class.

The ESeC standard is documented both conceptually and technically in the user guide (Rose 2006), additional and necessary help files are available from the project website. The code for the minor occupational groups, three digits, are used in the conversion.

In sum, I took several conversion steps to identify class membership. First I converted NYK occupation units to STYRK. I then converted STYRK to ISCO(COM) demanded by the ESeC schema. Syntax for STYRK to ISCO88(COM) conversion was supplied from NSD. The ISCO88(COM) categories were then finally used to identify class membership in the ESeC standard. The class variable created from both NYK in 1991 and STYRK in 2004 is listed in table 4.1 below.

Table 4.1 Classes, 1991 and 2004, respondents 20 to 64 years.

	1991	**2004**	**Total**
1 The salariat	30% (428)	35% (436)	32,3% (864)
2 Intermediate employee	13,4% (192)	11,4% (142)	12,5% (334)

	1991	**2004**	**Total**
3 Small employers and self-employed	5,4% (77)	5,5% (68)	5,4% (145)
4 Lower sales and service	7,7% (110)	11,1% (138)	9,3% (248)
5 Lower technical and routine occupations	29,2% (417)	24,2% (301)	26,9% (718)
Missing or incomplete	14,3% (205)	12,9% (160)	13,7% (365)
Total before removing respondents	100% (1429)	100% (1245)	100% (2674)
Numbers after removal	*(1224)*	*(1085)*	*(2309)*

After removing respondents with missing or incomplete occupational information, the remaining individuals are used in the construction of the status variable which also uses occupational codes in the algorithm.

4.2.5 Status: By Pattern of Intimate Associations

In Weberian tradition status is a separate dimension of stratification related to class (Chan 2009). Social status is seen as form of social honour of ascriptive or achieved kind. In contemporary society, social honour can perhaps be most legitimately attached to occupational positions, less to family name and ethnicity. Following Weber, Chan et al. imagine patterns of intimate relations like friendship and marriage can be used to find a status scale in contemporary societies. Status would influence whom one acquaint and whom one marries. High status individuals are expected to befriend or marry high status friends or partners and low status individuals would follow a similar status level pattern.

Chan and Goldthorpe use a scaling method to construct status scales from friendship (Chan and Goldthorpe 2004) or marriage choices. The status variable has been tried out in lifestyle studies in several countries, e.g. in UK (Chan and Goldthorpe 2007d), and USA . Status in Norway has been explored, and a status scale can be constructed from the data in the article on occupational status differences (Chan 2009).

The article by Chan et al. on status in Norway documents the status variable process: Starting from minor occupational groups (see SSB 1998), men's occupation was paired with their partners occupation. The combinations were used as a starting point for multidimensional scaling[3]. The result is a scalar representation of occupations similar to their partners preferences. Location nearby on the status scale is according to Chan et al. not evidence of intermarriage tendencies between the two occupational groups, it only indicates similar preferences in partner choices among all occupations (Chan 2009, pp. 6).

Occupations are ranked from low to high using the scores from the scaling method. Highest status are by result and interpretation given to non-manual occupations, manual are lowest. In the middle are many service and secretarial occupations. Status is to some degree associated with education and income. In the paper on status in Norway, status correlates modestly with both education and income, less for men, more for women (Chan 2009, pp. 12).

A status variable was created by me using the scores given in Table 2 in the paper (Chan 2009). I already had an occupational variable containing ISCO88(COM) categories created to for work on ESeC categories. This existing ISCO88(COM) variable was converted to a status scale. Each score was applied to every minor occupational group, to retain information about both rank and distance. The scale ranges from negative to positive numbers. A simple recalculation can transform all values to positive numbers between null and one, for easier interpretation in a model. The transformed zero to one status scale holds the same information about both rank and distance as the original scale.

4.2.6 Education, Income and Socio-demographic Information

Educational information will be applied in four categories: primary, secondary, tertiary 1, and tertiary 2. Each category represent different levels of education. Education is of interest here because it is interpreted by Chan et. al. as a cognitive measure when status is included in the model. Other researchers like Coulangeon, interpret education as a socialising experience.

One clear fact about the educational expansion in Norway is that in the time period studied, the longest tertiary educational level does take up more of the respondents than previously. More students than before have completed higher education, see table 4.2 for percentages from the two datasets used here.

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[3] A non mathematical introduction to the technique can be helpful to understand the logical principles, see Rabinowitz, George B. 1975. "An Introduction to Nonmetric Multidimensional Scaling." *American Journal of Political Science* 19:343-390.

I do not study effects of age versus period versus cohort in this model, often referred to as the APC problem. In the choice between cohort and age, I have chosen to use cohort. Cohort would also contain information about age and there is no way for me to separate the two. Cohort is included in the model as a control variable. The first cohort is 1926, and the last is 1984. I apply four cohort groups in the model. Each cohort groups consists of 15, 14, 14, and 15 cohort years. The four cohort groups are 1926-1941, 1942-1955, 1956-1969, and 1950-1984. The other important variable is period. Two time periods are observed 1991, and 2004. I expect period to interact with other variables. The theoretical assumptions related to period are listed in the four main hypotheses.

The income variable for 1991 contained 6% respondents earning from 10 million to 700 million NOK. The survey had initially collected income in thousands. Therefore I assumed, considering the scale of the high earners, that these respondents were miscoded. I recoded the variable by dividing income sums above 10 million with 1000. Data from 2004 did not appear to contain the same form of miscoding.

Income is also adjusted for 1991 to be on level with the consumption value of money for 2004. Consumption value change is found by calculating the increase in price for an average consumption in the population. I have no information about the price change on cultural goods specifically. I would guess the price of concerts has increased much more than the index for consumption price in general. While perhaps the price on media culture compared to average goods has decreased in the same time period. Other cultural goods such as cinema and theatre, has perhaps followed the index more closely. A better adjustment could be constructed with accurate information.

I do not have any theoretical assumptions for the income level, other than through culturalisation theory. Income should be less important over time, when predicting lifestyle choices.

Gender differences are common to find in research for separate domains. I have no theoretical reason to include gender, other than the fact that finding differences between men and women is common. I assume genders would be different because of socialisation, or possibly because many products are targeted at one gender specifically. It is difficult to separate out why there would be gender differences, I have no method of testing out alternative theories here. Gender is included here as a control variable.

Other control variables are whether respondents are in a relationship, and whether they have small children or older children in the household. I cannot test whether it is their own children or not. I assume respondents mostly have some form of care for children in the household.

Table 4.2, Frequencies in educational categories 1991 and 2004.

	1991	**2004**
Primary	13,8% (168)	8,3% (90)
Secondary	58,6% (715)	52,1% (562)
Tertiary 1 (three years)	11,6% (142)	7,1% (77)
Tertiary 2 (more)	16% (195)	32,4% (349)
	100% (1220)	99,9% (1078)

Table 4.3 Information about variables applied in the model. The average and most common category of each variable will be applied in simulations to create a modal respondent.

	Average from scale	Most common category
Period		1991
Cohorts, 1926-1941, 1942-1955, 1956-1969, 1950-1984		Largest cohort group 1956-1969
Status	0,44	
Education, primary, secondary, tertiary 1, tertary 2		Secondary education is the most common category
Income	475 000	
I 'The Salariat'		The Salariat' is the largest category of class with 37,4 %
II 'Intermediate employee'		14,5%
III 'Small employers and self-employed'		6,3%
IV 'Lower sales and service'		10,7%
V 'Lower technical and routine occupations'		31,1%
Child 0-4 (ref has child)		no child in age group 82,1%
Child 5-10 (ref has child)		no child in age group 78,8%

| Child 11-15 (ref has child)		no child in age group 74,2%
Gender (ref man)		Man 50,3%
Relationship (ref single)		Couple 74,5%

4.3 Latent Class Analysis

In this thesis I assume that lifestyle is a form of regularity and that lifestyle groups can be categorised. I will employ Latent Class Analysis (LCA) to explore whether there are latent classes of consumers of cultural goods, and to identify groups of individuals that display similar behaviour as consumers of cultural goods. The main use of LCA is to find behavioural patterns out of observed categorical variables, by assuming that there is an unobserved (latent) variable present. Each behavioural pattern represents a lifestyle type. LCA does not find the correct number of types automatically. The most fitting model must be selected by the researcher. The software I will use is Latent Class Gold (see Magidson 2005).

It is important to test the LCA model. I use Bayesian Information Criteria (BIC), bivariate residuls, and misclassification as tests. BIC is a test for assessing models with different numbers of latent classes, to evaluate how well the clusters in each model describe the observed variation in the dataset. Bivariate residues indicates associations between pairs among the observed variables. Misclassification indicates the probability with which respondents are placed in the correct cluster in a final model.

4.3.1 Introduction to Latent Class Analysis

The independent variables (V) explains membership in a lifestyle group (X) which explains probable interest in each of the observed outcomes (j). Latent Class Standard Model finds X, the 'clusters', given knowledge about attendance of each type of observed variable, j, the cultural domains. The connection between V and X must be modelled in a further regression analysis, after identifying 'clusters' or 'classes' among the respondents.

V $\rightarrow$ X

$j_1 \quad j_2 \quad j_3$
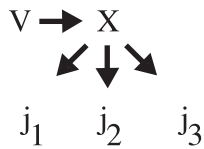
4.3.2 Assumptions for Latent Class Analysis

People are part of unobserved *homogenous* groups, given membership an individual has a tendency to show interest in a cultural domain.

4.3.3 Notation for Latent Class Analysis

Notation and information from: (Vermunt 2004a; Vermunt 2004b).

Table 4.4 Examples of possible response patterns and data structure, 1991 and 2004 combined (pooled)

	Pop	Cinema	Classic	Theatre	Music	Dance	Opera
respondent 1223 (1991)	0	1	0	0	1	0	0
respondent 1224 (1991)	1	1	1	1	0	0	0
respondent 1225 (2004)	0	1	1	0	1	1	1
respondent 1226 (2004)	1	0	0	0	1	1	0

Y_{ij} : response of case *i* on item *j* (item *j* can be cinema, opera etc.). *J*: number of items (items are the observed variables, seven in total)

X_i : latent class variable; *t:* particular class; *T*: number of classes

Lowercase is used for realisations of Y and Z, Realisations of x are denoted by lower case i, and vectors if one refers to a response pattern are indicated by bold text, e.g. a vector of responses **Y** of a particular individual **y:** $= \{y_{i1} - y_{ij}\}$

The population is a mixture of a number of classes T

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4.3.4 Formula for Latent Class Analysis

$$P(Y_{ij} = y_{ij}) = \sum_{t=1}^{T} P(X_i = t)P(Y_{ij} = y_{ij} | X_i = t)$$

The formula rests on two assumptions: there are a limited number of latent classes in the population, and the responses are independent of each other. Independence means given class membership, knowledge about the answer to one item, e.g. cinema attendance, is no indication for responses to other items, like classical concert or opera attendance. The response to the items are induced by membership in a latent class.

4.3.5 Number of Observed Variables

The dataset size influences how many variables that can be used to create clusters. Each cell represent one distinct combination of all answers available. Some combinations are likely to be more frequent than others. It is therefore not desirable to have too many cells as they could easily be empty or containing few observations. The total number of cells can be calculated:

7 variables, all dichotomous,

$= 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 = 128$ combinations

This leads to a table of 128 cells, each representing one distinct pattern of cultural consumption.

4.3.6 Information Criteria to Determine the Number of Latent Classes

Formula for BIC (Magidson 2005, pp. 60):

$$BIC_{L^2} = L^2 - \log(N)df$$

Information criteria such as Bayesian Information Criteria (BIC), weights the fit of the model, and the parsimony. The lowest BIC indicates a fit and parsimonious model. BIC gives a large weight to parsimony. BIC will yield fewer clusters than Akaike Information Criteria (AIC) for comparison. It is not unusual for AIC to indicate four clusters as the best model, while BIC for the same model indicates a three cluster solution. The problem is common in model selection.

4.3.7 Bivariate Residuals

A particular local dependency contains P parameters denoted by ϑ_P^{local}. A general formula for a Lagrange-type residual within Latent Gold is (Magidson 2005, pp. 72):

$$BR = \frac{1}{P} \sum_{p=1}^{P} \left(\frac{\partial \log P}{\partial \vartheta_P^{local}} \right)^2 / \left(\frac{\partial^2 \log P}{\partial^2 \vartheta_P^{local}} \right)$$

The purpose of bivariate residuals is to make decisions about the fitness of the model, or to measure whether the indicators are related or not. In other words, bivariate residues can indicate whether there are too few latent classes in the model; it can also examine the association between two indicators. When building the model, one has three paths to take in considering information criteria and bivariate residuals. If there is problem with the fitness of the model, it is possible to increase the number of classes, incorporate local dependence, or add another latent variable to the model. If there are too few latent classes in the model, one could try more latent classes in the model, or allow for association between two indicators. If the number of classes increases, while the bivariate residuals for two items remain high, one could question if the items are independent. At least the items are more strongly related to one another than to the other indicators. The solution then is to keep the number of latent classes, and incorporate local dependence in the model. It would make sense also, to see if two items are logically overlapping or related. On average the bivariate residuals should sum to one. If they are too low, the model is over fitting the data.

4.3.8 Classification Error

When a model has been selected, it is worth noticing the classification error statistics from Latent Gold. From the answers given to each observed variable, a probability of belonging in each cluster is calculated, and the respondent is placed in the cluster he/she most likely belongs in. This may not be correct, and an error in classification can be calculated. A table of cluster sizes and how likely respondents placed in each cluster were of belonging to another cluster, is used to calculate a rate of errors. Tampubolon suggests a rule of thumb of avoiding more than 10% misclassification, and suggests 20% to be far too high (Tampubolon 2008b, pp. 418). On the other hand, if respondents are

placed in the wrong cluster, when the clusters are ordered, or appear to be ordered, it will result in respondents being placed in a cluster similar to the alternative. When this is the case, misplacing respondents is not as serious as when clusters are very different (Vermunt 2004b).

