

M.Sc. in Business Administration

Masteroppgave

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Effects of social feedback on evaluation of self-produced outcomes

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FOREWORD

This thesis has been written as the end product of our M.Sc. study at Handelshøyskolen i Trondheim (HHiT). Both the authors have been majoring in marketing. In the thesis we have studied the effects of self-production and social response on outcome evaluation. We feel the subject is relevant to the producers of dinner kits (e.g.) as it gives an indication to the effects of a common feature of self-production in real life: the social response.

The idea was created in a discussion with Arve Pettersen at HHiT, and further processed after talks with our supervisor, Professor Magne Supphellen at Norges Handelshøyskole (NHH). We would like to express our gratitude to our supervisor Magne Supphellen for giving us the opportunity to work on this very interesting and challenging project, and for the constructive discussions, e-mail exchanges, and his engagement and support through the duration of this thesis.

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The authors take full responsibility for the content of this thesis.

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ABSTRACT

This master's thesis is a study in marketing, on the topic of a form of co-production labelled self-production. This perspective claims that offerings provided by a producer need active participation from the consumer to provide value. An example could be co-producing goods and services using tools such as input products and devices. Existing research (Supphellen and Troye, 2012) suggests a positivity bias in consumer evaluation of self-produced outcomes, an effect which also extends to evaluations of the branded input product. This research is attempted replicated, and the influence of social feedback on consumer evaluations of self-produced outcomes is explored. The problem statement of the thesis is:

“How, if at all, does social feedback influence evaluations of self-produced outcomes?”

The thesis is built on the theoretical framework of the APE model by Gawronski and Bodenhausen (2006), explaining evaluation of outcomes through associative and propositional processes. A total of 114 participants performed an experiment, using a dinner kit from a large Norwegian producer. Five groups performed a self-production task in a kitchen laboratory: Two control groups with high and low levels of self-production and three groups with high levels of self-production and negative, neutral and positive social feedback.

A total of five hypotheses were developed in line with theory, with all five receiving full support. The replication of previous research supports the notion of a positivity bias in evaluation of self-produced outcomes. Findings on the influence of social feedback indicated that while positive feedback did not seem to interrupt the positive effects caused by self-production, neutral and negative social feedback had a detrimental effect on outcome evaluation. An additional hypothesis indicated that self-serving bias seemed to be activated by negative social feedback.

These findings have interesting managerial implications. If the positivity bias from self-production is countered by negative and neutral social feedback, providing increased customization opportunities could create better evaluations of self-produced outcomes.

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1. Introduction

In this chapter we will show why the chosen research focus of this thesis is relevant today, and give a short introduction to the main concept of self-production. Additionally, we will give a brief explanation of why social feedback is relevant in this setting. After this, our problem statement and hypotheses are presented.

1.1 Purpose of this thesis

This thesis focuses on a form of co-production labelled self-production. It is based on the foundation laid by Supphellen and Troye (2012) which maps the effects of different levels of self-production on consumer evaluation of a finished dish made from a branded input product, and also checks whether this influences evaluation of input product. Their research used theories of associative self-anchoring (Gawronski and Bodenhausen, 2006) as the main explanatory mechanism for a positive evaluation bias under levels of high self-production.

This thesis contributes to the understanding of self-production in two ways: First, through replication of previous findings, and second, through building on previous findings by testing what happens when the consumer receives a response from someone else - a social response.

The research consists of two main parts: The first part attempts to replicate the existing research done by Supphellen and Troye (2012), whilst the second part explores the effects of negative, neutral and positive social feedback on outcome evaluation of a prepared dish. The terms social feedback and social response are used interchangeably throughout the thesis.

1.2 Self-production - an important part of a modern consumer's life

Life is full of interesting opportunities. Unfortunately, not all of these opportunities can be pursued. Most people in modern society can relate to the concept of "time squeeze", where there is never enough time to do all the things you feel you should do, let alone all the things you want to do (Ellingsæter, 2005).

Consumers' need to make everyday activities happen faster has created a vast amount of different solutions from a wide range of producers. For this thesis, the focus is on the daily life activity of cooking.

In Norway, companies like TORO, Fjordland and Knorr are all well known. These producers let the consumer save time by creating offerings that reduce the necessary amount of time and effort demanded by the consumers to perform the activities of daily life, as these solutions provide a faster, simpler way of achieving the wanted outcomes. Many different terms have been used to describe this co-operation between producers and consumers (often known as co-production) (Supphellen and Troye, 2012), but in this thesis we will focus on the type of co-production labelled self-production.

1.3 What is self-production

Self-production is a specific form of co-production. The term "co-production" covers a vast range of activities (for an overview, see Supphellen and Troye, 2012), but the main concept is pretty simple: The products provided need active participation from the consumer to provide value (ibid.). If this seems counter-intuitive, think about it. The groceries you buy at the store almost always need some preparation before they can be consumed. Most vehicles we drive will require maintenance and service. Without the consumer's effort, these offerings provide little or no real value.

If we adopt this perspective on consumption, consumers' involvement in the value chain could be so much more than the acquisition and consumption of goods and services: It will also cover activities necessary for realizing the potential value of the acquired product. This value will not necessarily be limited by what the producer had in mind for the product: After the product has been purchased the producer has no control over how the product is used, and how value is realized (ibid.).

An easily relatable situation for any consumer could be a frozen pizza picked up at the grocery store, or the dinner kits consumers buy when they don't have time or are willing to make a full meal from scratch. Both these solutions provide input products that need some activity from the consumer to provide value, and even though this applies more for the latter than for the first product, the principle remains the same.

In addition, co-production presents more benefits than time-saving. For instance, the entire IKEA-chain was based on the concept of making furniture cheaper by making them possible to self-assemble (IKEA, 2013).

There are numerous forms of co-production, ranging from self-design where the consumer designs the product and the producer manufactures it (e.g. print t-shirts), to our focus: Self-production, which is a specific type of co-production. Self-production is defined by Supphellen and Troye (2012) as follows:

"Self-production can range from producing goods and services from scratch with little or no use of commercial products to coproducing goods and services using tools such as input products and devices."

(Supphellen and Troye, 2012: p. 33)

Our contribution to the field is to explore if social response in self-production has any effect on outcome evaluation. A situation with social feedback can be quite common in a food-related self-production situation: Preparing food for oneself and others and receiving feedback on the taste of the dish.

1.4 Introducing: Social feedback

We will introduce the concept of social feedback with an example: You are having some friends over for dinner. You don't have much time between getting home from work and the guests' arrival, so you drop by the store and buy a dinner kit and some additional food.

Previous research on self-production has showed that self-producing a dish leads to higher evaluations of outcome due to associative self-anchoring, under a number of conditions (Supphellen and Troye, 2012). The most notable condition is that the outcome needs to be of medium quality, so that the effects of associative anchoring can take effect. Based on this, odds are you are going to enjoy the meal more than if you had not prepared it yourself. The same theory dictates that your guests are likely to not evaluate it as highly, due to no such effect.

When you ask your guests what they think about the meal, how will their answers affect your own evaluation of the meal? This is the key research question in this thesis.

1.5 Why self-production and social feedback?

What makes this combination worthy of scientific study? First, with millions of consumers performing self-production on a daily basis, the producers and marketers of such products are eager to understand the mechanisms that drive satisfaction in self-production. Understanding what leads to positive evaluations of an outcome, and how these evaluations can transfer to branded input product evaluations, can help create strategies for increasing the chance of customers patronizing a brand over the long term. Second, with the inclusion of social feedback we can get one step closer to an understanding of a fairly common self-production scenario: Cooking for oneself and others. Third, while some effects of self-production are already mapped and acknowledged (like the associative self-anchoring effect in Supphellen and Troye, 2012), many more are still unexplored and unexplained. This thesis can shed light on what aspects of self-production with social feedback that could be interesting to explore further in future research.

1.6 Problem statement

In light of this purpose, we present the following problem statement:

“How, if at all, does social feedback influence evaluations of self-produced outcomes?”

1.7 Thesis - break-down

In chapter 1 background information and rationale for this thesis is presented.

In chapter 2 a relevant theoretic framework is presented, both from existing research on self-production and other research related to social feedback, which may contribute to understand the effects taking place. The chapter will first present the relevant theory, and then argue for and present the hypothesis.

In chapter 3 the research method are thoroughly examined, explaining both the actual experiment and the questionnaire.

In chapter 4 the results of the research is presented. This part is split in two main parts; the first part covers replication of existing research, through H₁ - the attempts of self-production. The second part covers the influence of social feedback, through H₂-H₄ and H₅, covering if social response has an effect on outcome evaluation, and if so what attribution processes occur.

In chapter 5, the implications of these findings and the credibility of the research is discussed. The chapter ends with limitations and ideas for future research.

2. Theory and hypotheses

This theory chapter gives the reader an understanding of Supphellen and Troye's (2012) work, which is the foundation for the majority of the hypotheses. Other relevant theoretical concepts are also presented.

2.1 Effects of self-production

This chapter is largely based on the article "Consumer Participation in Co-production: "I Made It Myself" Effects on Consumers' Sensory Perceptions and Evaluations of Outcome and Input Product" by Supphellen and Troye (2012).

2.1.1 Introduction

In their research, Supphellen and Troye (2012) explored the effects of self-production on outcome evaluation and evaluation of the input product. They found that under two boundary conditions - that the outcome is of medium quality (ambiguous) and that it's made by consumers to whom the self-production task is considered goal relevant (goal relevance) - self-production creates a positive effect on both evaluation of outcome and input product. The research consisted of three studies.

The first (study 1) showed that participants believing that they had made a dish themselves gave significantly higher evaluations of the outcome under medium-quality condition (ambiguous). The ambiguous nature of the dish created an opportunity for the associative self-anchoring effect to occur. The mechanisms behind this effect will be described more thorough later in the theory chapter, but the result of this effect was that the participants' evaluations got positively biased.