4.3.9 Clusters of Behavioural Patterns

Clusters of behavioural patterns represent lifestyle groups. The response on each item for the cluster can be used to see what type of clusters one has found (Response probability is listed in table 5.5 in this thesis). The pattern of response can be used to understand lifestyle group differences in the population. It is common in lifestyle studies to find clusters ordered in engagement. The clusters vary from high probability, and intermediate, to lower, when they are ordered in their group members' probability of engagement in each measured activity. If several lifestyle groups are found, one can expect one cluster to be culturally engaged, and often respond yes, and another cluster to often respond no. If the clusters can be ordered, it is reasonable to question whether the clusters perhaps are not categorically different, and would be better studied in a continuous latent variable. If the probability of engagement is not ordered, but mixed, the latent clusters are likely to be categorically different.

One way to map clusters of behavioural patters is to perform regression within Latent Gold, as suggested by Jeroen Vermunt in his workshop on LCA in Jena University 2004 (Vermunt 2004a). This approach first begin with a one stage model, creating latent classes from only observed variables, can then consider the two stage model as an alternative, after modeling the standard Latent Class Model. The two stage model assumes a direct link between independent variables and observed variables used to create clusters. The technical requirements for the two stage method however are too demanding. In this thesis I will not move further than a variation of the standard model.

I used the a one stage latent class standard model to build clusters. After identifying clusters and choosing a model, a variable is created from Latent Gold, containing the respondents assigned to different clusters. The cluster variable will then be used as a dependent variable in regression analysis. In the next section, I will explain some principles of how to interpret multinomial logistic regression model, and the probabilities are calculated. The cluster building is performed and discussed in the next chapter.

4.4 Multinomial Logistic Regression Equation

The model is:

$$P(Group i) = \frac{e^{a_i x + b_i}}{e^{a_1 x + b_1} + e^{a_2 x + b_2} + e^{a_3 x + b_3}}$$

For $i = 1,2,3$

The probability of being in one of three groups is 1:

$$P(Group 1) + P(Group 2) + P(Group 3) = 1$$

This can be written as:

$$P(Group i) = \frac{e^{(a_1 - a_3) x + (b_1 - b_3)}}{e^{(a_1 - a_3) x + (b_1 - b_3)} + e^{(a_2 - a_3) x + (b_2 - b_3)} + 1}$$

After a regression model is estimated, the model is simulated using the Python programming language 2.5.1 and SciTools 0.3 to create plots (Langtangen 2008). My programs use the multinomial regression formula to calculate probable lifestyle membership out of exemplary respondents.

The purpose of each simulation is to explore visually the impact of one specific variable in the model. The variable I want to explore is placed in the x-axis, and lifestyles are placed in the y-axis.

4.4.1 Interpreting Effect Plots

Assuming there is more than two behavioural types. In a plot, if two of these behavioural types are opposite categories, the rise of one category will be at the cost of the other. They would form a cross shaped graph in the plot. If two categories are the same, they would follow each other, either up or down, or remain mutually flat. If they happen to be neither opposite nor similar categories, the development of one category will neither be in opposite direction, nor in the same direction as the other. Rather the probability of one category compared to the other will seam to be unrelated, indicating presence of different mechanisms explaining each of the independent behaviour type tendencies. A clear example of using the probability plots to check whether two categories are opposites or similar, or possibly neither, can be found in Jeffrey Mondak's work on the political knowledge variable (Mondak 1999). There he suggests answering 'Don't know', is not the same as

providing the 'wrong' answer, and tests the dissimilarity/likeness by plotting probability developments after multinomial regression.

Chapter 5 Lifestyles: Regular Patterns of Cultural Consumption

In this chapter, I discuss how I find cultural consumption behavioural pattern by analysing the dataset. I separate cultural consumption into seven domains, including pop concerts, cinema, classical concerts, theatre, music listening, dance, and opera. By utilising latent class analysis in these seven public and private categories of culture, I find three types of behavioural pattern on the basis of attendance.

The three types of behavioural pattern are labelled as follows: Omnivores, Popvores, and Mediavores. Omnivores are engaged widely on all cultural levels. Mediavores refers to a group of individuals who are not widely engaged in culture, and keep themselves restricted to mass media. The separation of Omnivores and Mediavores follows the Omnivore/univore division made by Peterson. The novel observation in my material is the group coined as Popvores. Popvores refers a lifestyle group who are taken in by different forms of particular popular culture, while on the other hand avoiding some of the traditional cultural forms. Comparing Omnivores to Popvores, the latter is *more* likely than the first to attend popular music concerts and to listen to music media. Popvores compared to Mediavores is another divide of engagement with popular culture versus restricted media consumption.

5.1 Items in the Study of Patterns

Table 5.1 Percentages indicating more than one attendance at various cultural activities within a year or listening to music the day before survey time.

	1991	2004	up
Pop Concert	34	53	19
Cinema	58	71	13
Classical Concert	27	35	8
Theatre	45	51	6
Music Listening	42	48	6
Dance	7	11	4
Opera	6	6	0

(Percentages are rounded to closest natural number. Results only for the age group 20 to 64)

The cultural forms are listed in table 5.1. The items are ranked in percentage changes in popularity, from smallest to largest positive change. The number of areas is limited because increasing the number of items would lead to a less parsimonious latent class model. The list includes both traditional and contemporary forms of culture, including both popular and unpopular.

All domains are thoroughly treated in the method chapter. The variables are dichotomous representations of variables including many genres. The pop concert variable includes also rock etc, while the classical concert variable includes also attending church concerts etc. Theatre, and dance are also two forms of culture divided in many genres. Even the opera variable includes more than one genre, both opera, the serious form, and operetta, a light entertainment form of traditional opera. In general I would prefer to have less inclusive categories. Music listening as a category includes more genres than any other variable. I will justify this by the type of activity music listening is.

Listening to music as an activity is of interest because I think the particular genre itself is less important than for other forms of culture. I suspect music media is largely commodified by the distributors through their packaging of music media. On albums or singles, tapes or mp3 files, the artist and groups, genres and traditions, are regularly mixed and thereby become intertwined. From the perspective of the album artist, they themselves are part of a tradition where collaborations across genres is the norm, unlike opera at the stage, where the opera performers are genre interpreters, more than they are creators of a score. Music listening itself is therefore justifiable as a general indicator of an activity where the engagement with music listening is perhaps more important than the particular artist or genre.

I therefore argue my interest with music in this general form is justified, as the time period covered is one where music already has become a commodity, and is collected in material chunks, and increasingly so. The growing tendency for respondents from the population to listen to music, 6% up, is one indication supporting this assumption.

5.2 Latent Class Analysis of Cultural Activities

Table 5.2 Cultural forms used as observed variables

Variable name	Indicates	Coded
Pop	Concerts with rock, pop etc.	0,1
Cinema	Cinema	0,1
Classical	Concerts with classical music, church music, choirs etc.	0,1
Theatre	Theatre, variety and musical shows	0,1
Music Listening	Music from the stereo, walkman and mp3 player	0,1
Dance	Ballet and dance performances	0,1
Opera	Opera and operettas	0,1

Table 5.2. explains how cultural forms used as observed variables are coded. Data from 1991 and 2004 are combined into one single set. Seven areas of culture are recoded into dichotomous variables for use as observed variables in latent class analysis. Zero stands for not having attended cinema within a year of survey time, and one stands for attending.

5.3 Model Alternatives

Latent class analysis does not find the correct number of behavioural types or groups automatically. An evaluation of alternative models is necessary. Through assessing the alternative number of behavioural types, the model, which is considered as giving the better description of the material, is singled out.

Different tests are in use for this purpose without strict consensus. I choose to follow the advice of Vermunt, discussed in the method chapter, and select model based on BIC value for parsimony. Latent class analysis is an approach where one creates a model for one group, then two groups, and three and so on. According to the BIC values, the Model with three clusters has the better description of the material, see table 5.3. Misclassification should not be used to select between models with different cluster numbers. The somewhat high misclassification rate of 24% leads to a need for accessing bivariate residuals and consider if some item pairs are associated.

Table 5.3 Clusters for 1991 and 2004 N 2309, excluding respondents without occupational codes

	BIC(LL)	AIC3(LL)	Npar	p-value	Class.Err.
1 cluster	17838	17805	7	1,30E-34	0
2 cluster	17236	17165	15	1	0,1562
3 cluster	**17155**	17046	23	1	0,2378
4 cluster	17184	17037	31	1	0,2900
5 cluster	17222	17037	39	1	0,3396
6 cluster	17275	17052	47	1	0,3317

5.4 Unrestricted and Restricted LCA

The initial assumption in a latent class standard model is that all items included as observed variables are not related or associated. It means that initially I have assumed visiting popular concerts and visiting classical concerts is not directly related activities, and similar for all item pair combinations. Two items can be connected if there is logically a reason to confuse the two, if the two categories are very similar. If there e.g. was one variable for indie music, and one for rock, perhaps some respondents would confuse one for the other and state attendance at rock concerts when they had been at an indie rock venue. Another connection can arise if one item is by venue or content connected to the other. Venue and content association are the two type of connections I will assess here.

The items with high values of bivariate residuals are Opera and Dance; and Cinema and Listening to music. Opera attendance and dance, including ballet attendance, take place in the same venue at times. And cinema and music media are largely part of the same global and limitedly owned distributional system. I therefore want to make a case for restrictions in the model.

When it comes to the case of ballet in particular, the national ballet and the Norwegian opera are both located in the same building, and belong to the same administration. There are many other dance venues and genres included in the generous category Dance. Still the respondents, the audience for both opera and dance, will attend both performances perhaps at the same venue, read about the seasons in the same newsletter, and buy seasonal tickets perhaps from the same box office. The opera and ballet attender do know the difference, and can separate one type from the

other, it is not categories I discuss here, but practicalities and organisational forms. They share institutions, the professional workers are the same or to a large extent both in administration and artistically, and they belong to the same European cultural tradition. The respondent who has an experience from the opera, does already know much of the social forms, the attender customs, and has relevant insight in ballet performances, be it the artistic musical side, or the reward from legitimate cultural engagement. The opposite is true for the ballet attender. Perhaps these two interests are developed simultaneously? This expands to other dance forms than ballet, like contemporary dance. Both opera and dance are quite legitimate forms of culture. One can still question whether opera and dance are on the same cultural *level*.

There is one side of ballet, the physical, the hard work involved in the dance, the 'manual labour' of dancing, that sets ballet apart from opera. The physical side can put audience off, or it can be a strain on the performers, ballet dancers retire in general early. If ballet is similar to the cinema, where movie directors or actors spend several films over a large number of years in creating an audience, or in music where bands must make 5 albums to gain an impact, which means profit and a large audience, the ballet may be hindered by the short performance life of their leading dancers. This is a problem the opera doesn't have with their lead performers. Even the ballet ensemble can be open about their lower position within the institution, their anonymity compared to the opera. Still, it seems, as it is explored with bivariate residuals, the two activities are comparable. Whether ballet and opera are on the same cultural *level*, if they are both as high brow, or as popular, can be discussed, it seems at least the respondents, that shape the audience, are loyal to the institution.

Even though opera and dance normally are treated separately, the variables will be treated as comparable here, because of the strong institutional connection, through venues, administration, and distribution of information to the audience. The next pair I consider as associated, is connected through content, specifically through the way media is owned by intellectual property distributors, often referred to as catalogue holders.

I have already argued for why the variable 'Listening to music' can be included as a general activity since it has been to a large extent commodified by distributors with the willing help of performers. It is in the interest of the distributors to commodify music to target an as large as possible audience base. The tendency over many years has also been to converge over intellectual property markets, over music and film, both in terms of producer management, and distributive systems. The convergence could be accepted by individual consumers who perhaps already had a dual interest. Both film and music are global commodities, and in Norway they are both in this time period mainly international products. There are no large local institutions supporting either cultural

form, which could have led to conflicting interests. There are only separate organisations facilitating a global operation of pop cultural distribution. The connection and communication with the respondent goes through mass media.

From the respondent's side the distributive convergence is largely invisible, only insiders have knowledge about the scale and the scope of these changes. From the perspective of the individual, the cinema itself is different from the activity of listening to music. Still it is not uncommon to see music linked to films as soundtracks become defining for a cohort, at least it appears so by the sudden popularity of particular artists linked to the box office hits. It seems the film and the mood and mutual experience from the cinema, to some extent can continue on the stereo or mp3 player. In the opposite direction, knowledge about music in a film, could in itself be enough to draw the respondent to the cinema. For distributors and intellectual property holders in both music and film, this is a favourable situation. Still it is likely they do not have to enforce artistic control to merge the media. More likely the artists, writers of scripts, scorers, and directors are themselves already like the respondents, interested in both. Discussions with Norwegian directors support this assumption.

There are in total three sides of the popular culture, which can lead to the experience of a mixed commodity culture. 1) The originators themselves, song writers, film makers, artists of different kinds, are involved and inspired across cultural forms. 2) The distributors are themselves interested in spreading their risk over many products, and therefore support projects that are cross categorical. 3) The respondents like films with a particular type of music, and attend because the movies have a strong score. The listener can also find and pursue new musical interests after attending current films at the cinemas. I believe these are three all plausible agent centred explanations to the connection over different forms of intellectual property present in films and music.

I argue here for model restrictions. The bivariate residuals found in the three cluster model point to two relationships. The Opera and ballet, the cinema and listening to music listening, are in the restricted model treated as dependent to each other, see table 5.4.

Table 5.4 Comparing two three-cluster models, unrestricted and restricted

unrestricted	BIC	AIC3(LL)	Npar	p-value	Class.err.
3 cluster	**17155**	*17046*	*23*	*1*	*0,2378*

restricted model with local dependence for Opera & Dance; Music listening & Cinema					notice the lower mis-classification rate
3 cluster	**17146**	*17028*	*25*	*1*	*0,1662*

When the three clusters are produced with restrictions, the classification error rate drops down to 17%, still perhaps somewhat high.