In study 2 it was shown that participants who frequently used the chosen brand (goal relevance) had a stronger positivity bias in their evaluation, while the general interest in cooking (goal relevance) did not show the same moderating effect. The study also found that the positive effect of self-production extended to the input product. This indicated that the positivity bias which benefits the outcome evaluation does not harm the input product as the self-serving bias theory would suggest.

Study 3 replicated the positive effects of self-production on both evaluation of outcome and input product for a sample of ordinary consumers. This part of the research was not useful for our research as we only used student samples in our experiment. Study 3 did however also include follow-up analyses of process variables. These analyses found results consistent with Supphellen and Troye's (ibid.) use of the associative self-anchoring theory (influenced by Gawronski and Bodenhausen, 2006). The analyses showed that self-integration mediated the effect of self-production on both evaluation of outcome and input product, and that outcome evaluation mediated the effect of self-production on evaluations of the input product. Supphellen and Troye (ibid.) also tested and rejected the fact that self-attribution or overclaiming significantly mediated the effects of self-production.

2.1.2 The APE model

Supphellen and Troye (2012) focus on the work of Gawronski and Bodenhausen (2006) and their associative and propositional processes in evaluation (APE) model, as the main factor leading to a biased assessment of the outcome. Gawronski and Bodenhausen (ibid.) introduce the term “associative self-anchoring”, which is essential in explaining the effect of self-production theoretically.

Associative self-anchoring can be understood as the formation of an association between an object and the self, leading to a subsequent transfer of already existing implicit self-esteem to the object (Cadinu and Rothbart, 1996; Bosson, Swann, and Pennebaker, 2000). Supphellen and Troye (ibid.) argue that since most people have positive evaluations of themselves (Bosson, Swann, and Pennebaker, 2000; Greenwald and Farnham, 2000; Gawronski, Bodenhausen, and Becker, 2007), the theory “*predicts that new links between the self and an object lead to a more positive evaluations of the object*” (Supphellen and Troye 2012: p. 34).

Thus, as consumers are exposed to something they have made themselves (e.g. a meal), this may activate associations with the self which can be used to form an implicit affective reaction to the outcome (ibid.).

2.1.3 Associative and propositional processes

To document the effect of self-production, Supphellen and Troye (2012) use the aforementioned APE model by Gawronski and Bodenhausen (2006) to develop their hypothesis. The model consists of two distinct, but partly independent processes, labeled “associative” and “propositional”. Supphellen and Troye (2012: p. 35) have a precise definition of the two processes, which is taken from the theory of Gawronski and Bodenhausen (2006):

- Associative processes produce appraisals that are intuitive, instant, automatic, and affective reactions and are activated automatically when a person encounters a relevant stimulus.
- Propositional processes are of a more cognitive, deliberate nature and transform affective reactions into explicit propositional appraisals that are assessed for their validity.

Associative processes are the basis for implicit attitudes, and are independent of subjective truth or falsity. Propositional processes are the basis for explicit attitudes, and are dependent on truth values (generally concerned with the subjective truth or falsity of a proposition) (Gawronski and Bodenhausen, 2007). Implicit attitudes should generally be more robust than explicit attitudes as they have roots in long-term socialization experiences. Drawing on Strack and Deutsch’s (2004) Reflective-Impulsive Model, Gawronski and Bodenhausen (2007: p. 222) argue that people typically transform their affective reactions into propositional format:

“A negative affective reaction to object X (implicit evaluation) is transformed into the proposition “I dislike X” (explicit evaluation).”

Evaluative conditioning theory states that the liking of a conditioned stimulus changes when it is paired with another positive or negative unconditioned stimulus (Hofmann et al., 2010). In their article Supphellen and Troye (2012) state that the self can function as an unconditional stimulus, as it is changing the liking of an initially neutral product (such as a dish) when the two are paired. They predict that a self-made outcome, made by physical interaction with products, will (most likely) lead to links between the self-produced outcome

(dish) and the self. The authors (ibid.) claim that a series of multisensory interactions occur, with the result of plenty memory links being formed between the self and the outcome. There are two conditions which facilitate the affective transfer due to associative self-anchoring (Supphellen and Troye, 2012):

1. Relevance of the stimulus for goal pursuit.
2. Consistency, meaning that explicit evaluations should not be in conflict with affective reactions due to associative self-anchoring.

Tasks relevant for goal pursuit can activate the self-concept and create positive affect. They may also make positive aspects more accessible than negative (Ferguson and Bargh, 2004). Consistency implies that the immediate, affective reaction should not be in obvious conflict with the explicit evaluation. If however, there is a clear conflict, the affective reaction would be rejected.

The previous section shows how the APE model can explain positively biased outcome evaluation under self-production. Another interesting aspect of self-production is whether the input product benefits from this positivity bias. When consumers engage in self-production, this may activate the self-serving bias (Bendapudi and Leone, 2003). The self-serving bias is known as people's tendency to take credit for success, and blame others for failure (Duval and Silvia, 2002). Supphellen and Troye (2012) argue that with this perspective, the brands or products are unable to "win", as their successes will be credited internally to the person and their failures will be blamed externally.

2.1.3.4 Relevance of the stimulus for goal pursuit criterion

Gawronski and Bodenhausen (2006) suggest that if the actual object is personally relevant to the consumer, there will be a stronger transfer of affect through associative processes. It's also been found that people who are more active in goal pursuit are more positive towards goal-relevant objects, compared to those who are not (Ferguson and Bargh, 2004). In other words, people that identify themselves as good chefs will be more pleased with making a good meal and score higher than those who don't have the same interest. However, a consumer with low cooking interest could still find a dinner kit useful, as it's convenient and

fulfill their needs for a fast and sound meal. Hence, the use of dinner kits could satisfy different motivations.

The effects of self-production, for consumers that find self-production relevant for goal pursuit, can be explained by three factors (Supphellen and Troye, 2012: p. 38):

1. Greater potential for affect: The part of the self that is activated in self-production has stronger affect for those to whom self-production and its outcome is more goal relevant.
2. Stronger and additional links: Greater goal pursuit relevance leads to stronger links, and established links between cooking and the self are activated and provide additional pathways for affect.
3. Greater goal relevance may make positive sides of the outcome more obvious than negative aspects (Ferguson and Bargh, 2004).

2.1.4 Self-production and evaluation of the input product

Supphellen and Troye (2012) argued that if self-serving bias theory was true for self-production, brands or products would be unable to "win". Does this mean that input products can never benefit from self-production? Supphellen and Troye (2012) claims that they indeed can: When the outcome is ambiguous, as in their study, the positive effects of associative self-anchoring will reduce the self-threat and hence the reason for self-serving bias to occur. Self-threat is described by Campbell and Sedikides (1999) as a threat to the self-concept. When there is ambiguous outcome and reduced self-threat, then:

"[...] the outcome becomes a medium by which the input product is imbued with affect from the self. Thus, the outcome serves as an unconditional stimulus which that is paired with the product (or brand) serving as conditional stimulus"

(from Supphellen and Troye, 2012: p. 37, taken from the theory of Gawronski and Bodenhausen, 2006)

As a result, the positive affect from self to the outcome product can be transferred to the input product.

2.2 Social influence on consumer decision making

2.2.1 Introduction

Based on scientific evidence Leary et al. (2003: p. 623) argue that:

"[...] interpersonal evaluations affect how people perceive, evaluate, and feel about themselves."

In the experiment we exposed the participants for different valences of social feedback as we assigned them either a negative, neutral, or positive response on their self-produced dish. The feedback was given from a fictitious anonymous person, making it an objective judgement of the taste of the participants' food. In reality this scenario is not very common. People usually get a social response on their cooking from people they know or from family. The feedback they receive is very often positive, sometimes average, but almost never negative.

To put realistic social feedback in a context, we will now explain the importance of social influence, and then relate the general theory to social feedback in a self-production setting.

2.2.2 Social influence on consumer decision making

Wood and Hayes (2012) claim that when consumers decide whether to purchase or consume a certain product, other people's judgement substantially influences the decision making process. In their article, they explore the possible motives for agreeing with others, and the various forms of agreement they might express (ibid.).

Wood and Hayes (2012: p. 324) quotes the classical thoughts of Asch (1952: p. 577) in explaining the motivation behind being influenced by others:

"[...] an individual's actions and the beliefs guiding them are either an endorsement of his (her) group, and therefore a bond of social unity, or an expression of conflict with it"

How this influence occurs is also dependent on the culture in the relevant social groups. Briley, Morris, and Simonson (2000) argue that culture is a very important factor in social influence, as culture endows individual with different rules or principles that provide guidance for decision making. Wood and Hayes (2012) add that consumers are only influenced by the preferences of others to the extent that this is helpful for the consumer: if this helps him/her understand reality better, or if it helps him/her to maintain positive relationships.

The latter can be connected to the aforementioned endorsement to his/her social group. According to SNL (Great Norwegian Lexica), a social group is explained a group of people who are in direct or indirect contact with each other (SNL, 2007, our translation). A person can be a part of many groups on different levels: the most relevant in the context of this thesis would be groups you are likely to perform a co-production task with, or for. Examples of such groups could be family, or socially dependent groups based on interest (for instance friends).

Wood and Hayes (2012) refer to a study performed by Deutch and Gerrard (1955), explaining why consumers' desire to understand reality can motivate their product choices. The study

explores the idea that similar others are likely to provide the most useful information, since people who are similar are more likely to have shared experience of reality.

It is easy to see why consumers would like to maintain positive relationships within the social groups that are important to them. Wood and Hayes (2012) refer to a study by Lundgren and Prislin (1998), concluding the way people select and process relevant information in a decision making process, is to meet salient goals. For instance "[...] *when trying to establish positive relations with others, people favor the information that is congenial to others*" (Wood and Hayes, 2002: p. 325).

Implications of social influence in consumer decision making

This section will connect this general theory to social response in self-production.

Let's summarize: Wood and Hayes (2012) claims that to what extent a person will be influenced by others, will depend on his/her motivation. If the motivation is in building or maintaining a positive relationship to a person or people in a social group, one is likely to choose and process the information most likely to support positive evaluations (ibid.). If the motivation is in understanding reality better, one is likely to select information from people that seem similar to one-self, typically people in the same social group, as they are deemed more likely to have a similar understanding of reality (ibid.). Concerning the actual realization of this influence, culture plays a big part. Here, guidelines and principles dictate what to communicate or not will be very important (Briley, Morris and Simonson, 2000). In total, this reminds us that any social influence caused by others rarely is likely to be very direct, given that the consumer has relevant motivations to fulfil. In addition, how information is processed will depend on the motivations of the consumer.

2.2.3 Exploring the underlying processes: Associative and propositional processes in self-production with and without social response

In the article by Supphellen and Troye (2012), the conditions of goal relevance and consistency were fulfilled, allowing associative self-anchoring to take effect. The consistency criterion is likely to be challenged when social response is included, as this has the potential to create conflict between affective reactions and explicit evaluations.

2.2.3.1 Consistency criterion

The consistency criterion is fulfilled when there is no conflict between affective reactions due to associative self-anchoring, and explicit evaluations. In the case of self-production without social response, there will be no such conflict (as confirmed by Supphellen and Troye, 2012). The implicit evaluations are based on an affective reaction, and will be positive given that the outcome is ambiguous. As discussed in Supphellen and Troye, Hoch (2002) states that sensory information is "*inherently ambiguous*". According to this theory, a self-made dish is open for different interpretations. Balcetis and Dunning (2006), Braun (1999), and Muthukrishnan (1995) all state that the "*sensory information is often subject to biased processing and the use of non-diagnostic, inadequate, irrelevant, and typically affective information for cognitive appraisals*" (Supphellen and Troye 2012: p. 35).

A clearly bad outcome will lead to a conflict between the associative and propositional processes, as the positive propositions caused by associative self-anchoring could be rejected and have no (or negative) effects of self-production on outcome evaluation (Supphellen and Troye, 2012). If the outcome is clearly good, however, the positive effects of associative self-anchoring would not be necessary to assimilate the gap between propositional and affective reactions. When the outcome is of medium quality, it is of ambiguous nature and therefore not judged as being either bad or good. This condition allows for explicit appraisals which are not in obvious conflict with the affective appraisals due to associative self-anchoring, thus creating a potential for positive affect transferring from the self-concept to the outcome (ibid.). Ambiguity is conceptualized by Supphellen and Troye (2012: p. 36) with focus on the "*distinctiveness of the attributes of the single stimulus to which the respondents were exposed.*" In the experiment of this thesis, the distinctiveness of the taste of the dish would be the stimulus.

Let's now return to the situation with self-production and social response. As long as the explicit evaluation is not in conflict with other explicit evaluations, the consistency criterion is fulfilled. This holds true for the situation with self-production without social response. When including social response however, this evaluation can create conflict if the social response is in conflict with the positive affective reaction due to associative self-anchoring. This can be the case if the social response is bad, or is significantly worse than expected.

2.2.3.2 Propositional reasoning

Gawronski and Bodenhausen (2006) claims that consistency is a result of a process called consistency assessment, which is a propositional process. This process is based on the application of logical principles and syllogistic rules, and also the assignment of truth values. Because inconsistency between two propositions cannot even be defined without an assignment of truth values, people have to resolve inconsistency by means of "propositional reasoning" - that is, either by changing the truth value of one proposition or by finding an additional proposition that resolves the inconsistency.

Connecting this to self-production and social response, the two explicit evaluations that can create an inconsistency that needs to be resolved are the explicit evaluation based on the positive affective reaction from self-production, and the explicit evaluation of social feedback. In the case where social feedback is either neutral or negative, this view may be inconsistent with the positive explicit evaluation caused by the affective reaction due to self-production.

Gawronski & Bodenhausen (2006) claims that mere knowledge of a proposition endorsed by other people can contribute to the activation of corresponding associations in memory, even when a person does not believe in the validity of that proposition. This can support the truth value of the social response, as the social response can activate associations in memory that support the value of the social response.

2.3 The effects of social response on outcome evaluation - attribution processes and the self-serving bias

Until this section we have been focusing on previous research on social influence. We now move on to focus on the effects of social feedback on other aspects than outcome evaluation. Social feedback has the power to affect how people react and can influence their attribution (internally or externally). When people are to receive feedback from others (e.g. on a self-produced dish) it can often be interpreted as either a success or a failure depending on the valence of the response. Who gets the credit for the success or the blame for the failure? This depends if the self is threatened by the response.

Self-threat occurs when a condition (e.g. negative social response) that is perceived as unfavorable to the self is present (Campbell and Sedikides, 1999). Campbell and Sedikides (ibid.) argue that increased self-threat enhances the potential of activating self-serving bias. This bias is described by Duval and Silvia (2002) as people's tendency to attribute success internally and failure externally. In this chapter we will explore the underlying mechanisms of the self-serving bias and what people's attribution processes are influenced by.

2.3.1 Self-serving bias and the probability of improvement

This chapter is largely based on an article by Duval and Silvia (2002) called "Self-Awareness, Probability of Improvement, and the Self-Serving Bias". The article discusses how the probability of improvement plays an important part when dealing with failure and the self-serving bias.

There are two main motivations associated with the self-concept, self-enhancement and self-assessment. The first concerns negative and positive confirmation about the self, while the second concerns acquisition of accurate knowledge about the self. In other words is self-enhancement the tendency of seeking positive confirmation and avoiding negative confirmation about oneself, while self-assessment is "*the tendency of seeking and preferring information that provides accurate knowledge about the self*" (Duval and Silvia, 2002: p. 49, taken from the theory of Sedikides and Strube, 1997).

Duval and Silvia (2002) see self-serving attribution as a result of the interaction between two systems, which are based on the two mentioned motivations associated with the self-concept. The systems are:

- A goal-directed system comparing self against standards of correctness (SSCS), whenever attention is focused internally on the self.
- A motivational system, the casual attribution system, which is an accurate understanding of what the self can and cannot influence in the environment.

Duval and Silvia (2002) argue that success is consistently being attributed internally whenever the self is a plausible cause for success. In this case the two systems are aligned. Since the conditions of both systems are in harmony, one experiences an internal attribution to the self:

“The systems’ goals coincide when self is a plausible cause of success - attributing success to self moves self toward standards and also links an event with a plausible cause.”

(Duval and Silvia, 2002: p. 50)

However, in a situation where the self is a plausible cause of failure, the systems’ goals are in conflict. The attribution of failure to the self is in line with the accurate casual understanding, but at the same time it increases the self-standard discrepancy (ibid.). An external attribution would fix the self-standard congruity, but at the same time link failure with an implausible cause. To fix this conflict the authors introduce the probability of improvement as a moderator.

Duval and Silvia (2002) argue that a perceived probability of improving a failure should moderate failure attributions. It has been claimed that by perceiving a high probability of improvement, failure will be attributed internally rather than externally (Duval and Duval, 1987). The most important argument for this theory is that a perceived improvement should lead to the expectation that self-congruency will be restored within a short timeframe (Duval and Silvia, 2002). According to this theory the short-term loss of self-esteem will be covered by the long-term benefits in accurate self-assessment.

When the future improvement seems unlikely, an attribution of failure to the self would produce an *"irreducible discrepancy and high negative affect"* according to Duval and Silvia (2002: p. 50). Duval and Duval (1987) argue that with these conditions the long-term drop in self-esteem would outweigh the benefits of accurate self-assessment. This is why people attribute failure externally under the condition of non-improvement.

2.4 Social feedback on self-produced outcomes: Hypotheses

In this section, the previous theories will be used to formulate the hypotheses. First, we will formulate hypotheses for replication, using theory on effects of self-production. Second, the problem statement is explored through creation of hypotheses on the effects of social feedback.

2.4.1 Effects of self-production: Replication

2.4.1.1 Effects on outcome evaluation

According to theory on self-production (Supphellen and Troye, 2012), two conditions must be fulfilled before associative self-anchoring can take effect: Relevance of the stimulus for goal pursuit and consistency. Let's explore each condition for this particular experiment.

Consistency criterion

For the affective reactions due to associative self-anchoring to have effect on outcome evaluation, the outcome quality needs to be ambiguous. As sensory information is inherently ambiguous (Hoch, 2002), this opens for a transformation from affective reactions to an explicit evaluation through the propositional format (Gawronski and Bodenhausen, 2007). In the case of self-production, the affective reaction would be positive because of associative self-anchoring, and the explicit evaluation would be "I like this dish" (ibid.).

Based on this, in order to document the associative self-anchoring effect (given that the goal relevance condition is fulfilled) it is vital that the finished dish is considered sufficiently ambiguous by the participants. The ambiguity score in the questionnaire should be average or higher, and since all five groups are being served the same dish there should be no significant difference between the groups.

Relevance for goal pursuit

According to theory, a self-produced outcome could have relevance to people with different motivations. Supphellen and Troye (2012) stated that self-production relevance for goal pursuit could be explained by three factors; a greater potential for affect, stronger and additional links from the self to the object, and that greater goal relevance made positive sides of the outcome more obvious than negative sides.

If the theory from Supphellen and Troye (2012) is correct, groups with high goal relevance should have greater chance of positive affect transfer through associative self-anchoring. As Supphellen and Troye (2012) did not find any effect of general interest in cooking, they used an additional measure of goal relevance; usage among those who frequently use dinner kits as a convenient way to make a meal, measured through usage frequency of the focal brand. This gave significant effects in their study.

In this thesis, we attempt both measures, and test for both usage frequency of products from the product category of the focal brand and similar brands (TORO, Knorr, etc.), in addition to through a measure of cooking interest. Therefore a measure of goal relevance must be fulfilled for associative self-anchoring to take effect. If the theory is right we should have a significant interaction effect between self-production and goal relevance (for both cooking interest and frequently use of the brand) in an ANCOVA analysis (the analysis is explained in section 3.5.).