Building the model with latent classes is an exploratory process. I did not guess beforehand over the pair wise association between the observed variables. Only after assessing model information did I consider possible dependencies. Bivariate residuals are helpful when interpreting the results. I will continue forward with the three cluster restricted model. The next step is to learn about the clusters. From Latent Gold, probability information can be used to describe each behavioural type represented by each cluster, see table 5.5.

5.5 Cluster Descriptions

Table 5.5 Clusters for 1991 and 2004 N 2309, cluster probability of engagement in culture

	Omnivores	**Popvores**	**Mediavores**	
	Cl 3	Cl 2	Cl 1	comments
cluster size in % ->	0,2393	0,3292	0,4315	
Pop	0,5942	**0,9038**	0,0170	probabilities, sum to 1
PopNo	0,4058	0,0962	*0,983*	over two outcomes
Cinema	**0,8572**	0,7862	0,4738	
CinemaNo	0,1428	0,2138	*0,5262*	
Classical	**0,6539**	0,2871	0,1532	
ClassicalNo	0,3461	0,7129	*0,8468*	
Theatre	**0,9376**	0,4674	0,2974	
TheatreNo	0,0624	0,5326	*0,7026*	
Listen	0,4913	**0,5704**	0,3339	
ListenNo	0,5087	0,4296	*0,6661*	

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Dance	**0,2757**	0,0431	0,0254
DanceNo	0,7243	0,9569	*0,9746*
Opera	**0,1933**	0,0200	0,0122
OperaNo	0,8067	0,9800	*0,9878*
	Omnivores (O)	**Popvores (P)**	**Mediavores (M)**
Description	Trad. institutions	Stage and Media	Media users
Noticeable arenas	Opera, cinema, etc	Pop/rock live, mp3	Cinema and mp3?

The presentation is intentionally similar to the Latent Gold printout to facilitate recognition. The No answers can be edited out.

Comparing with previous studies on consumer behaviour in cultural arenas, there are few surprises among the different behavioural types. There is a group of individuals whose engagement is scattered all over the cultural spectrum. Following Peterson's definition, this group is named Omnivore, referring to a lifestyle group that has a nearly indiscriminate interest and is often applied to those who can be considered as cultural elite. In the opposite of Omnivore, there is a group of individuals who are almost inactive in cultural participation, and restricted themselves merely to mass media. This group is named Mediavores.

The third lifestyle group are not roundly engaged in all cultural forms, nor are they inactive or restricted to media. Considering their probability pattern from the cluster description in table 5.5, they are particular as a lifestyle type in being more interested than other types when it comes to attending pop and rock concerts and listen to music on the stereo, walkman and their mp3 player. Because they are more likely than other groups to show a wide and mainly pop cultural interest, I choose to name these respondents Popvores.

This study holds information of period changes. By combining data from two periods in the latent class model, the clusters are created from the same categorisation probabilities, and are therefore comparable. In table 5.6 the cluster size changes from 1991 to 2004 can be observed.

Table 5.6 Clusters for 1991 and 2004 N 2309, beginning with cl 3, Omnivores

	Omnivores	**Popvores**	**Mediavores**	Total
1991	19,6%	25%	55,4%	100%

2004	26,7%	35,5%	37,8%	100%
change	7,1%	10,5%	-17,6%	

From these tables some initial conclusions can be made. It is rarer to be restricted to only media culture or be inactive as a cultural consumer, the Mediavore group is declining in size. There are increasingly more Omnivores in the population in the same time period. The fastest growing behavioural type is Popvores. Why there are more Popvores needs to be explained. One preliminary conclusion about social change is that omnivorousness is on the rise, but not as much as popvorousness.

5.6 Conclusion

In this chapter, I have presented how behavioural patterns are derived from cultural attendance and engagement data. I first separate cultural consumption indicators into seven domains: pop concerts, cinema, classical concerts, theatre, music listening, dance and opera. These variables are selected to enable respondents to display wideness in their engagement and to also selectively represent different cultural levels. Only information about whether the respondent has attended or not, in a dichotomous variable, is used to create lifestyle clusters.

In Latent Class Analyses the seven observed variables are used to find patterns or clusters among respondents. Each cluster represents a lifestyle. To select the best model, tests of model fitness are applied. BIC evaluates how well each model represents the data, and is used to select the number of clusters in a lifestyle model. I select a three cluster model. Then bivariate residuals are explored to evaluate local dependence. The test indicates local dependence among two items pairs. Local dependence can be the result of confusing two categories, or from attendance association. I describe how Opera and Dance could be associated because of their shared venue. And I consider the overlapping content for the item pair Cinema and Listening to music. I then incorporate local dependence in the model, for venue and content associations for these two item pairs. The misclassification rate indicates that after allowing for local dependence from venue and content association, respondents are now more often placed in the correct lifestyle type.

Three behavioural patterns are categorised from the latent clusters. One group displays a wide cultural engagement with culture from all cultural levels. I have named this group Omnivores. Opposite to the Omnivore cluster in the type of behaviour they display, the group of respondents

who are almost inactive in their cultural participation and who restrict themselves to merely mass media, is labelled Mediavores. The third lifestyle group are neither roundly engaged, nor inactive or entirely restricted in their engagement with culture. Their pattern of probable attendance indicates the group has a taste for mainly popular culture, I have named this group Popvores.

When the three lifestyle types are studied over time, it is evident the Popvores are on the rise, faster than Omnivores. Mediavore lifestyle is in decline in the time period from 1991 to 2004. In the next chapter I will attempt to explain the changes of lifestyles in the population.

Chapter 6 Explaining Changes Through Multinomial Logistic Regression

In this section, I re-predict lifestyle changes through multinomial logistic regression. Class, status, and education are assessed to check for possible overlapping mechanisms. Education is least connected to the two other variables. Class and status seem to be somewhat related and might be picking up the same social phenomena. All three variables are used in the multivariate multinomial logistic regression model to study their separate influence on cultural engagement changes.

Each of the three stratification related variables are tested for their interaction with period in the model, to assess each main theory about social change. It is only education which changes it's effect in the time period studied. Class and status shows no interaction, thereby refuting individualisation and status theory, and the material dimension of culturalisation theory.

Education is changing its effect *type* over time, increasingly higher education leads to Popvorous behaviour, while the connection to Omnivorous behaviour has not changed significantly.

The difference between the lowest and highest educated groups when it comes to their Omnivore affiliation is decreasing. This clearly falsifies both the cultural dimension of culturalisation theory and processing capacity theory, which predict only increasing disengagement for the lowest educated.

6.1 Assessing Three Stratification Related Variables

Social position is at times represented through only one variable, often education. If education alone can be used to represent class or status, what will happen when both class and status is included in the model? To evaluate the possibility that education, class, and status are associated and representing similar or the same social phenomena, the variables are removed in turn, from a full multivariate model. Since both status and class are constructed from the same occupational variable, it would not be surprising if their effect on lifestyles are comparable on their own. It is also of interest to see how they influence the coefficient of education, when they are included and removed from the model. The direction of the coefficient and any change of significance is used to indicated their internal relationship, see table 6.1.

Table 6.1 of Model 1 and variations over Model 1 sans one variable

	Model 1		Model sans education		Model sans status		Model sans class	
	O/M	P/M	O/M	P/M	O/M	P/M	O/M	P/M
status	x***	x	x***	x			x***	x***
primary (ref tertiary 2)	-x***	-x***			-x***	-x***	-x***	-x***
secondary	-x***	-x*			-x***	-x**	-x***	-x
tertiary 1	-x***	-x			-x***	-x	-x**	-x
class II (ref class I)	x	x	x	x	x	x		
class III	x	x	-x	-x	-x*	-x		
class IV	x	x	x	-x	-x	-x		
class V	x	-x	x	-x	-x***	-x***		

*Note to table 6.1: Excerpt of multinomial model, other variables left out of the table. Sig * p <= 0.05, ** p <= 0.01, *** p <= 0.001*

From table 6.1 it can be observed how the coefficient of education never changes direction for either status nor class inclusion/exclusion. It only changes significance for secondary and tertiary 1 education when either status and class exclusion. It indicates a weak form of relationship with class and status. Education is mostly picking out a separate mechanism to the status and class variables.

Class and status seem to be more related. Class differences are significant when status is not included in the model, both for the Omnivore/Mediavore (O/M) contrast, and the Popvore/ Mediavore (P/M) contrast. The significance of both O/M and P/M contrasts for class disappear when status is included. Opposite, when class is outside the model, status is significant for the P/M contrast, a significance status looses in the full model.

Education is least influenced by the inclusion of other stratification related variables. To see if there is a separate development over time for education, class, and status, all variables will be included in the study.

6.2 Multinomial Regression Model 1, and Model 2 with Interaction Included

To predict behavioural type affiliation, I model the relationship between social stratification and their development over time, together with other demographic variables. The guiding questions related to social change are: is class of lesser relevance as a result of individualisation; has status weakening impact since it is only an informal type of stratification; is processing capacity changing the impact of education by creating gaps; and are cultural resources or knowledge more important while material resources are less determining for the individual, a culturalisation process? Results are reported in table 6.2.

Table 6.2. Model 1 and Model 2 excluding and including interaction among variables. The reference category in each column is the last cluster of the two, either Mediavores or Popvores.

All coefficients in B	Model 1 Basic		Model 2, Complete		
	O/M	*P/M*	*O/M*	*O/P (extra)*	*P/M*
Constant (α)	-1,884***	-1,347**	-1,918**	-0,417	-1,501*
Period	0,289*	-0,005	0,251	-0,095	0,345
Cohort 1942-1955 (ref 1926-1941)	-0,258	0,443*	-0,300	-0,753**	0,453*
Cohort 1956-1969	-0,029	1,106***	-0,057	-1,177***	1,121***
Cohort 1970 - 1984	0,176	1,838***	0,134	-1,736***	1,870***
Status	1,972***	0,719	2,037***	1,302*	0,735
Primary education (ref tertiary 2)	-2,063***	-0,769***	-1,484**	-1,243*	-0,241
Secondary education	-1,142***	-0,310*	-0,986***	-0,906**	-0,080
Tertiary 1 education	-0,708***	-0,089	-0,838*	-1,115**	0,277
Class II "Intermediate employee" (ref Class I The salariat)	0,230	0,171	-0,016	-0,51	0,035
Class III "Small employers and self-employed"	0,105	0,007	-0,030	0,5	-0,530

Class IV "Lower sales and service"	0,566	0,087	-0,948*	1,422***	-0,474
Class V "Lower technical and routine occupations"	0,362	-0,140	0,157	0,362	-0,204
Income	0,000*	0,000	0,000*	0,000	0,000
Children 0-4 (ref has child)	1,066***	0,602***	1,085***	0,486*	0,598***
Child 5-10	-0,423*	0,024	-0,440*	-0,458*	0,018
Child 11-15	-0,253	-0,358*	-0,263	0,110	-0,372*
Gender (ref man)	0,568***	-0,341**	0,696**	1,293***	-0,597
Partnership (ref couple)	-0,134	-0,321*	-0,161	0,111	-0,272
Primary education * period (ref tertiary 2*1991)			0,668	1,754**	-1,086*
Secondary education*1991			0,015	0,286	-0,271
Tertiary 1 education*1991			0,271	1,301**	-1,030*
Primary education *gender 0 (ref Tertiary 2 gender man)			-1,780**	-1,713*	-0,067
Secondary education *gender			-0,295	-0,213	-0,082
Tertiary 1 education*gender			-0,025	-0,257	0,232
Class II*gender(ref Class I gender man)			0,385	0,092	0,293
Class III*gender			0,341	-1,157	1,498**
Class IV*gender			-0,505	-1,548***	1,043*
Class V*gender			0,400	0,243	0,156
Class * period	n.s.				
Status * period	n.s.				

—		
McFadden	0,113	0,125
Intercept BIC	4421,895	4421,895
Final BIC	4192,158	4294,385
Intercept AIC	4410,590	4410,590
Final AIC	3977,362	3966,537

Sig * p <= 0.05, ** p <= 0.01, *** p <= 0.001. Coefficients i B.

6.3 Two or More Lifestyles?

In chapter 5 I found three lifestyle groups, one more than could be expected from Peterson's theory about a Omnivore-univore divide. The question then is if the third category falls into a initially discrete typology. I want to explore here if there are two types of behaviour, where Omnivore is the first, and Popvore and Mediavore is the second? Studying the coefficients for the O/M contrast in comparison with the O/P contrast, one test is to compare the significant coefficients for the two type of contrast pairs. The estimated coefficients should be identical for O/M and O/P coefficients, if the three categories could easily be collapsed into only two categories and applied in binomial logistic regression. In support of using three categories rather than only two, only the O/P contrast is significant for cohort. Also the O/P contrast differ in the significance level for education, status, class, and income to the O/M contrast. Other examples can be found. Lifestyles over domains is not sufficiently modelled in only two categories.

An indication through differing significance pattern and probability accuracy is one first evidence of the validity of introducing Popvores to studies of lifestyles, not only as an in between category, but one categorically different from other lifestyles. The explanation for Popvore affiliation seems to be of a different kind than for the two other lifestyle groups. This will be followed up also in the next chapter, where I test the relationship between education and lifestyles, and in a multidimensional model of stratification and lifestyles.

6.4 Social Change

What seems to be a period difference for the O/M contrast in Model 1, can be attributed to compositional changes, and effect changes for other contrasts, illustrated in the next chapter. Class

and status does not interact with period for any lifestyle comparison pair.

Even though period alone is significant for the O/M contrast in Model 1, the model does not include interaction variables. When interaction variables are included in Model 2, the significance of period now in interaction with education, is below .05. The conclusion is that the rise of Omnivores and opposite decline of Mediavores, is not explained through period or educational effect changes in the time period studied. The rise of Omnivores and decline of Mediavores must then be explored through studying compositional changes, and the Popvore related effect changes. The most likely social change leading to sufficient compositional change, is the educational expansion leading to increasingly more highly educated individuals who are as before less likely than lower educated to be Mediavores. Educational expansion alone does not explain changes. When considering the P/M contrast, there are significant interactions between education and period.