Self-production: Manipulation check

The manipulation check is done in order to document a significant difference in the perceived level of self-effort between the groups of high self-production (in our case the control group and the three social response groups) and the group of low self-production (control group). To document this difference is important to be able to show that there is an actual effect of associative self-anchoring.

Summary: Effects of self-production on outcome evaluation

Under the conditions of ambiguous outcome, goal relevance and a perceived difference in level of self-effort between the high and low self-production groups, self-production should have a positive effect on outcome evaluation. This is in line with the associative self-anchoring theory as the participants' involvement creates links between themselves (self) and the self-produced outcome (object), and which leads to subsequent transfers of implicit self-esteem (Supphellen and Troye, 2012). The effects of self-production will be observed through the high self-production control group getting a significantly higher score at the evaluation of outcome compared to the low self-production control group.

| |
|------------------------------------------------------------------------------------|
| <i>H_{1A}: Self-production has a positive effect on outcome evaluation</i> |
|------------------------------------------------------------------------------------|

2.4.1.2 Effects on evaluation of input product

In section 2.3 we explained the self-serving bias through the theory of Duval and Silvia (2002). They argue that a success will be consistently attributed internally and failure will be attributed either internally or externally (ibid.). Supphellen and Troye (2012) assert that for self-production under ambiguous outcome quality, the positive effects of associative self-anchoring will reduce the self-threat and hence the reason for self-serving bias to occur.

When that is the case, and parallel with the reasoning of Supphellen and Troye (2012), the finished dish becomes a medium by which the branded input product is imbued with positive affect from the self. Thus, the finished dish serves as an unconditional stimulus which is paired with the branded input product serving as conditional stimulus (ibid.).

The result should be that the positive affect from the self to the finished dish can be transferred to the input product. The effect is valid if the high self-production control group has a significant higher score on the evaluation of the input product, compared to the low self-production control group. In addition, there should also be a positive correlation between the evaluation of outcome and evaluation of the input product.

If outcome evaluation is to mediate the positive effect of self-production on evaluation of the input product, then a Sobel-test (the analysis is explained in section 3.5.) should show:

- There is a significant positive effect of self-production on the evaluation of outcome (without checking for mediating variables)
- There is a significant positive effect of self-production on the evaluation of input product
- Outcome evaluation has a significant effect on input product evaluation
- The direct effect on evaluation of the input product should no longer be significant when accounting for outcome evaluation

Summary: Effects on evaluation of input product

Given that the aforementioned theory is accurate, self-production should have a positive effect on input product evaluation. For this to be true, first, the high self-production control group needs to have a significant higher score on the evaluation of the input product

compared to the low self-production group. Second, there should be a positive correlation between the evaluation of outcome and evaluation of input product and third, the input product evaluation should be mediated by outcome evaluation, tested through a Sobel-test.

| |
|-------------------------------------------------------------------------------------|
| H _{1B} : Self-production has a positive effect on input product evaluation |
|-------------------------------------------------------------------------------------|

2.4.2 Effects of social feedback

2.4.2.1 Effects on outcome evaluation

In H₁ we argued for what conditions needed to be fulfilled for the effects of self-production to occur. These conditions still apply, but there is one change worth considering: The consistency criterion is challenged.

Consistency criterion

In H₁, we stated that the affective reactions should not be in conflict with any explicit evaluations. Remember that the explicit evaluations consist of sensory perceptions any other relevant explicit evaluations; in this case the social response. Under conditions of self-production without social response, there is no conflict between affective reactions and explicit evaluations. However, by introducing social response we introduce an additional explicit evaluation, which has the potential to conflict with the positive affective appraisal due to associative self-anchoring.

For negative social response and neutral social response it is likely that explicit evaluations conflict with the positive affective reaction. For positive social feedback, it does not seem that this will create a conflict, as the positive explicit evaluation is in harmony with the positive affective reaction. Let's explore.

Effects on outcome evaluation: Neutral and negative social response

The explicit evaluations caused by social response are likely to be negative. This will not be tested as it is beyond the scope of this thesis, it is just assumed. Based on this, we suggest that the positive effects of self-production through affective reactions will be in conflict with the explicit evaluations caused by social response and taste perception.

When this conflict occurs, we expect the evaluation process to change. Instead of an evaluation based on affective reactions (which has been transformed into explicit evaluations), it is possible that the conflict can create a more explicit evaluation process, leading to a more critical outcome evaluation and lower outcome evaluation scores.

If so, this can be explained through Gawronski and Bodenhausen (2006), who claim that consistency is a result of a process called consistency assessment, which is a propositional process. As discussed previously in the theory chapter people have to resolve inconsistency by means of "propositional reasoning", in this case by changing the truth value of one proposition.

| | Taste perceptions | Social response |
|--------------------------------|--------------------------|-------------------------|
| Associative processes | Affective reaction | |
| Propositional processes | Explicit evaluation (1) | Explicit evaluation (2) |

Table 1: Propositional reasoning

In the table above, the potential inconsistency will happen between (1) and (2). Connecting this to a more concrete example, the two explicit evaluations that can create an inconsistency that needs to be resolved are:

- 1) The explicit evaluation based on the positive affective reaction from self-production, given that the dish is ambiguous.
- 2) The explicit evaluation of social feedback, which will be positive or negative dependent on the social response. If the social response is positive, creating a positive explicit evaluation, the explicit evaluation due to social response is likely to be consistent with the explicit evaluation based on the positive affective reaction due to self-production. If the response is neutral or negative, this is likely to be inconsistent with the explicit evaluation based on the positive affective reaction due to self-production, creating the need for propositional reasoning to resolve the conflict.

The consequence of this - in the case of negative and neutral social feedback - could be that the positive evaluation of the dish (due do biased taste perception because of self-production) can be assigned a negative truth value, while the social responses truth value could be kept valid.

In support of keeping the social response as a valid proposition we look to Kawakami, Dovidio, and Dijksterhuis (2003), cited by Gawronski & Bodenhausen (2006: p. 695), which claims that:

"[...] mere knowledge of a proposition endorsed by other people can contribute to the activation of corresponding associations in memory, even when a person does not believe in the validity of that proposition."

It is possible that this activation of associations in memory can support the truth value of the social response. For example: If the person receives a negative social response, this can activate an association in memory of preparing bad meals recently. Even though the person does not consider himself/herself to be a bad cook, these associations in memory can give the social feedback more credibility. As a consequence, the truth value of the social response is supported, increasing the chance of keeping this proposition. This is likely to lead to the inconsistency being solved through a change in the truth value of the explicit evaluation based on the positive affective reaction from self-production, leading to lower outcome evaluations.

This does not always need to be the way the inconsistency is solved. What proposition that is changed through propositional reasoning will depend on how strongly the person believes in that proposition. In our sample, the people preparing the food are not chefs, and this can contribute to a quite robust view of the social feedback as "correct". However, if they were actual chefs, they may believe so strongly in their own evaluation that they may dismiss the social feedback.

Based on the aforementioned argumentation, if the positively biased taste perception is rendered invalid and the negative or neutral social response is valid, a possible result is that the ambiguous taste perception is modified to a more negative evaluation, to match the negative or neutral social response, solving the inconsistency.

H₂: Negative social feedback will significantly reduce the effect of self-production on outcome evaluations.

H₃: Neutral social feedback will significantly reduce the effect of self-production on outcome evaluation

Effects on outcome evaluation: Positive social response

The explicit evaluations because of social response are likely to be positive, with 6 out of 7 on the scale. The self-production theory of Supphellen and Troye (2012) claims that affective reactions also should be positive, due to associative self-anchoring. For the explicit evaluations (1) and (2) in the previous table, this would indicate that the positive effects of self-production through affective reactions (1) will not be in conflict with the explicit evaluations caused by social response (2), as both are positive.

Hence, the positive group should score significantly better than the negative and neutral group, when it comes to evaluation of outcome. Whether or not the outcome evaluation is similar, better or worse than high self-production control group is more difficult to predict. Any score significantly higher or lower than that of the high self-production control group would indicate a different evaluation process. To explain such a process is however way beyond the scope of this thesis, and is an issue for future research. However, if the social response creates a similar score to high self-production, then it does not seem that positive social response has any additional effects that affect associative self-anchoring. Based on this, we create hypothesis 4.

H₄: Positive social feedback will not change the effect of self-production on outcome evaluation

2.4.2.2 Effects on attribution processes: Self-serving bias

The self-serving bias is described by Duval and Silvia (2002) as people's tendency to attribute success internally and failure externally. In Supphellen and Troye's (2012) research they argued that the positive effects of associative self-anchoring would reduce self-threat, hence reducing self-serving bias. This was under the conditions of no social feedback. In our study we do however have social response. Our assumption is that this will influence the attribution scores as we think that self-serving bias will be activated. In this section and in the making of this hypothesis, we have chosen to focus mainly on the negative social response. The effects of self-serving bias under the conditions of neutral and positive social response are something we will recommend for future research as they are not covered in this thesis.

Self-serving bias: The impact of negative social response

We believe attribution processes can be influenced by the introduction of the negative social response. Our suggestion is that the negative feedback could enhance the self-threat, which in turn would magnify the self-serving bias and counter the positive effect of associative self-anchoring. Self-threat will occur when a condition that is perceived as unfavorable to the self is present (Campbell and Sedikides, 1999). By this argumentation we believe that the participants in the negative social response group will experience self-serving bias.

Modifiability as a moderator

According to the theory of Duval and Silvia (2002), a failure will be attributed externally *if* the person is unable to improve his/her outcome. Negative social response can likely be interpreted as a failure (likely because our research can only give indications to if this is the case) if the negative social response of 2 out of 7 on the scale is experienced as too big of a discrepancy compared to expectations. The cooking situation found in our experiment is also non-improvable, as they only have one attempt to make their meal.

Under these conditions we believe that the negative social response group could activate the self-serving bias. If the bias is activated we should see an attribution of the failure externally as the participants play down their role and blame the brand. Note that this is our assumptions. If we find self-serving bias we cannot be sure what causes it, but we can make some qualified assumptions based on theory. With this in mind, our hypothesis is:

| |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>H₅: Negative social feedback activates the self-serving bias and leads to external attribution (blaming the company) if the participants can not improve on the outcome.</i></p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

3. Methodology

3.1 Introduction to methodology

The purpose of this thesis is decided through the problem statement and research questions. The next step is to decide how to answer these questions in the best way possible. This is why the choice of research methodology is so important.

Methodology concerns how to proceed when we want to check if our assumptions comply with reality or not (Johannessen, Kristoffersen, and Tufte, 2004).

In this chapter we will present how the chosen methodology helps answer the problem statement and research questions of this thesis. In detail, this means elaborating on choice of research design, generation of data, design of questionnaire, sample selection, how theory was operationalized and a description of the analyses that was utilized.

3.2 Research approach

A research method can be deductive, inductive or hypothetical-deductive. A deductive approach uses assumptions from existing theory to create hypotheses, which is then tested on empirical data to either confirm or disconfirm the hypotheses. An inductive approach does not create hypotheses based on theory to start with, but tries to create new theory based on the generated data (Nyeng, 2004). In addition, it is possible to use a hypothetical-deductive approach which combines the two previous approaches. In this approach, the assumptions from theory can be revised if they are not confirmed, and tested again.

This thesis uses two different approaches. The first hypothesis (H1) is performed under a deductive method, as they attempt to replicate existing research on self-production from the studies done by Supphellen and Troye (2012). H2-H5 build on existing theory on self-production, but as this particular topic (the effect of social response on outcome evaluation under self-production) has not yet been researched, there is an inductive element. Therefore, this falls under the hypothetical-deductive approach, where the assumptions underlying the hypotheses are open for revision.

The reason why this thesis spends a considerable amount of space on replicating existing research is to check if the foundation for the new research (impact of social response) holds true, increasing the validity of the research.

The research on social response in this setting can not necessarily rely on existing theory, as theories from different concepts need to be merged. The hypothetical-deductive approach allows us to revise hypothesis as they are tested, giving more room for wider thinking. As this thesis has a limited scope, not all interesting new hypotheses can be tested and developed, but this allows for a lot of suggestions for further research.

3.3 Research design

There are three main designs; explorative, descriptive and causal (Gripsrud and Olsson, 2000). An explorative design is not based on any theoretical model, and is used when one only has a vague (or no) idea of what to expect. A descriptive design is based on existing theory, and describes one or more key terms, and the connection between them. This thesis is based on a causal design, where the purpose is to find out if an event leads to another event happening, or how an event affects another event (for other outcomes than "happens/does not happen"). The first event is known as a cause, while the last event is known as an effect (Johannessen, Kristoffersen and Tufte, 2004).

All 5 hypotheses in this thesis are part of a causal design. In H₁ we test the causality between self-production (cause) and score on outcome evaluation (effect). In H₂, H₃ and H₄ we test causality between social response (cause) and outcome evaluation (effect), while in H₅, we test the causality between social response (cause) and attribution (effect).

3.3.1 Qualitative or quantitative methods?

To decide what method to use, we need to consider the problem statement and the research questions. The problem statement is *"How, if at all, does social feedback influence evaluations of self-produced outcomes?"*

There is never one "perfect" method for science, but the different methods are able to answer different questions (Tjora, 2010).

For in-depth understanding of how the people exposed for the stimulus actually *experience* the following evaluation of outcome, a qualitative study may be best suited. To infer causality, a quantitative method may present the best possibilities (Ringdal, 2001).

3.3.1.1 Quantitative methods

This thesis uses quantitative methods in the analysis. The actual chosen design is experiment, and data are generated through questionnaires, and are later analysed through the use of the statistical software package SPSS. Experiment is known as the golden standard for testing causality (Ringdal, 2001), making this approach suit the problem statement well. The choice of experiment will be elaborated on in section 3.3.2.

Other possible quantitative research designs are cross-sectional designs, longitudinal designs, case studies and comparative designs (ibid.), but we do not judge these to be the best way to answer our problem statement.

Working with numbers

The questionnaire provides an extensive data set, with values for all the relevant variables in the questionnaire for all the participants. In addition, operationalization (to be discussed later) creates additional variables. To be able to understand causality and connections between the data in general, a lot of numbers has to be analysed. However, when working with quantitative data, an understanding of what lies behind the numbers is critical. Nyeng (2004) gives a warning:

“The exactness of numbers can easily be blinding. The challenge is to get behind the numbers, [...]. The numbers must be put in a greater context to make sense.”

[Nyeng (2004 p. 15) our translation]

This is an important point. Even though we can get a very precise analysis based on the existing numbers, this does not mean that they fully explain what the research questions are asking. A critical view of the numbers will contribute to a much better understanding than just blindly accepting them as truth. In support of this, Nyeng (2004) adds that data are not small pieces of reality, but can be seen as details about chosen parts of reality.

With this in mind, we will elaborate on the chosen design: The experiment. For further elaboration of the subject of quantitative methods, Ringdal (2001) is recommended.

3.3.2 Experiments

An experiment is the preferred research design when testing for causality, and not without reason. As experiments allow for a larger degree of control, the researcher can decide to test the effect of one independent variable (the stimuli) on a dependent variable, while keeping all other variables constant (Ringdal, 2001).

An example: A real experiment can have two groups, one test group which is exposed to a stimulus, and one control group which are not exposed to the stimuli. Both groups are measured twice, before the stimulus (applied to the test group only) and afterwards. That way, one can measure the differences in the dependent variable over the two groups, to find if there is a causal link between the stimulus and the change in the dependent variable, given that the prerequisites for causality is fulfilled.

In this thesis, we will focus on the laboratory experiment, which allows for the greatest control (Ringdal, 2001). The trade-off between in-field experiments versus laboratory experiments is that the first offers a much more realistic scenario, increasing external validity, while the latter offers more control over the variables included in the experiment, increasing internal validity. High internal validity means that we have a greater chance to make more certain assumptions about causality within the experiment, while external validity concerns how to generalize the findings from the sample to the population.

3.4 Data and generation of data

This section will explore the data that was generated, and explain thoroughly how the data was generated through the chosen research design - a laboratory experiment. Note that in line with the previous quote from Nyeng (2004), we assume that we generate data, not that we just "collect" it. This means that the sort of data we get depends on how we chose to generate it, and that there is not necessarily any "true" data waiting to be collected.

3.4.1 Primary or secondary data?

This study is based on primary data, as all the data was generated through the experiment. This has several advantages: First, we can replicate existing research this way; second, we can be sure that we can control what variables to generate data on through design of a questionnaire. Third, we can choose what sort of sample we want to generate data from. This ensures that we get the data we need to answer our problem statement in a good way.

3.4.2 The design of the experiment

The problem statement was explored in several ways. The chosen research design was an experiment, where level of self-production was the selected stimulus in H₁, while social feedback under high levels of self-production was the stimuli in H₂-H₅. In this section a brief overview over the experiment follows, before we go into much more detail.

3.4.2.1 Brief description of the experiment

The experiment took place in a kitchen laboratory, where 6-10 participants could prepare a meal at the same time. The participants were not allowed to interact during the experiment.

To ensure that the food fulfilled the requirement of being of ambiguous quality, the dish made by the participants was switched with a premade version with more ambiguous taste, without them noticing. In total 120 participants took part in the experiment, where 6 had to be removed from the sample due to suspicion of their food being tampered with. There were 5 groups in total: One control group with low self-production and no social response (N = 18), one control group with high self-production and no social response (N = 18), and three groups with high self-production and negative, neutral and positive social response (N_{Negative} = 27, N_{Neutral} = 24, N_{Positive} = 27).

To answer H₁ (replication of previous findings), two control groups with different levels of self-production (high and low) and no social feedback prepared the food and answered a questionnaire. Based on these data, they were compared on perceived self-effort, evaluation of outcome, attribution processes, and a number of other variables.

To answer H₂, H₃, H₄ (effect of social response on outcome evaluation) and H₅ (attribution processes after social response), three groups with high levels of self-production and three different forms of social response (negative, neutral and positive) performed the cooking task. The different social responses were given from a fictitious test panel, hidden behind a curtain. After their cooking the participants received a social response on the quality of their dish without seeing the person they thought was evaluating their dish. The questionnaire the participants filled out measured the same thing as for the control groups, but also included additional measures on the reaction to the feedback, enabling us to gather information of the impact of the social response.

| | Low Self-Production | High Self-production |
|------------------------------------|---------------------|----------------------|
| Control Group (No social response) | Group 1 (N = 18) | Group 2 (N = 18) |
| Negative Social Response | - | Group 3 (N = 27) |
| Neutral Social Response | - | Group 4 (N = 24) |
| Positive Social Response | - | Group 5 (N = 27) |

Table 2: Group overview

Location

The entire experiment was run in the food and health-class room of a local junior high school, which served as a kitchen laboratory. The kitchen laboratory consisted of 5 ovens, creating 10 cooking stations, and allowing people to prepare their food simultaneously. A map of the kitchen can be viewed on the next page.