Since the effect of education does not change for the O/M contrast over time, while there is a significant change for educational levels considering the P/M contrast, I prefer to refer to this as an *effect type* change. Higher education is increasingly associated with pop culture rather than media restricted consume, as Model 2 shows. The O/M contrast is stable, while the P/M contrast is changing, and the O/P contrast is changing too. In panel 7.2.3 in next chapter, the stable connection between the longest tertiary education and Omnivore affiliation is illustrated perhaps better than from Model 2 coefficients alone.

From the theories concerning social change, it is of interest to study interaction between stratification variables and period. If individualisation has taken place in Norway, class would be less important, the difference between labour and service class would decrease. From model 1, it can be seen, class and period do not interact. Not only individualisation, but also culturalisation rests upon the assumption that class is less important. The economic elevation is believed to make culture more financially accessible. Expectations from both individualisation and culturalisation fail to materialise in decreasing class differences.

Nor do period and status interact significantly. Its seems the impact of status is stable. Status theory expects a declining impact since there is no formal institution behind the perceived honour hierarchy in contemporary society. No one can demand to be honoured, and it is often believed that we are increasingly likely to resist deference. Still the difference in cultural interests between status groups remains stable throughout the time period. The expectation of declining impact of status in status theory does not find support in this material.

One variable that does interact with period is education. Two theories about the changing impact of education are culturalisation theory and processing capacity theory. Both theories expect

the differences between lower and higher education groups to increase.

Culturalisation theory understood through lifestyle groups would lead to the expectation of lower educated groups to be less likely Omnivores over time. Instead, in the years 1991 to 2004, lower educational groups are increasingly likely Omnivores. The gap between lower and higher educated groups in terms of their omnivorousness is narrowing. The narrowing gap still does not make lower educated groups more active in the time period. Lower educated groups are less likely Popvores in 2004 compared to 1991, and as a result more likely Mediavores over time.

Processing capacity divides culture into either simple or complex in content, and the behaviour types is either one favouring complex culture and variety, or a second type favouring restricted simplicity. The complex/simple division is bimodal. In the processing capacity typology, omnivorousness represents the complexity and variety, popvorousness and mediavorousness represents simplicity and restrictions. Since education is by Chan et al. interpreted as an indication of capacity, and the expectation is an increasing gap between the lower and higher educated in their interest for complexity and variety, the test to processing capacity theory is if the gap between lower and higher educated groups is increasing in their likely Omnivore affiliation. The gap is as reported decreasing, and processing capacity theory's hypothesis of social change, has been falsified.

6.5 Conclusion

In this chapter I have re-predicted lifestyle changes in a multinomial logistic regression model. The three stratification related variables, class, status, and education are assessed to find possible overlapping mechanisms. The model shows that education is not much connected to the two other variables. Class and status influence each other's significance level and coefficient direction, when the two variables are alternated in the model or included together. All three variables are applied in the full multinomial logistic regression model to give a multidimensional insight on cultural engagement changes. The coefficients in the multinomial model indicates that the third cluster, Popvores, by coefficient size and pattern of significance, is different from the Mediavore cluster. The Popvore group does not follow the pattern of the Mediavore lifestyle when it is contrasted to Omnivore behaviour in the model. Both differences in coefficient sizes and significance pattern, indicate Popvores can not be compared to Mediavores, and should therefore not placed into a discrete lifestyle typology. This supports the choice to include three lifestyles in the multinomial model.

All four main theories – individualisation, culturalisation, processing capacity theory, and

status theory – about social change and lifestyles failed the test in this model. Individualisation and culturalisation expected classes to be less important. Status theory expected status to be less important. However, my empirical data shows that neither class nor status interacts with period.

Education has changed its *effect type* in the time period. Effect type change is evidence against both culturalisation and processing capacity theory, which only expects effect *strength* change, larger gaps in the population. The gap between lowest and highest educated in terms of their Omnivore affiliation is narrowing. The most surprising finding is that higher education leads increasingly to Popvore affiliation, while the connection to Omnivores for higher tertiary educated is stable in the same time period.

In the next chapter I will create simulations from model 2. In simulations I can illustrate further how it is the three lifestyle groups differ, and how mechanisms predict lifestyle affiliation separately from other variables.

Chapter 7 Simulating Social Changes and Social Explanations

In this chapter I create simulations based on model 2 from chapter 6. The simulations show the impact of independent variables, such as period and education, on lifestyle affiliation. Cultural engagement by probable membership in one of three lifestyle types—Omnivore, Popvore, Mediavore—is illustrated in plots. The simulations explain why the Popvore and Omnivore lifestyle groups are increasing in size. The reasons are a *composition change* in the population from educational expansion, and *effect changes* of primary, lower tertiary, and higher tertiary education. The longest tertiary education increasingly leads to popvorous engagement in culture, while it has stable connection to omnivorous participation. This is a form of effect transformation I have called effect *type* change.

The plots show that omnivorousness is increasing for primary and lower tertiary educated respondents. Mediavorousness is increasing at both primary and lower tertiary educational levels, while popvorousness is decreasing for the same educational groups.

Model 2 shows education interacts with gender. The plots show how females are more influenced by education than men. From upper secondary education, women are in general more likely Omnivores than men. Men from all educational levels are more likely Popvores than women are.

Status is a strong predictor of lifestyles. Class has little to add when status is included in the model, but can still be significant. By modelling changes along three predictors, education, status, and class, it becomes possible to suggest an impact of combined differences from three dimensions of stratification on engagement choices. Popvore membership tendency is less affected by stratification variables in total than Omnivore and Mediavore membership is.

7.1 Creating Simulations and Interpreting Plots

To calculate and draw plots, I follow Hans Petter Langtangen's approach to use the Python programming language applied by me in version 2.5.1 together with SciTools 0.3 (Langtangen 2008). Model 2 from chapter 6 is recreated in code. The likelihood of being a member of a lifestyle type is calculated through the multinomial equation. The probability of membership varies with a respondent's values on the independent variables. The modal respondent has modal values on all independent variables. To study effects, usually one variable is varied from lowest to highest observed value. This is done by creating a vector holding the possible values. This vector is run

through the lifestyle probability calculation and the results are places in three lifestyle vectors, one for each lifestyle. The lifestyle vectors can then be plotted in y-space, and the initial vector containing possible values are placed in x-space. The result is a plot which illustrates effect development on one independent variable. The code can be mostly reused, only updating respondent information and text following the resulting plot. Using Python is not only a technical exercise for the sake of its complexity, it is useful to enable other researchers to reproduce the results for control.

The next challenge is to interpret the results correctly. I want to spend some text on interpretation of the plots. The plots are not only there to supplant the table of Model 2. The plots will be deployed to test theories. It is therefore important to understand both what effect is, and why the multinomial relationship between a mechanism and lifestyle types is different from binomial expectations.

Social explanations are mechanisms which influence the probability of being in one of these three groups. The effect of a variable can be measured as the change of probability of membership when other variables are held constant. In every plot, the probability of being one of three possible lifestyle or behavioural types, Omnivore, Popvore, and Mediavore, is plotted in the y-axis. The likelihood of being in one of either category sums to 1. The graphs are consistently drawn using lines for Omnivores, plus symbols for Popvores, and circles for Mediavores.

When simulating e.g. period changes, the vector representing time is set in the x-axis. For the plots of social changes, the first period 1991 is placed in x=0, and the second time period is x=1. The graphing lines may be horizontal like water, indicating that membership of a type in question is unaffected by the variable plotted along x. It may be sloped upwards, when the independent variable in x increases the probability of being of the behavioural type in question. And subsequently it logically follows the downward sloping lines, which indicates falling probability of being of a certain consumer type as x increases. A flat line for social change, means the mechanism does not change from 1991 to 2004, it is then without effect change.

As long as the variable along x is continuous, the slope can be followed and interpreted all along the graph. If however the variable is categorical, only x=0 and x=1 holds any information of use. The datasets have information from 1991 and 2004, but nothing in between, only the beginning and the end is of interest. The direction of the graphs can be interpreted but not the shape of the slope.

Each plot covers either social change or different social explanations. In order to illustrate effects, other independent variables are held constant at modal or mean value. Modal is the most

frequent value for each of the variables in the dataset. The modal respondent is a man, but because of interaction between gender and education, men and women are once plotted separately to illustrate gender difference.

Using the means and the modals in each of the background variables, a standard model is created[4]. The modal respondent is part of the 1991 survey, belongs to the 1956-1969 cohort, has a status of 0.44, holds secondary education, belongs to class I—the salariat, has no children in the household, and lives in partnership of some form. By varying the value of each variable, the effect of each variable's contribution to lifestyle probabilities can be graphed.

7.2 Social Change: Period and Education, 1991 and 2004

These plots of different educational groups illustrate effect changes for education in the time period studied. From pervious chapters, it has been shown how the interest for culture is increasing. It could be a result of only composition changes in the population. If there was a stable effect of education, the compositional change would alone change the total consume of culture. When an increasingly larger part of the population has acquired higher education, the stable effects of education would lead to more consume on aggregate level. If no change of effect takes place for education, the plots from 1991 to 2004 will be flat, indicating stability in engagement given education level.

Model 2 shows that education has changed its effect. The outcomes of those changes are illustrated below. Effect changes in the period slopes the lines: downwards for deceasing effect on likelihood, and upward for a stronger impact on the particular lifestyle type. E.g. the effect change of primary education in interaction with period, is in a positive direction, which means primary educated respondents are increasingly likely to be omnivorous. The same observation holds for the shorter tertiary educated, they are increasingly likely omnivorous. The longest tertiary education has retained a stable link to Omnivore behaviour. The conclusion is that Omnivores are increasing in size because there is a *composition change* in the population, as well as an *effect change* of primary and lower tertiary education. Both effect and composition are needed to explain the cultural engagement changes.

Why is popular culture so popular? The effect change for these primary and lower tertiary educated is negative, meaning that they are less likely popvorous than before. The effect change for

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[4] The income variable is part of the code only as a remainder, it does not hold any influence over probabilities since it has in model 2 a zero coefficient. Income is by mathematical logic nulled out in the equation (any income multiplied with zero equals zero).

the longest tertiary educated is positive, which means that they are more likely Popvores than before. The composition and effect change leads to an increasing engagement with popular culture in the population. Higher education has retained a stable link to to omnivorous attendance, while it in the same period increasingly leads to popvorous engagement with culture. This is an effect *type* change of higher education.
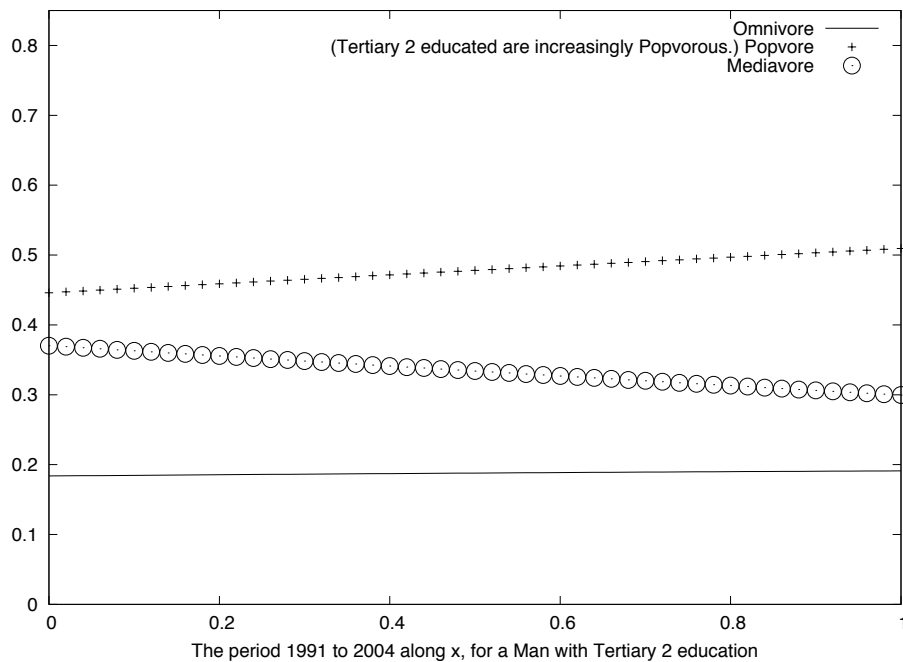
Panel 7.2.1 Primary Education 1991 to 2004
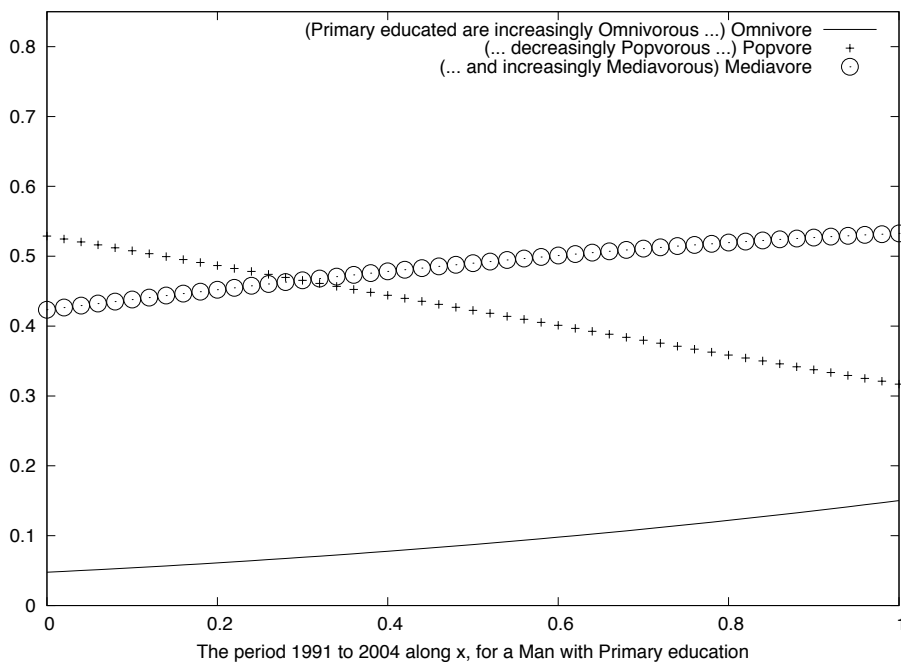
Panel 7.2.2 Lower Tertiary Education 1991 to 2004

The period 1991 to 2004 along x, for a Man with Tertiary 1 education.
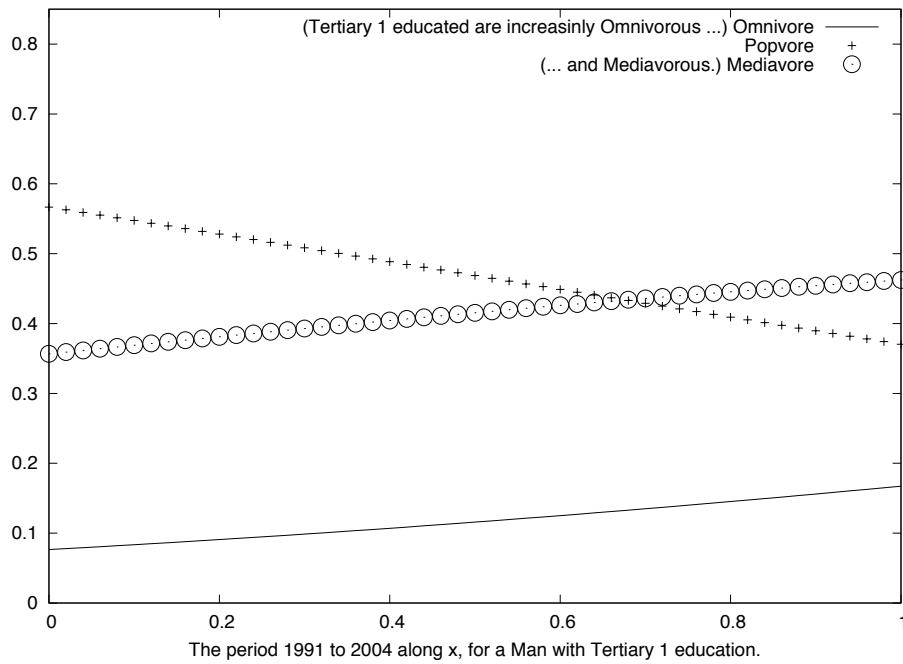
Panel 7.2.3 Higher Tertiary Education 1991 to 2004

The period 1991 to 2004 along x, for a Man with Tertiary 2 education

The probability of being Mediavore is increasing for those with primary and lower tertiary education. All changes in effects for all educational levels are illustrated in table 7.1. The interesting development is related to gaps. Each sign, plus or minus, in the table is just a shorthand for the plots. Comparing the longest tertiary education to primary education for a particular behavioural type, if gaps increase, the signs are opposite (the slopes move in opposite direction).

Mediavorousness is increasing at both primary and lower tertiary educational levels, while popvorousness is decreasing for the same educational groups. One of the surprising results is the recent increasing engagement with culture in general for some of the respondents with primary education.

Table 7.2, a tabular shorthand of lifestyle type development, period and education interaction; M for Mediavore; P for Popvore; O for Omnivore; + (plus symbol) for increasing probability comparing 2004 to 1991, - (minus symbol) for decreasing probability in the time period covered considering educational level.

	probability over time		
Primary	M +	P -	O +
Upper secondary	no significant change	no significant change	no significant change
Tertiary 1	M +	P -	O +
Tertiary 2	M -	P +	O
	increasing gap	*increasing gap*	*decreasing gap*

One comment about audience composition should be made. The *effect* of primary and lower tertiary education has changed. It increasingly leads to mediavorouse engagement, when other effects are separated out in a multivariate model. In *frequency* alone, Mediavores are increasingly of higher education. Looking at frequencies alone could therefore lead to a misguided conclusion. One would wrongly assume a stronger connection than before between tertiary 2 education and mediavorous tendencies. This error is avoided in multivariate logistic regression and the probability plots from its equation. The compositional change makes it inadequate to study frequencies without measuring effects of educational levels. Both frequency and effect is needed to re-predict social changes resulting from educational expansion.

Table 7.3 A control of observations in order to evaluate the composition change of Mediavores to be compared with effect changes of education 1991 to 2004.

Only Mediavores	**1991**	**2004**
Primary	124	63
Secondary	416	242
Tertiary 1	61	26

Only Mediavores	1991	2004
Tertiary 2	74	77
total	675	408
Primary Mediavore percentage	124/675=0.18	63/408=0.15 (decrease !)
Secondary Mediavore	416/675=0.61	242/408=0.59
Tertiary 1 Mediavore	61/675=0.09	26/408=0.06
Tertiary 2 Mediavore	74/675=0.11	77/408=0.19 (increase !)
	675 (100%)	408 (100%)
Mediavores size of three lifestyle clusters	55,4 percent	37,8 percent

The Mediavores are increasingly highly educated. The composition change illustrated in table 7.3 is a result of educational expansion. More people are highly educated, fewer holds lower than upper secondary education. Individuals with higher education are by *effect* least likely to choose a mediavorous lifestyle, and the likelihood is decreasing. However, as a social paradox, by frequency the Mediavores, considered as a form of audience group or a population, are more likely than before highly educated. This development stems from the educational expansion at tertiary level. By size, highly educated are a substantial part of the Mediavore lifestyle group.

7.3 Discussion of Composition and Effect Changes for Education

The change in effect of primary education of being Omnivore rather than Popvore is positive (see multinomial model 2). They are catching up with those with longer education. This result needs to be explained, especially since respondents with primary education are decreasingly likely Popvores. If culture in general is becoming more important in society, why are those with lower education more involved in all cultural activities as Omnivores instead of as Popvores?

In terms of differences between educational levels, it can be that respondents with primary education are catching up because those with the longest education are increasingly a more *mixed*

group, including many who are not from a background with an interest for all forms of culture. It can also be that there is a *limit* to the benefit of being involved with cultural activities of all kinds, and those with tertiary 2 education, who do not have motivation for consuming classical culture, find themselves content with the culture they themselves enjoy, especially if they are not alone in containing their interests to specifics.

The interest for Popular culture among those with tertiary 2 education is larger in 2004 than in 1991. The rise in Popvorous tendencies among those with the longest education is surprising. If education cultivates processing capacity, why would it give motivation to consume only popular culture? Two suggestive answers can be forwarded: 1) popular culture is also increasingly processing demanding, it has perhaps become more refined and adapted to an educated audience? 2) education is not a pure measure of processing capacity, but a social variable indicating membership in a group content with contemporary enjoyments? If the first suggestion is correct, it would invalidate common assumptions of high culture being more processing demanding than popular culture. The second succession is that the education variable is not only a processing capacity measure and would not merely pick up one phenomena.

The most noticeable tendency is for those with primary and tertiary 1 education, there is a growing probability in this period of being a Mediavore, in a time when the interest for culture is increasing among the population in general. The second tendency relevant for these two educational groups is the somewhat growing tendency of Omnivorous behaviour. Both of these growing tendencies at the cost of Popvore behaviour. The Popvore group is still growing in size, those with the longest education, tertiary 2, are increasingly engaging with popular culture.

The increasing Omnivore population at the cost of Mediavores, must be explained through mostly educational expansion, and some by effect type change of education. Also the increasing Popvore population at the cost of Mediavores, needs to be explained through both compositional change and effect type change for educational levels. Those with primary and tertiary 1 education have increased their probabilities of being omnivorous and mediavorous rather than popvorous. The outcome is larger internal gaps among those with primary and tertiary 1 education. The change in effects and composition are social explanations on the observed cultural engagement changes. Of all changes the most overlooked in many studies on culture, is the rising interest for popular culture. Peterson has always focused on the connection between fine arts and eclectic consumption, thereby concluding that the Omnivores are on the rise. Thus he has missed the obvious change, that Popvores are on the rise too, and they are growing in size faster than Omnivores.

Other than changes, it is also interesting to study stable social explanations for cultural interests. Two effects remained stable in the time period, status and class. First I will study status and relate status effects to education. Then I will study class and its relation with status and gender. At last, I will consider three dimensions of stratification, status, class, and education, together, giving a multiple dimensional perspective on cultural engagement.

7.4 Social Mechanisms I: Education, and Status-Seeking Behaviour

Panel 7.4.1 Primary Education and Status
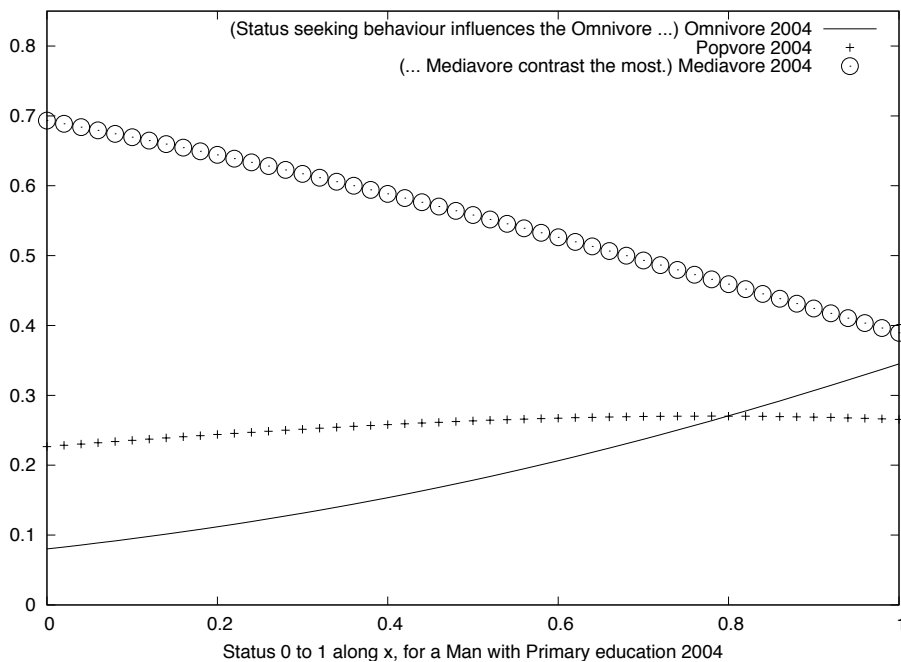
Panel 7.4.2 Secondary Education and Status
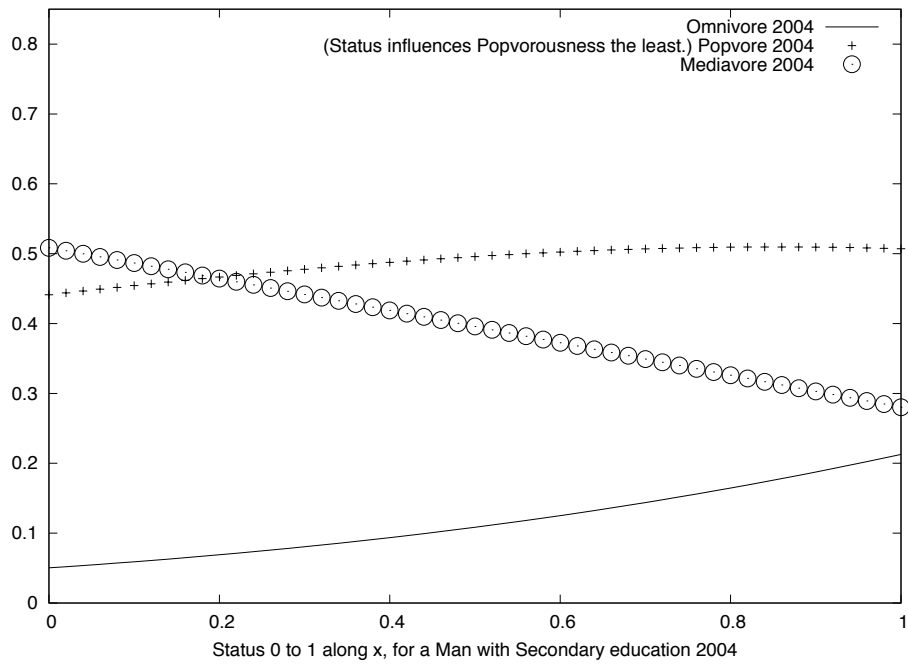
Panel 7.4.3 Lower Tertiary Education and Status
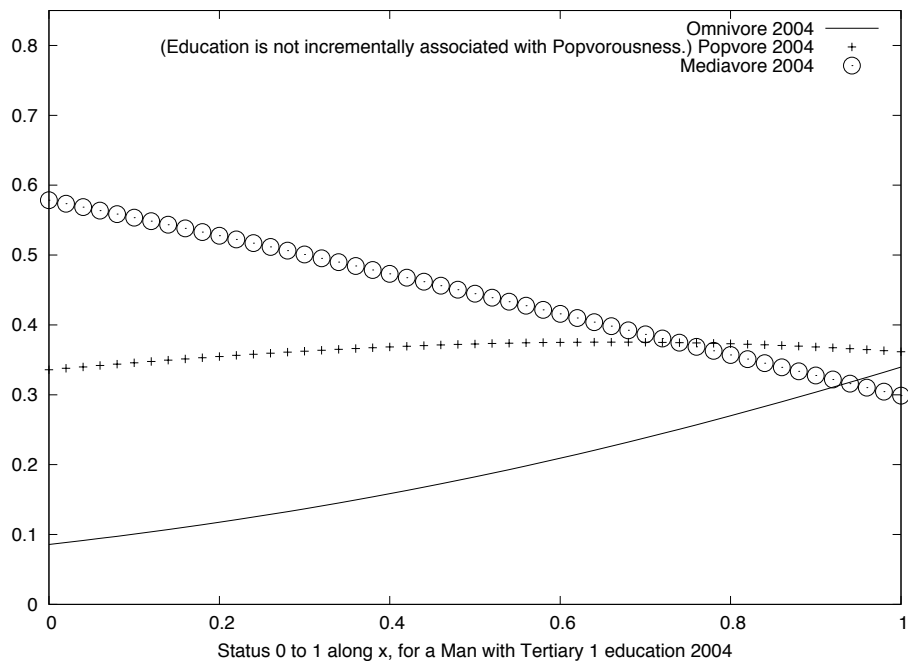
Panel 7.4.4 Higher Tertiary Education and Status