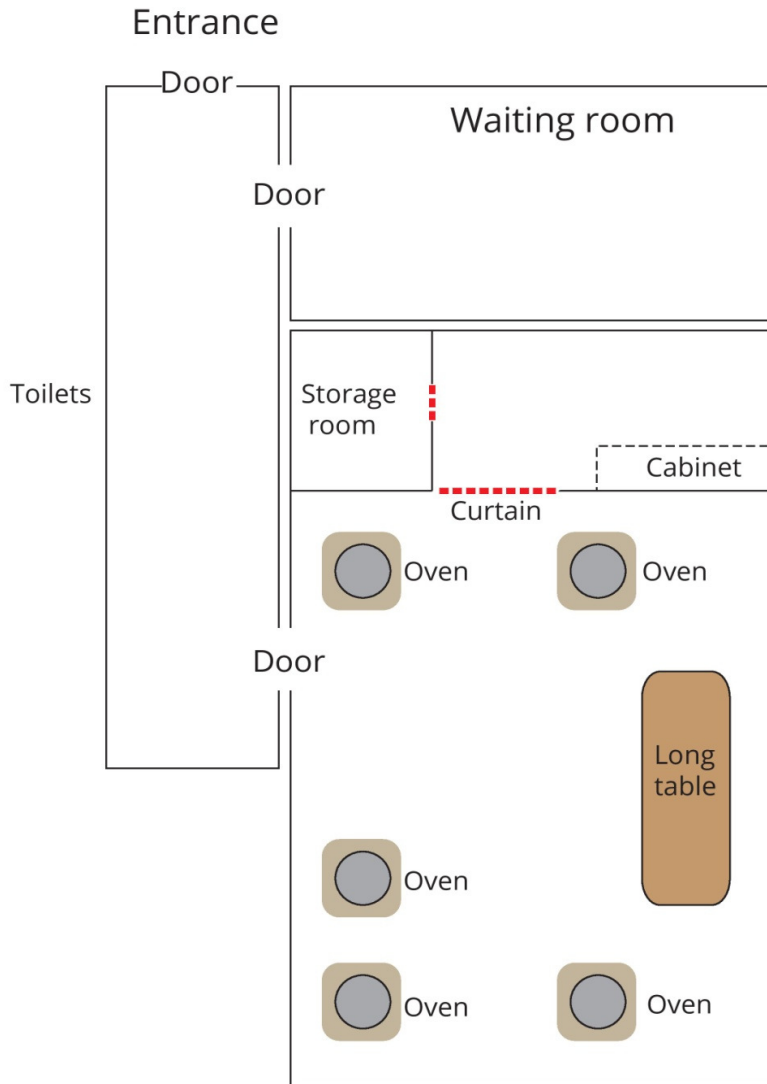


Figure 1: The experiment - location

3.4.2.2 The experiment: Purpose of the different phases

As there were 5 groups in total, some modifications had to be made to the design. The level of self-production were different (being low in one of the groups, and high in the other four), and the presence and type of social response were different (with no social response in the two control groups, and negative, neutral or positive in the social response groups).

Several adjustments were made across the three different types of groups (high self-production control group, low self-production control group and high self-production with social response). First we will present an overview of the different phases and their purpose

to shed light on the differences. For those interested, a detailed description can be viewed in appendix Experiment full procedure.

The phases: High self-production (control group and social response)

Arrival and briefing

The purpose of this phase was to give proper instructions and information, and to ensure that the participants were not too hungry by the time they were to evaluate outcome, as this would positively bias outcome evaluation. The scenario presented to the participants was that they were at home, preparing food for themselves and an acquaintance who was waiting in the living room.

Food preparation

The purpose of this phase was to create different levels in the perceived effort through the different levels of self-production. For the high self-production groups this ranged from 15-20 minutes. To not arouse the participants' suspicion of the purpose of the experiment, they were allowed to taste the food once during food preparation. No communication between participants was allowed, to minimize influence from others.

Questionnaire 1

Here we measured a lot of factors concerning how the participants found the experience of creating the food. To fill out the questionnaire, the participants were taken to another room than the kitchen laboratory. The measures in the questionnaire included effort, hunger and relationship to cooking. For the groups with social response, expectation for social response was also measured. At this stage, the high self-production groups had NOT tasted the food.

Food switch

While the participants filled out the first questionnaire in another room, the food they had prepared in the kitchen laboratory was switched with the ambiguous food prepared in advance. The purpose of this was to ensure that the outcome they tasted were of ambiguous quality, so that the effects of self-production could occur.

Social response (social response groups only)

The participants had been told in the briefing that they would receive social response from a person in a test panel on the dish they had made. They were also told that they were not allowed to see the person from the test panel, and vice versa, to avoid other than the taste of the dish to influence their evaluation. The participants in the social response groups took some of the (now ambiguous) food and put it on an ID-marked plate, which they then handed to the researchers. We then brought the food behind the curtain to where our fictitious test panel were located. After some time, we returned with the response, written on a note. The participants were not allowed to show each other the test panel evaluation, or to try to look at others'. The dish was rated on a seven-point scale, with 1 as the worst and 7 as the best. The negative social response group received a rating of 2, the neutral social response group received a rating of 3.5, and the positive social response group received a rating of 6.

Tasting

The participant in the high self-production control group then tasted the (now ambiguous) food, before they sat down at the long table to fill out the second part of the questionnaire.

After the social response groups were done tasting they could look at their social response, and then start to fill out the second questionnaire.

Questionnaire 2

The participants then sat down at the long table, and opened the questionnaire.

The social response groups then took a look at their received social feedback, before starting on the questionnaire. The questionnaire had measures of outcome evaluation, input product evaluation, relationship to branded input product, ambiguity check, repurchase intention, attribution processes, demographic data, experience with cooking, a suspicion probe, and any other additional comments.

Questionnaire 2 (Social response group only)

In addition to the measures the control group reported, the social response group reported their received score on the dish. Additionally, they had measures of their reaction to the social response.

Debrief

The participants were then informed about the food switch and the purpose of the experiment. After any questions were answered, they received their rewards and were urged not to tell anyone what we had done here, as this could potentially damage the results of any future participants.

The phases: Low self-production control group

Arrival and briefing

The purpose of this phase was to give proper instructions and information, and to ensure that the participants were not too hungry by the time they were to evaluate outcome, as this biases evaluation. The scenario presented to the participants was that they had ordered food home, and that they had to heat it a little bit before they could eat.

Food preparation

The purpose of this phase was to create different levels in the perceived effort through the different levels of self-production. For the low self-production control group, this meant taking a small pan, getting in line, and getting (the ambiguous) TORO Jegergryte from a large pan served by an assistant. To ensure a low level of self-production, the participants heated their pan with the dish for about 1-3 minutes. No communication between participants was allowed, to minimize influence from others.

Tasting

After the dish was properly heated, the participants tasted the dish. There was no need to switch this dish, as it was ambiguous to start with, and the only difference in the dish between the participants was the temperature of the dish.

Questionnaire

As no food switch was needed, the complete questionnaire was filled out in the same room. Here measures of experience with creating the food and evaluations of the outcome were taken. The measures included effort, hunger and relationship to cooking, in addition to outcome evaluation, input product evaluation, relationship to branded input product, ambiguity check, repurchase intention, attribution processes, demographic data, experience with cooking, a suspicion probe, and any other additional comments.

Debriefing

This was to inform the participants of what they had been through, and to tell them not to pass on to anyone what we had been doing. They were also informed that the dish had been tampered with, and that it was of sub-par quality. In addition, they received their reward.

3.4.2.3 The role of the fictitious test panel

Since the social feedback is a very central theme of this thesis, it will be covered more thoroughly in this section. The purpose of adding social feedback was to imitate a more realistic situation. However, we are aware of that the realism in a laboratory experiment is sacrificed for internal validity, and this will be elaborated on in the discussion.

Preparation

The participants were not informed of the social response in advance, as we feared this would lead fewer people to show up. They were all told about it when instructed about the upcoming process during the initial briefing, and they were all also told that they could withdraw at any point. None of the participants utilized this opportunity.

Remember that we told the participants that this was a scenario-based sampling, with the scenario being that they were in the kitchen of their own home, preparing food for themselves and an acquaintance that was waiting in the living room. We added that, to make the situation as realistic as possible (and obviously since we could not recruit their actual acquaintances) we had recruited a test panel of ordinary people to represent that acquaintance. The other reason we presented the participants with was that we needed an additional measure of the quality of the food. This was solved through the evaluation by their person in the test panel, which we told the participants would present us with a more balanced view of the outcome.

The participants were told that the test panel would be hidden behind the curtain in the kitchen, and that they would not be exposed to the people evaluating their food, and vice versa. This was to prevent the test panel from letting anything else than the actual taste of the dish influence their evaluation.

Implementation

The location of the fictitious test panel was behind a curtain (that no one could see through). This was the same location as at least one of the assistants kept control over the ambiguous food, timing the temperature so that it was sufficiently hot for the food switch. They were instructed to not make too much sound, but a little sound just gave more credibility to the idea of a test panel. As mentioned briefly earlier, a radio was playing in the kitchen to not arouse suspicion due to lack of sound from the fictitious test panel.

After the participants had prepared their food and returned to the kitchen after filling out questionnaire 1, they put a very small portion of the (now ambiguous) dish on an ID-marked plate, which the researcher brought behind the curtains to the fictitious test panel. The researchers brought two plates at the time, and waited behind the curtain for approximately 15 seconds per two plates, about the same time we assumed an actual evaluation would take.

We then returned with the evaluation written on a closed note. The note was closed for two reasons, first, because they were not to show their response to someone else, and second, because they were supposed to taste their dish before reading the social response.

The social feedback was evaluated on a 7-point scale, ranging from very bad (1) to very good (7). The participants were split into groups with pre-decided social responses, to all the people in the same groups received the same response. The negative social response group received a score of 2 out of 7, the neutral social response group received a score of 3,5 out of 7 and the positive social response group received a score of 6 out of 7. The response would be filled out on a note with the scale, which the researchers would bring from behind the curtain and back to the participants, who would then taste the food, sit down at the long table, open the social response, and start filling out their questionnaire.

None of the participants reported any suspicion or commented on the test panel being fake.

3.4.3 Generating data: Questionnaire

For this sort of design, the chosen instrument for generating data from this experiment was through a questionnaire. This section will elaborate on topics of question and on structure of the questions: Whether they are open, semi-open or closed.