Status 0 to 1 along x, for a Man with Tertiary 2 education 2004
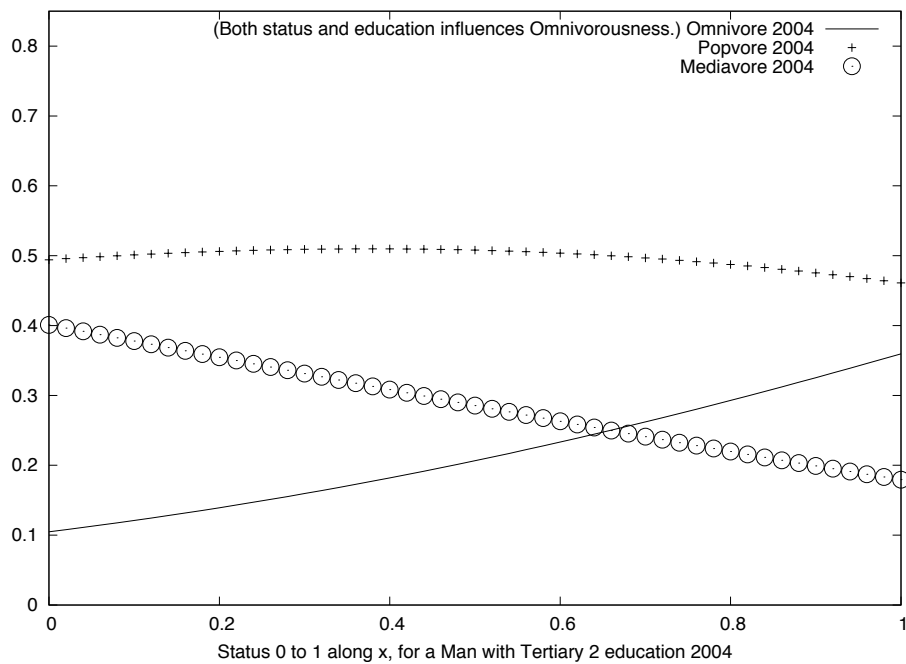
To study the influence of status and its effect on lifestyles, status is now plotted along the x-axis. Each panel contains separate levels of education. Because all levels of education are plotted alongside status, both educational and status effects can be studied. All levels of education are significantly different to the reference category. Here secondary education is also relevant. All educational levels are in general good predictors of cultural behaviour.

Processing Capacity, Education, and Popvores

Processing capacity theory claims that the connection between cultural behaviour and education should be clear cut. The theory assumes pop cultural items are simple and unchallenging to process. Increasing education should therefore lead to decreasing probability of attending pop culture alone. Mediavorousness should also develop like Popvorousness, as two forms of simple-related behaviour. And if omnivorousness is a form of complex behaviour, increasing education should incrementally lead to increasing omnivorousness.

However, education is not incrementally associated with Popvorousness. From primary to secondary education, the probability of being popvorous increases. Then from secondary to lower tertiary it decreases. Probability of being Popvorousness increases again from lower to higher tertiary. The other simple-related behavioural type Mediavorousness decreases from primary to upper secondary education. Then Mediavorousness increases, as lower tertiary educated are more

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likely Mediavores than upper secondary educated. The highest educated are least likely Mediavores compared to the other educational levels.

The complex cultural behaviour, omnivorousness, decreases with education from primary to upper secondary education. Then omnivorousness increases from upper secondary, to lower tertiary, and then upper tertiary education.

Because all three behavioural types develop in jagged probability steps, I conclude that pop culture compared to high culture, and media culture or inactivity compared to high culture, does not lend itself to a simple/complex schemata. Processing capacity theory, using cultural goods or behavioural patterns as indication of complexity, and education as indication of capacity, is falsified in this study.

Processing capacity theory is also falsified by following development over time as discussed in chapter 6. The gaps between lower and higher educated did not increase as expected in the time period. And in this chapter I have shown the mechanism between education and lifestyle is not of a simple/complex kind. I have shown that Popvore and Omnivore behaviour is not oppositely associated to education. Education is related to culture, but it is not through the capacity of the educated. The conclusion is then that education must be interpreted differently than in the way Chan and Goldthorpe have suggested in their studies. When status is introduced to the model, they suggested education was a capacity indicator (Chan and Goldthorpe 2005, pp. 209; Chan and Goldthorpe 2007d, pp. 15; Chan and Goldthorpe 2007f, pp. 382). Since their theory is falsified, another interpretation is needed. Education as a socialising experience as suggested by Coulangeon, is an alternative interpretation.

Coulangelon's theory, which argues that the educational expansion has lead to a mixed student core who are initially less interested in high culture, could perhaps explain why tertiary educated are increasingly interested in popular culture (Coulangeon 2009). Coulangeon believes higher culture has lost is authoritative role. However, based on my observation, I find that association between higher education and finer arts has remained, and the authority of high culture has likely not changed. According to panel 7.2.3 the flat line for higher tertiary educated Omnivores 1991 to 2004 illustrates a stable relationship between higher education and high culture. The climbing line for Popvores, illustrates a changing role for higher education. But it does not involve Popvores replacing Omnivores.

Popular culture does not replace finer arts, it replaces 'inactivity', or media constrained consume. Coulangelon's fault might be the result of exploring book reading as an indicator of high culture. When Coulangeon studies book reading specifically as a product, he observes book reading

is in decline, in a time period when reading in general has likely increased, he has opened up for a discussion over substitution of cultural objects. My approach has been to follow especially culture in vogue, or traditional cultural goods which has had a stable audience, like the opera. Thereby I avoid the most difficult substitution challenges when indicating cultural engagement.

The theory that cultural changes can be explained by an increasingly mixed group of students, as e.g. Coulangeon assumes, has therefore found some, and it must be emphasised, only indirect support in this thesis, a changing role of education could lead to an effect *type* change in upper secondary education. But the detachment of higher education to high culture in the form of Omnivore affiliation is refuted by observing a stable connection over time in Norway. Whether students at tertiary level are increasingly heterogeneous by family's social position or family's educational level etc; and whether increasing heterogeneity influences the effect type of education; are questions that need to be answered in further empirical research.

Status Mechanism

In terms of primary education, men with the highest status will be at most 10-15% more likely Omnivorous than their lowest status counterparts. Moving to the longest education, men of highest status are about 25% more likely Omnivorous than their lowest status counterparts. Status contributes much to the likelihood of being active. But the connection to Popvores seems to be weak. The interpretation is now challenging, since both status and education contribute, and education is likely not a pure processing capacity but probably a social mechanism.

The relationship between omnivorous and mediavorous behaviour is largely affected by status. It would make sense to consider here the oriented consumer to be motivated by status mechanisms such as career and collegial relationships of informal kinds. It seems that popular culture alone will not be enough to communicate status. I will return to the relationship between class, education, and status in the last section, where I perform a multidimensional simulation to observe each stratification related mechanism's influence separately, and in combination. Then I will depart from using the modal respondent, to study effects of variables from polarised positions. Before I create a multidimensional simulation, I will study the relationship of gender and education on lifestyle affiliation.

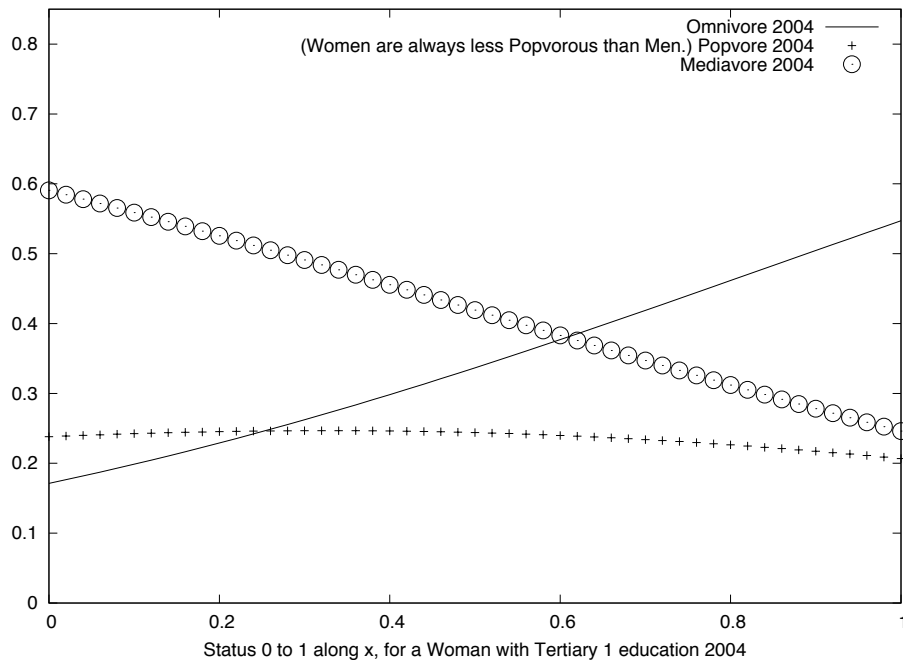## 7.5 Social Mechanisms II: Gender and Lifestyle
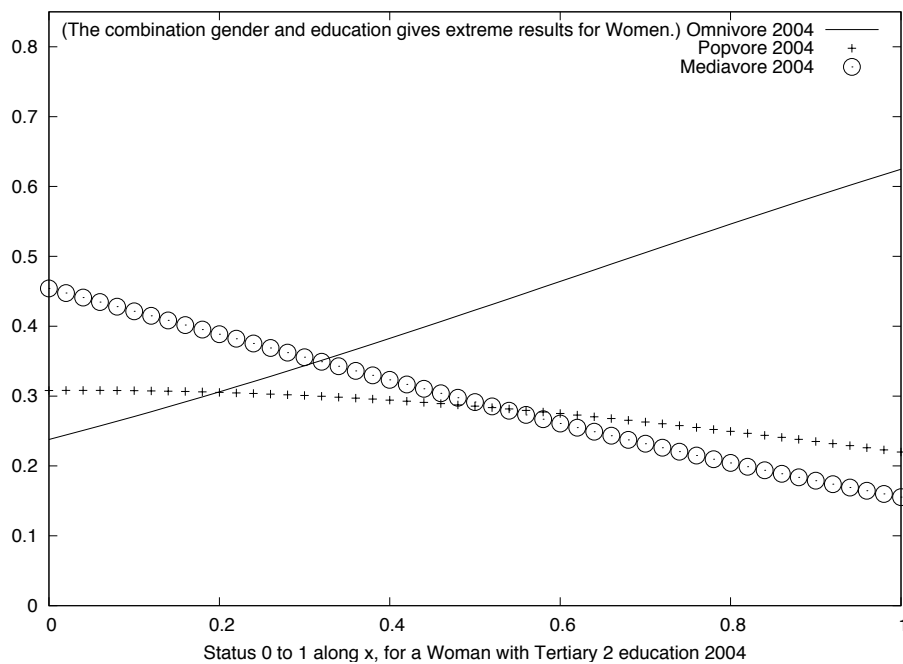
Panel 7.5.1
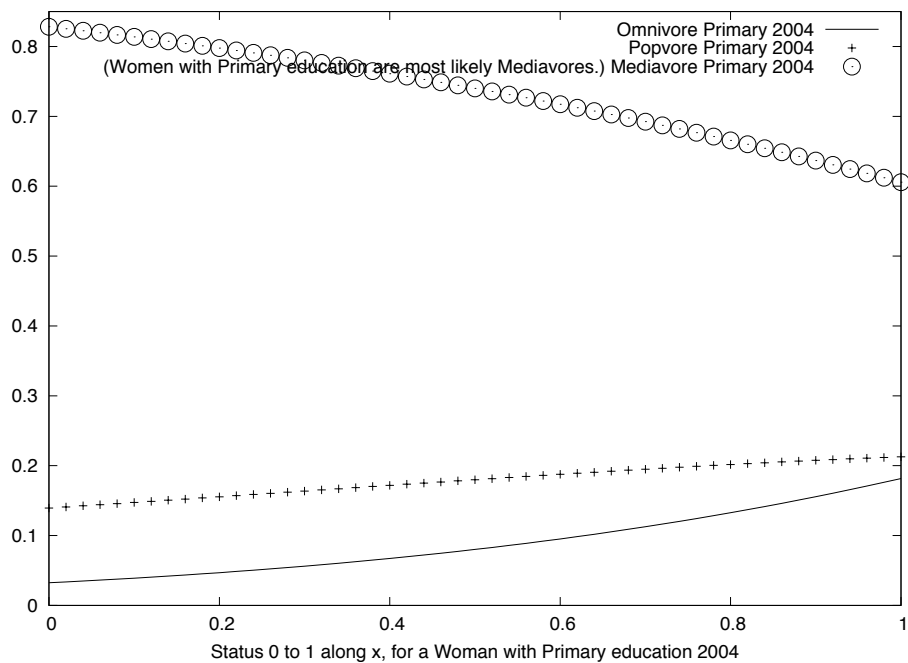
Panel 7.5.2
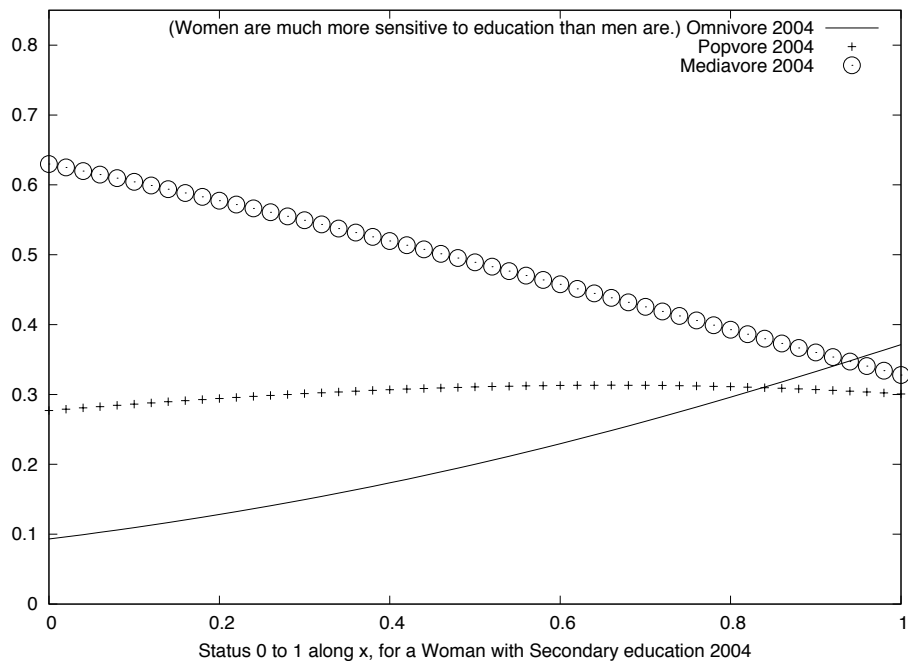
Panel 7.5.3

Panel 7.5.4

Controlling interaction between gender and education, women are after upper secondary education more likely than men Omnivores. Women are also internally more different, because women are more affected by education than men are. The high probability for women with the longest education and highest status are more than 60% likely to be Omnivores. This high probability is the result of two separated mechanisms: an initial high probability by educational level, and status mechanism increasing this initially high likelihood. The outcome is extreme compared to men with

same educational level and status.