Remember the problem statement: *"How, if at all, social feedback influences outcome evaluation under conditions of high self-production."*

This requires us to measure outcome evaluation, and a lot of factors that can influence outcome evaluation. Some of these factors must be measured before tasting and social response, while others can be measured shortly afterwards. We have already given a summary of what topics were covered in the different questionnaires in the previous sections, and will now give a brief orientation about why we choose to set up the questionnaires as we did for the different groups.

3.4.3.1 Topics and order of questions

For high self-production control group

The items measured before tasting were perceived self-effort, hunger and relationship to cooking. These were all needed in the analysis for the replication of previous research.

To be able to properly test the relationship between perceived self-effort and outcome evaluation, the ambiguity condition needed to be fulfilled. This could only be done through the food switch. Therefore, questionnaire 1 did the job of a distraction. In addition, the causality requirements demand that the self-effort (cause) happens before the outcome evaluation (effect), therefore these were measured at different times.

After tasting the dish, the participants filled out questionnaire 2. Here, several measures of outcome evaluation were taken (these will be explained further in the "operationalization"-section), in addition to input product evaluation, ambiguity check, internal and external attribution, demographic data, experience with cooking, a suspicion probe, and any other additional comments.

For high self-production and social response (positive, neutral, negative)

This was mostly similar to the high self-production control group, with some minor adjustments. In questionnaire 1, expectations to social response were measured. In questionnaire 2, the participants had to fill out additional info about their received social response and the participants' reaction to the social response.

For low self-production control group

For this group, the entire questionnaire was filled out at the same time - after tasting the dish. As no food switch was performed, there was no need to split the questionnaire. The questionnaire contained the same questions as for the high self-production control group.

3.4.3.2 Structure of the questionnaire

When creating a questionnaire, one can use different degrees of structure in the questions. Johannessen, Kristoffersen, and Tufte (2004) say that questionnaires can be either pre-coded (the possible answers are provided in the questionnaire), have a partly open structure (some questions have provided answers, others are open), or be completely open (no answers are provided).

The dangers of using a pre-coded structure lie in the possibility on missing out on important information not covered by the provided answers. The strength in this structure lies in the opportunity to perform meaningful statistical analysis beyond the purely descriptive.

Our questionnaires mostly have a pre-coded structure, where the participants only can choose from the answers provided. In addition, the questions are mostly on an interval scale from 1 to 7, allowing us to create continuous variables, well suited for statistical analysis in SPSS.

The only exception to the pre-coded structure was in the end of the second questionnaire where we performed a suspicion probe, and asked for additional comments. The suspicion probe consisted of an open question asking what the participants thought the purpose of the sampling was, with an open text-box where they could write down their answer. The additional comments-box was included in the questionnaire both because this is expected in a questionnaire such as this (after all, the participants were told that this was a sampling for

TORO Jegergryte), and because we wanted to know if there was anything about the experiment, besides suspicion, that could be potential error sources.

Question format

Oliver (2010) recommends 5- and 7-point scales, especially when generating data not subject to strict numerical interpretations. Oliver (2010) says that opponents of scales with a mid-point will often claim that respondents will just be "fence-sitting" and pick the mid-point, thereby providing no interesting information. Oliver (2010) disagrees, as the level of neutrality (for instance, if a large amount of the sample is neutral) also can provide interesting information.

The questionnaire in this experiment was inspired by one of the questionnaires used in Supphellen and Troye (2012). We used some of the questions relevant for us, adapted some questions, and added quite a few concerning social response and additional measures. As the questions are mostly pre-structured, we choose possible answers on a 7-point scale.

We judge the 7-point scale used in this experiment to be the best choice for two reasons: First, because we wanted the option of a mid-point in the situations where participants were actually neutral, and second, because small variations could tell us about tendencies, and the chance of seeing variation is stronger on a 7-point scale than a 5-point scale or less. However, any more than 7 points could create problems, as the participants' interpretation of the difference between the points could be very different (one person's 6 can be another person's 8), and the data would become harder to understand (Oliver, 2010).

Ringdal (2001) presents a common scale which we have used in this questionnaire: The Likert-scale. This scale consists of 3-7-point scales, covering different judgements about a statement. There are several ways to cover this spread in how to judge.

In our thesis, we used

- "To a very small extent" (1) - "To a very big extent" (7)
- "I very much disagree" (1) - "I very much agree" (7)

In addition, we used semantic differential 7-point-scales to describe several important variables, including outcome evaluation and input product evaluation. In this experiment, outcome evaluation was the taste of the food. An example of parts of the scale is provided:

"How did you experience the taste of the food? Use the entire scale."

| | | | | | | | | |
|-------------|---|---|---|---|---|---|---|----------|
| Bad | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Good |
| Boring | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Exciting |
| Disliked it | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Liked it |

We have chosen to put the negative extremes to the left of the scale, and the positive extremes to the right of the scale. This is in accordance with what Saunders, Lewis, and Thornhill (2009) recommends, as placing the options in a predictable manner will minimize the chance of respondents misreading the question.

3.4.4 Operationalization

Operationalization concerns the process of turning a theoretical term into something which can be classified and measured, and used in an analysis (Tjora, 2004). In our research, the theoretical terms needing operationalization were: Outcome evaluation, input product evaluation, ambiguity, self-effort, goal relevance (through interest in cooking and usage frequency of the product category) and attribution. The majority of these were created through composite measures.

Ambiguity

Two questions were put in the questionnaire to cover ambiguity, both on seven-point scales: "It was difficult to judge the quality of the food," and "I felt unsure when I judged the quality of the food". We used both measures separately to understand ambiguity.

Self-effort

We measured self-effort effort with three items on seven-point scales: "I made a considerable contribution," "I did not contribute much [reversed]," and "The effort demanded a lot from me". The factor analysis based on the entire sample (N=114) gave a Cronbach's alpha of

0.77, indicating a satisfactory connection between the variables. These were then combined into one composite measure of self-effort, which was used throughout the analysis.

Evaluation of outcome

We measured evaluation of outcome on three seven-point semantic differential scales: “bad/good,” “disliked/liked,” and “horrible/delicious”. The factor analysis based on the entire sample (N=114) gave a Cronbach's alpha of 0.85, indicating a satisfactory connection between the variables. These were then combined into one composite measure of outcome evaluation, which was used throughout the analysis.

Evaluation of input product

We measured evaluations of the input product on three seven-point semantic differential scales (“disliked/liked,” “bad/good” and “dissatisfying/satisfying”).

The factor analysis based on the entire sample (N=114) gave a Cronbach's alpha of 0.90, indicating a satisfactory connection between the variables. These were then combined into one composite measure of input product evaluation, which was used throughout the analysis.

Goal relevance

General interest in cooking was measured with four items on seven-point scales (“I am very interested in cooking,” “I spend a lot of time on cooking,” “My friends see me as a skilled cook” and “I see myself as a skilled cook”). The factor analysis based on the entire sample (N=114) gave a Cronbach's alpha of 0.88, indicating a satisfactory connection between the variables. These were then combined into one composite measure of cooking interest, which was used throughout the analysis.

Usage frequency of the product category did not use any composite measure, but was based on the question "How often did you prepare food from TORO, Knorr, etc. in the last month?"

Expectations

The expectations were measured on two items on seven-point scales (“I think the test-person is going to like my meal,” and “The meal I’ve prepared will receive good praise”).

$\alpha = .95$). The factor analysis based on the entire sample with social feedback (N=78) gave a Cronbach's alpha of 0.95, indicating a satisfactory connection between the variables. These were then combined into one composite measure for expectations to social response, which was used throughout the analysis.

Attribution

How the participants attributed success or failure was measured with three items on seven-point scales (“My effort would account for much of the taste experience,” “The quality of the taste was mainly down to the result of my effort” and “The qualities of the taste were mainly down to the results of the producer (TORO)”). The factor analysis based on the entire sample (N=114) gave a Cronbach's alpha of 0.73, indicating a weaker, but satisfactory connection between the variables. These were then combined into one composite measure for expectations to social response, which was used throughout the analysis.

3.5 The sample

To gather a sufficient amount of data for our research we had to work hard to recruit enough participants. When we started the process of getting participants, we were aiming at about 240 people. This should cover 30 participants divided into 8 different groups:

- Low self-production control group
- High self-production control group
- Low self-production negative, neutral and positive response group
- High self-production negative, neutral and positive response group

We wanted 30 in each groups as we thought there was a possibility of some of the participants not showing up according to different circumstances. The goal was to have 25 participants showing up in each of the 8 groups, 200 in total. As we found out during the first week (phase 1 of the data generation), we could not pursue our goal of 8 groups as it was not possible to execute due to practical concerns. After talking to our supervisor we found out that we could drop the three low self-production response groups and still explore interesting aspects of self-production. The data generation was therefore divided into two phases; before and after Easter. Before Easter we gathered data from the all the high self-production groups

including the control group. After Easter we gathered data from the low self-production control group.

3.5.1 Recruiting process

In order to gather a suitable panel of participants, we had some conditions that had to be met to be a part of the research. These were:

- No food allergies or vegetarians (due to meat etc.)
- Not extremely hungry (due to objective tasting)
- That they were in their first year of the study (due to not having had advanced methodology courses and being able to see through the experiment)

Except for these conditions, we aimed for all the first graders in all of the studies in Trondheim. Our main strategy in getting these participants was to get in touch with as many students as possible through the internet student platform “It’s Learning”. We made a standardized letter of information which we sent to all the students at Høgskolen i Sør-Trøndelag (HiST), and to the biggest classes at Norges teknisk-naturvitenskapelige universitet (NTNU). Approximately 15 000 students received our message online.

Other forms of recruiting students included opening a Facebook page (which also was mentioned in the information letter) for the event. We created an own Gmail-address for the experiment, called forskningsprosjekt@gmail.com, which we used to communicate with the students and sending them info. We also printed posters for Handelshøgskolen i Trondheim (HHiT) and NTNU and went to classes for first graders to present our project. The main message given to the students was to contact us through email with the date and time they wanted to participate. As students started to reply to, and show interest in, our recruitment marketing (through mail), we sent them more specific info and told them which time and date they could meet up.