For instance, female doctors and lawyers can be statistically expected to engage in culture quite roundly, and this probability has not changed significantly in the time period covered in the model. The adherence to this type of behaviour is a stable trait for well educated females. Men with similar level of education and status, are more likely roundly engaged with media and popular culture as Popvores. Status mechanism has a strong effect on men's probability of being Omnivores. However, status has little effect on men's probability of being popvorous. It seems that popular culture is not as much status culture, rather, it is much affected by gender in interaction with education.

7.6 A Multidimensional Simulation of 'Stratification': Class, Status, and Education

The status variable is shown to have separate effects in Omnivorous tendencies versus Mediavore affinity. However, individuals in particular social positions also tend to have a specific educational level. Status, class and educational level as three separated mechanisms will more or less influence their lifestyle choices. For instance, the doctor or lawyer are highly educated individuals in a stable position, they are high on all three variables related to their profession, education for credentials, and class and status from occupational skill level and performance uniqueness. On the other end the individual in manual labour, tends to be without longer education, and tends to be of lower status. It is therefore common to find correlations between class, status and education. How can this be interpreted?

Analytically status, class and education are not identical mechanisms. But the mechanisms are still analytically similar and related. The individual is not only placed in an occupational status hierarchy, or has only life chances related to class, or has only education of a particular length. *The individual* is affected by all three separate effects at the same time. It is therefore of interest to understand how all three variables influences the choices of the individual who is placed in positions and influenced by all three effects concomitantly. I therefore create exemplary individuals to give a multidimensional perspective on micro mechanisms.

The creation of person A and E, can help to gain insight into the social logic of being placed in a simulated 'real' space, as it is represented in the multivariate model. The model can perhaps simulate outcomes of past decisions to stay or leave an educational track, or from being in a favourable or unfavourable position, either of social honour, or of access to long term material rewards.

Person A and E are not real, but they represent common differences. Large categories in the model are those with secondary and tertiary 1 education. The education expansion has lead many to acquire higher tertiary education, the third panel will compare secondary to tertiary 2 education. The large class categories are class I or V. Status is continuous, and consists of small categories, 50% have status score higher than 0.44 in the 0 to 1 scale. Therefore the status variable is varied from lowest to highest for simplicity. Person A and E is polarised with lower in all three variables, compared to higher on all three variables. By plotting this, a multidimensional presentation of stratification and lifestyle choices is given.

Between person A and E, I have added other examples to illustrate the accumulative effects of each variable, and the lifestyles they influence. I begin in a lower polarised position, A, and compare person A to examples of individuals who are different in respect to only one variable, class, status, and education. After I have compared A to E, the opposite poles in respect of class, status, and education. I backtrack changes from the higher polarised position E, changing only class, status, and education. Thus I can illustrate the effect of stratification related variables on the lifestyle behaviour of individuals in polarised positions.
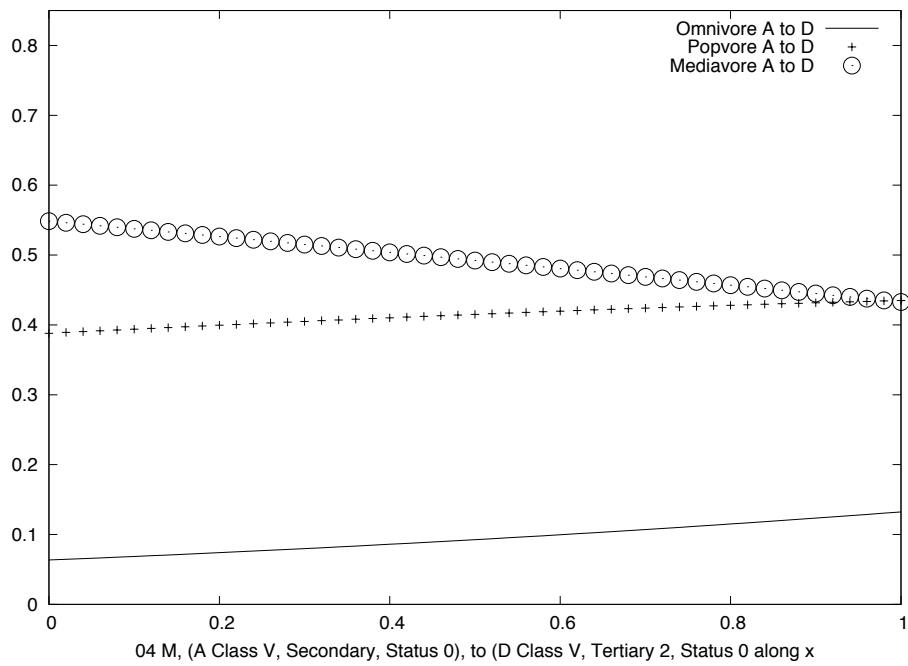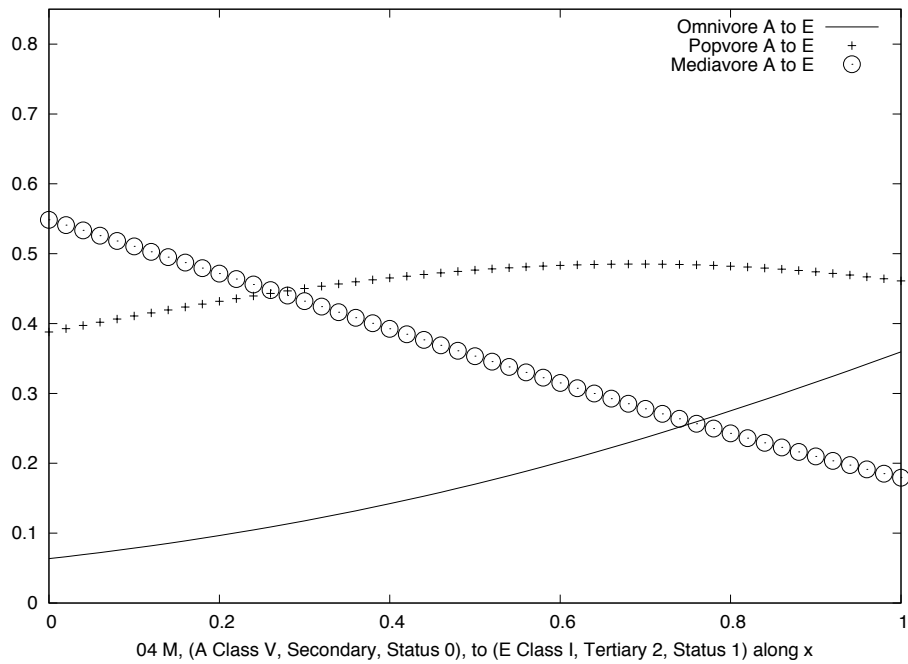
Panel 7.6.1 A and B (changing class)
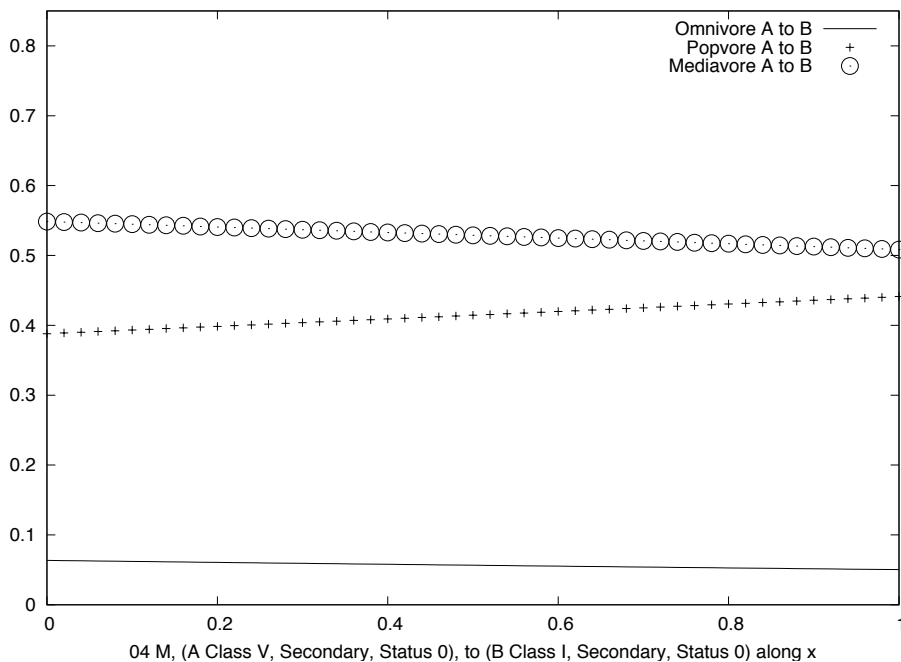
Panel 7.6.2 A and C (changing status)
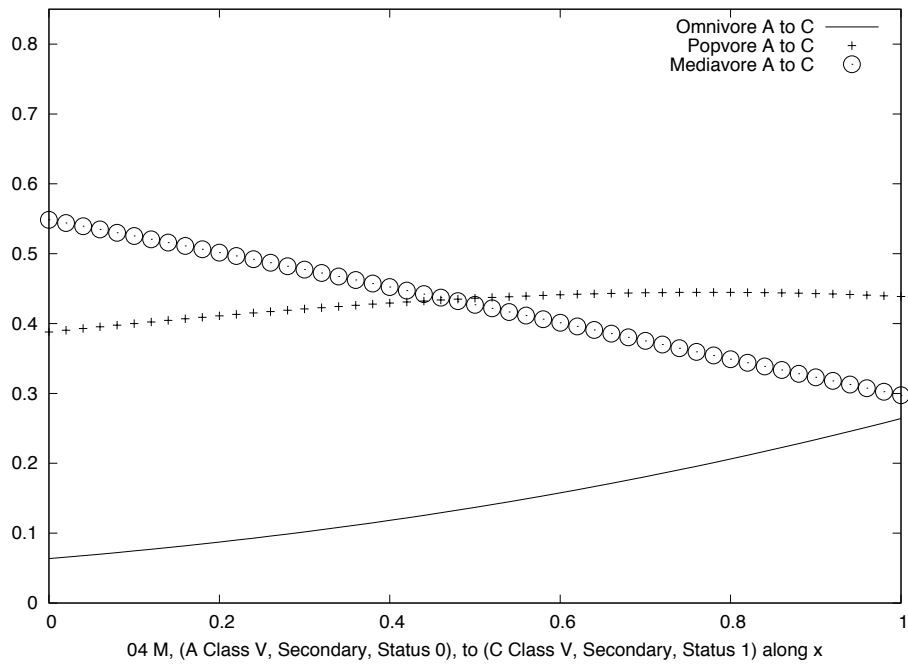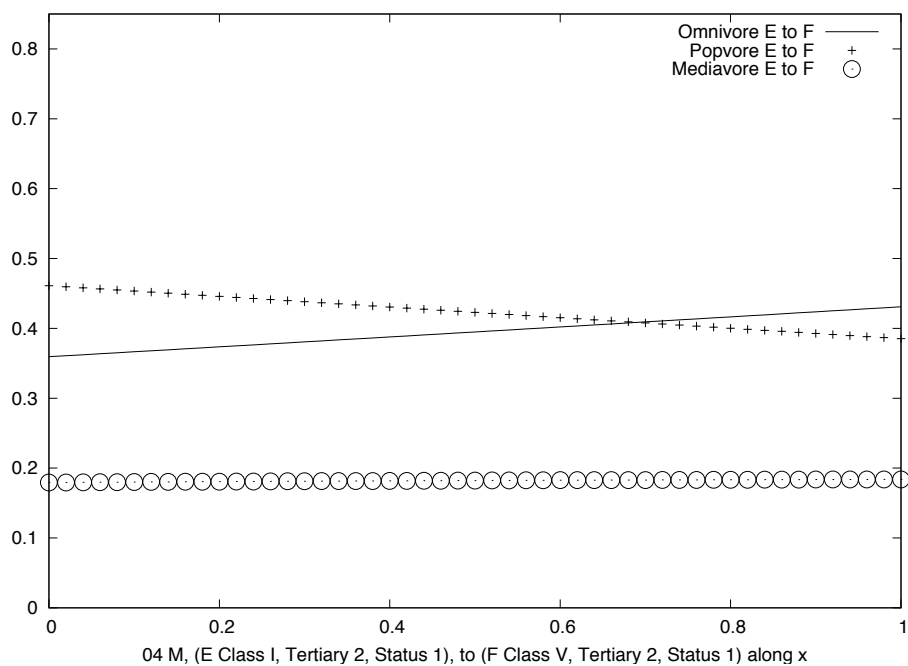
Panel 7.6.3 A and D (changing educational level)

Panel 7.6.4 A and E, Polarised Differences

04 M, (A Class V, Secondary, Status 0), to (E Class I, Tertiary 2, Status 1) along x
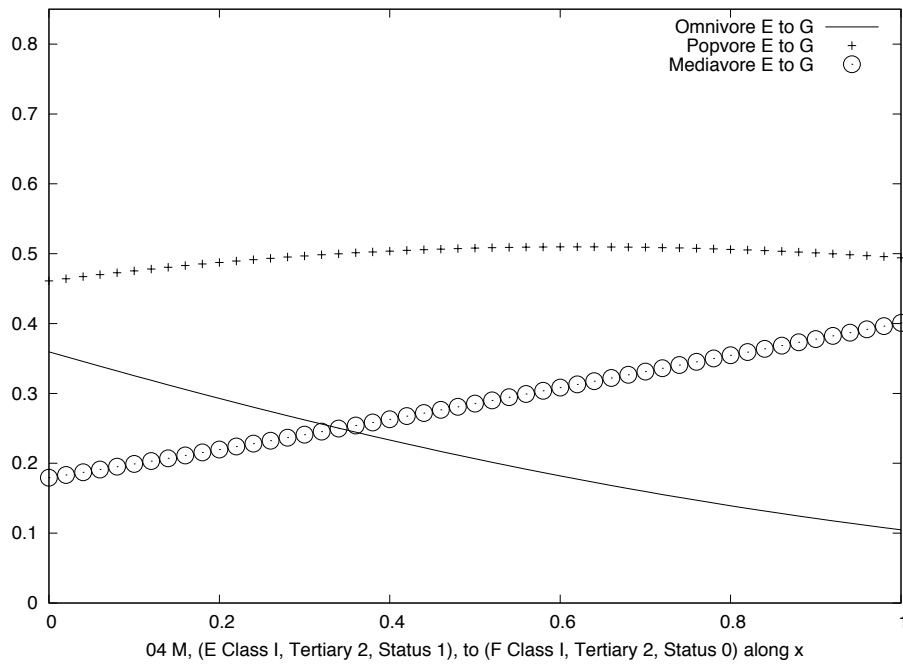
A to E shows how 1) polarisation is stronger than singular dimensional differences. 2) Education does not compensate fully for social position. 3) Social position together with higher educational levels accumulate differences in lifestyle affiliation. 4) Popvore affiliation is in large little affected by social position and education, when compared to Mediavore and Omnivore membership.
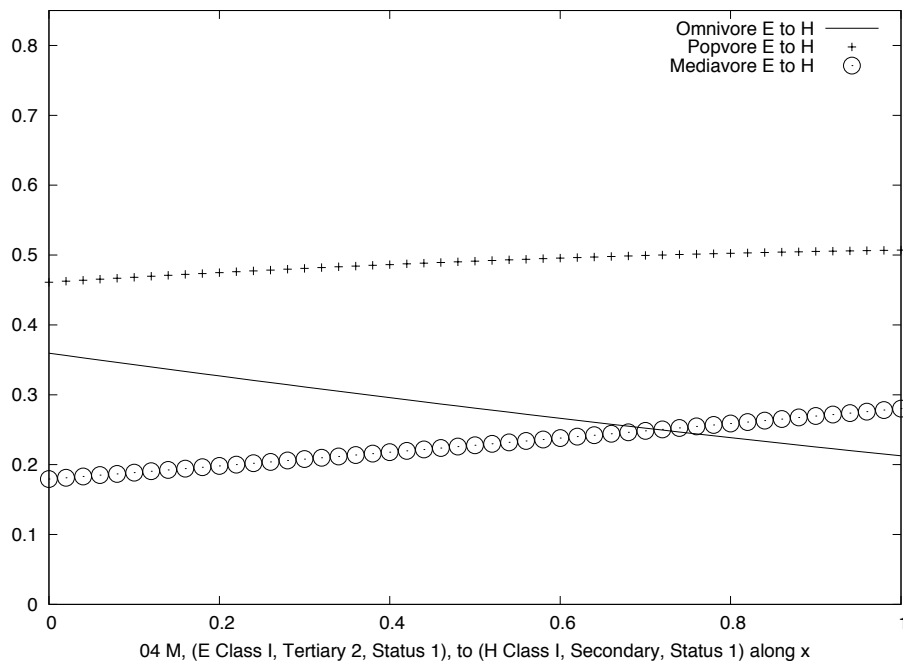
Panel 7.6.5 E and F (changing class)

04 M, (E Class I, Tertiary 2, Status 1), to (F Class V, Tertiary 2, Status 1) along x

Panel 7.6.6 E and G (changing status)

04 M, (E Class I, Tertiary 2, Status 1), to (F Class I, Tertiary 2, Status 0) along x

Panel 7.6.7 E and H (changing educational level)

04 M, (E Class I, Tertiary 2, Status 1), to (H Class I, Secondary, Status 1) along x

EF and EG comparisons indicated opposite relationship between class and status in terms of
Omnivore and Popvore affiliation. The interpretation is complicated by their internal relationship,
both are created from an occupational variable. In chapter 6 table 6.1, class and status were shown
to influence each others coefficients when included or excluded from the model. Class V does not
change the direction of the coefficient in the P/M contrast if status is included or excluded. When
Class is excluded from the model, status changes its direction in the P/M contrast. Class is perhaps

more important when explaining Popvore membership. But this is only a guess based on the little information I can get from the model. The simulation indicates that it is the O/P contrast which is affected by class, while Mediavore affiliation for an upper polarised position E to F is unaffected. From the lower polarised position A to B, class matters also in terms of Mediavore membership.

In sum, from multivariate models one can easily focus on separate effects as if an individual was not affected by more than one mechanism. The multidimensional stratification plot is a reminder of the large differences in the population which will affect cultural attendance. Person A and E are polarised by position and lifestyle. A simulation shows how education and status *accumulates* when introduced first singularly, C and D, and then combined in E.

The multidimensional simulations show that Popvore affiliation is not much influenced by status, class, and education together. Omnivore and Mediavore affiliation is much affected by both status and education. Perhaps more studies could be spent in finding out why Popvore affiliation is so little affected by stratification.

7.8 Conclusion

In this chapter, I have created simulations to show the impact of variables on lifestyle affinity, and to test theories related to lifestyle engagement. The simulations are based on information from model 2 in chapter 6. By applying the programming language Python, these simulations can be created without constrains often found in proprietary software. Python is available on most computer platforms and is more accessible to learn than more hardware focused languages like C. It is also more logical than the syntax languages I have used and/or adapted from standard statistical software when working on the statistical model in this thesis. The program code in itself becomes documentation of the work, and can be reused by others. I have created the logistic equation in Python code. The reward for creating programmes is the freedom to set up any test, and to be able to perhaps better understand how logistic regression models can predict social behaviour, and what type of tests I can create from a multinomial model.

I set up tests exploring the effect of different variables. This experience and insight from the results of the tests, lead to a development of a multidimensional simulation presented at the end of this chapter.

The first simulations show how cultural engagement changes is explained through both the compositional change in the population and effect type changes for education in the time period. Status is plotted together with all educational levels, and each variable separately contributes to

explain lifestyle affinity. I also show how gender interacts with education, women are more influenced by their education than men. In the multidimensional simulation it is evident that the Popvore lifestyle is much less influenced by all stratification variables in total, compared to the Omnivore and Mediavore lifestyles. The multidimensional simulations also show clearly how education and status together accumulates in their effects, to influence lifestyle choices.

Chapter 8 Conclusion

In this thesis, I have examined the possible changing influence of social position and education on lifestyle choices and lifestyle changes in Norway. The Culture and Media Survey from 1991 and 2004 has been used in this study of cultural engagement changes. In order to make these two surveys comparable, a bridging system has been built. Seven areas of culture—pop concerts, cinema, classical concerts, theatre, music listening, dance, and opera—were used as observed variables in a Latent Class Analysis. Three lifestyle groups are identified, partly divided by their level of engagement, and partly their engagement type. Respondents from both time periods, 1991 and 2004, were given the same criteria for cluster membership, and the latent classes are therefore comparable over time.

The three latent classes are labelled Omnivores, Popvores, and Mediavores. The Omnivores are engaged in all types of culture. Popvores are more interested in pop culture than the Omnivores. Pop cultural domains are pop concerts, cinema, and listening to music. Mediavores restrict themselves to mass media if engaged with culture at all. Mediavores are only modestly likely to attend cinema, or listening to music. On the aggregate level, from 1991 to 2004, Mediavores are in decline, while both Omnivores and Popvores are increasing in numbers. The omnivorousness of the population has increased by 7%, and popvorousness by 10% (table 5.6). This finding falsify Peterson's expectation of lifestyle group. Peterson assumes that there is only one type of Omnivores, who like culture from all levels including high, medium and low culture. He also believes that Omnivores are on the rise and are replacing Univores. However, a different result is established in my thesis. It is Popvores who are on the rise, faster than Omnivores.

I have used Multinomial Logistic Regression to predict lifestyle changes. Three stratification related variables, class, status, and education, are used in the Multivariate Multinomial Logistic Regression model to study their separate influence on cultural engagement changes. Each variable is tested for their interaction with period in the model. Class and status show no interaction with period. This finding falsifies individualisation theory, the material dimension of culturalisation theory, and status theory in terms of lifestyle and social change. Individualisation and culturalisation theory expect class to be less important in lifestyle choices and changes. Status theory expects status to be less important. However, my empirical data shows that neither class nor status interacts with period. The model show that it is only education which changes it's effect in the time period studied.

Since lifestyles are categories, it is necessary to interpret the education and period interaction related to each lifestyle. Simulations based on Multinomial Logistic Regression have been created to examine how three lifestyle groups differ and what kind of mechanism can predict lifestyle affiliation. The simulations show the impact of independent variables, such as period and education, on lifestyle affiliation. Cultural engagement by probable membership in one of three lifestyle types, Omnivore, Popvore, Mediavore, is illustrated in plots. Three levels of education interacted with period, primary, lower tertiary and higher tertiary education. The effect of upper secondary education did not change significantly in the time period.

The plots show that omnivorousness is increasing for primary and lower tertiary educated respondents. Mediavorousness is increasing at both primary and lower tertiary educational levels, while popvorousness is decreasing for the same educational groups. The primary and lower tertiary groups have not increased in size like higher tertiary has in the time period. The effect change of higher tertiary education is therefore interesting because of both the compositional change and the effect change. The plots show higher tertiary educated are increasingly likely Popvores. The same panel shows the association between higher tertiary education and Omnivores is stable in the same time period. This effect type change indicates a possible changing role of higher education. It does not support a weakening authority of higher culture in the educational system. It can be as Coulangeon assumes, a result of an increasing heterogeneity among students (Coulangeon 2009).

The reason for the increasing size of Popvore and Omnivore lifestyle groups can be concluded as the result of a *composition change* in the population from educational expansion, and *effect changes* of primary, lower tertiary, and higher tertiary education.

The plots also show that females are more influenced by education than men. From upper secondary education, women are in general more likely Omnivores than men. Men from all educational levels are more likely Popvores than women are.

The above findings related to education and period falsify both the cultural dimension of culturalisation theory and process capacity theory. Culturalisation theory believes that lower educated groups to be less likely Omnivores over time. Based on my observation of cultural engagement in Norway from 1991 to 2004, I however find that lower educated groups are increasingly likely Omnivores. As culturalisation theory, processing capacity theory also expects an increasing gap between the lower and higher educated in their interest for complexity and variety. The expectation from processing capacity theory is an increasing gap between lower and higher educated groups in their engagement with 'high' culture. My result shows that the gap between lower and higher educational group is developing in the opposite direction. Lower educated are

increasingly likely Omnivores. Processing capacity theory's hypothesis of social change has therefore been falsified.

The assumption from processing capacity theory that education increases the capacity for complex culture, was tested in the simulation plots. Processing capacity theory divides culture into either simple or complex in content, and the behaviour types should then be either one favouring complex culture and variation, or a second type favouring restricted simplicity. In the processing capacity typology, omnivorousness represents the complexity and variation, popvorousness and mediavorousness represent simplicity and restrictions. The plots show that Popvores compared to Omnivores does not lend itself to a simple/complex schemata. Education does not increase step by step the likelihood of being Omnivore, and step by step education does not decrease the likelihood of being Popvore. Therefore the assumption in processing capacity theory that education increases capacity is falsified.

The final simulations illustrate that education and status have separate effects which accumulate and contribute to lifestyle differences between polarised positions. The simulations also show in the end that Popvore lifestyle is only vaguely associated to stratification, compared to Mediavore and Omnivore lifestyle. When status is in the model, class has little effect.

In this study, status has been followed along side class, of which none have changed their influence in the time period studied. It seems then relevant to study their possible interrelationship or separate influence by following up studies of social phenomena, such as tolerance studies, where both material and cultural stratification might contribute to explain outcomes.

The lacking interaction between status and period indicates status stability. It can be because social honour has not lost its influence in contemporary society. Perhaps individuals cannot resist deference, and possibly there are even institutional arrangements supporting status differences, in legitimate forms such as credential related upscaling or monopolisation of professions. The relationship between life chances and life choices should be studied further.

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