3.5.2 Selection issues

Even though we reached more than 15 000 students through It's Learning and other platforms, we "only" got about 140 registered participants in total for the whole experiment. This was due to a few factors:

Easter

The first phase happened the week before Easter, so we had loads of students that wanted to participate on Monday-Wednesday, but a few more empty slots at Thursday and Friday. Because of this we had to reject a few students on Monday and Tuesday as it simply weren't enough space for them in the kitchen. We offered all the rejected students a chance to participate later in the week but most of them were unable because of other plans.

Lack of effort

When we informed classes we had a list of interest, which were sent through the class after our presentation, we usually got a lot of names and emails. Later when we contacted them through email, we didn't get that many attendees. We suspect that this was due to a lack of effort as it's easy to sign up for something but harder to actually show up. The fact that our location for the experiment was about 10 minutes from the city center with bus did probably not help either.

Out of the 140 participants registered, 120 showed in total for the two phases. Out of these 120 we later had to take out 6 because they suspected that their food had been switched. This resulted in 114 participants which is our total sample. The 114 were divided into: Low self-production control group (18), high self-production control group (18), high self-production negative response group (27), high self-production neutral response group (24) and high self-production positive response group (27). We have to say that this is a convenience sample, as we could not pick randomly, but had to accept those who fit the criteria and showed up.

Our sample consisted of 51 men and 63 women and the average age was a little bit above 21 years.

| Gender | | |
|--------|-----------|---------|
| | Frequency | Percent |
| Valid | Men | 51 |
| | Women | 63 |
| | Total | 114 |
| | | 44,7 |
| | | 55,3 |
| | | 100,0 |

Table 3: Gender

| | | Age |
|--------|---------|-------|
| N | Valid | 114 |
| | Missing | 0 |
| Mean | | 21,25 |
| Median | | 21,00 |

Table 4: Age

3.5.3 Motivational factors

To motivate the participants we had some giveaways and benefits of participating including:

- A chance to win an iPad
- A free meal (the one they made themselves)
- A gift bag from Toro with free Toro products

As we had some logistical problems of getting the Toro products to Trondheim in time, we arranged so the participants would get a gift certificate of 100 NOK at Trondheim Torg (city center). The gift certificates were given to the participants after the experiment and they accepted the change in prize without any problems.

3.6 Utilized analyses

In our analyses we used a series of different tools to understand and utilize the data we had gathered. Our data set was mainly built on continuous variables, which was useful as continuous variables opens for statistical analyses using mean and standard deviation. We have been using four different analysis tools in this study; factor analysis, t-test, ANOVA/ANCOVA and Sobel test. In this section all the analyses applied will be briefly presented and explained.

3.6.1 Factor analysis

According to (Gripsrud et al., 2010: p. 324) a factor analysis is "*a statistic tool used to analyze connections between many variables and explain these connections from the variables' underlying dimensions or factors*" (ibid, our translation). In other words, a factor analysis helps finding the few factors responsible for the correlation between a numerous variables. This could be described as reducing the data (ibid.).

We used the factor analysis to simplify complex connections between a numerous variables, to be able to find and explain these connections. Out of a variable set of 8-10 questions from the questionnaire we usually ended up with 2-4 highly correlating variables (questions) forming one factor. Which correlating variables we chose to form was down to our own logical thinking and reasoning. One such factor could then be the variable "outcome evaluation" or "evaluation of the input product" which was used in the other analysis.

3.6.2 T-test, ANOVA and ANCOVA

To check if there were any differences in mean scores for the groups for the different dependent variables, we conducted t-tests, ANOVAs and ANCOVAs throughout the analysis. The t-test was used whenever we wanted to check the mean scores of two different groups; for example mean scores of low self-production control group vs. high self-production control group on the dependent variable "outcome evaluation", to see if there were any significant differences. An ANOVA was conducted if we wanted to check for significant differences in three or more mean scores, for example for all the social response groups on a dependent variable. In the ANCOVA we could add the possibility of using different covariates to check if they had any interaction effects on the dependent variable.

3.5.3 Sobel test

We used a Sobel test to check if a variable was carrying the influence (mediating) of an independent variable (IV) to a dependent variable (DV). Preacher (Calculation for the Sobel test, 2013) tells that the mediation occurs when:

- 1) The IV significantly affects the mediator
- 2) The IV significantly affects the DV in the absence of the mediator
- 3) The mediator has a significant unique effect on the DV
- 4) The effect of the IV on the DV shrinks upon the addition of the mediator to the model

4. Results

4.1 Test of hypothesis 1 - Replication

4.1.1 Test of Hypothesis 1_A: Self-production has a positive effect on outcome evaluation

To be able to perform replication of previous research we had to perform an ambiguity check, test for goal relevance and do a self-production manipulation check, before testing H_{1A} and H_{1B}.

4.1.1.1 Ambiguity check

1) Level of ambiguity

In order to ensure that associative self-anchoring is in effect, the outcome has to be ambiguous (Supphellen and Troye, 2012). Two questions were put in the questionnaire to cover the ambiguity, both on seven-point scales (appendix Ambiguity):

1. It was difficult to judge the quality of the food
2. I felt unsure when I judged the quality of the food

| Variable | Mean | Standard deviation |
|-----------------------------------------------------|------|--------------------|
| It was difficult to judge the quality of the food | 3.68 | 1.47 |
| I felt unsure when I judged the quality of the food | 3.71 | 1.45 |

Table 5: Ambiguity check

2) Equal level of ambiguity for all 5 groups

Since all five groups were served the same dish, we had to make sure that there were no significant differences between the groups. A one-way between subjects ANOVA was conducted to check if ambiguity was significantly different between any of the five groups. The results showed that none of the questions were significantly different across the groups at the 5-% level (appendix *ibid.*):

- Question 1 [$F(4, 108) = .64, p = .64$]
- Question 2 [$F(4, 108) = .86, p = .49$]

Summary ambiguity check

The variables measuring ambiguity were just about average, and there were no significant differences between groups. We judge this to be sufficiently ambiguous for associative self-anchoring to take effect.

4.1.1.2 Stimulus relevance for goal pursuit

To test the moderating impact of “goal relevance” on outcome evaluation, Supphellen and Troye (2012) performed analyses for both measures of goal relevance – general interest in cooking and usage frequency of the focal brand. We used the same measures in our analysis.

1) General interest in cooking

General interest in cooking was measured with four items on seven-point scales (“I am very interested in cooking,” “I spend a lot of time on cooking,” “My friends see me as a skilled cook” and “I see myself as a skilled cook”; $\alpha = .88$) (appendix Interest in cooking).

The mean score for general interest in cooking was pretty high ($M = 4.69, SD = 1.23$), which was a bit surprising considering that this was a student sample. However, the relatively high interest in cooking did not have an interaction effect as we tested self-production x goal relevance in an ANCOVA (cooking interest), but found no significant results [$F(1, 32) = 1.51, p = .23$] (appendix *ibid.*).

2) Usage frequency of the focal brand

Usage frequency of the focal brand was measured by the question “Approximately how many times per month do you prepare dinner based on dinner kits such as Toro, Knorr etc.?” and

had a mean score of $M = 3.17$ ($SD = 3.70$). We did not find any interaction effects from usage frequency x self production in an ANCOVA [$F(1, 32) = .06, p = .81$] (appendix Usage product).

Summary stimulus relevance for goal pursuit

We did not have any significant findings for goal relevance. The lack of significance for cooking interest is consistent with the research by Supphellen and Troye (2012), while the lack of significance for usage frequency of the product type is not consistent with previous research.

4.1.1.3 Manipulation check

To document the effects of associative self-anchoring we needed a significant difference in the perceived level of self-effort between the groups with high self-production (the control group and the three social response groups) and the (control) group with low self-production. We measured self-effort effort with three items on seven-point scales (“I made a considerable contribution,” “I did not contribute much [reversed],” and “The effort demanded a lot from me”; $\alpha = .77$) (appendix Manipulation).

Descriptive Statistics

Dependent Variable: Perceived self-effort

| All 5 groups | Mean | Std. Deviation | N |
|--------------|--------|----------------|-----|
| Low SP | 1,7037 | 1,08398 | 18 |
| Negative SR | 2,3210 | ,95399 | 27 |
| Neutral SR | 2,3194 | ,87631 | 24 |
| Positive SR | 2,2716 | 1,29442 | 27 |
| High SP | 2,4259 | ,85410 | 18 |
| Total | 2,2281 | 1,04502 | 114 |

Table 6: Perceived self-effort

To analyze possible differences we used an ANCOVA, making the question “Approximately how many times per month do you prepare dinner based on dinner kits such as Toro, Knorr etc.?” a covariate. The ANCOVA revealed that the use of dinner kits (such as TORO, Knorr etc.) had significant interaction effects with the group variable at a 10-% level, $F(4, 104) = 2.03, p = .099$ (appendix *ibid.*).

In the analysis of contrast, low self-production was set as the reference group. The analysis showed significance at a 5-% level for high self-production, neutral and positive social response, while negative social response was significant at a 10-% level ($p = .078$) (appendix *ibid.*).

Summary manipulation check

We found significant difference in perceived level of self-effort between the groups with high and low self-production, but for the negative social response group this difference was only significant at a 10%-level.

4.1.1.4 Test of H_{1A} : Self-production has a positive effect on outcome evaluation

The pretests tests show that the consistency criterion was met, while the goal relevance criterion was not. We conducted an independent-samples t-test to compare evaluation of outcome in the low self-production control group and high self-production control group conditions (appendix H_{1A}). We measured evaluation of outcome on three seven-point semantic differential scales (“bad/good,” “disliked/liked,” and “horrible/delicious”; $\alpha_{\text{outcome}} = .85$).

| Variable | Mean | Standard deviation |
|-------------------------------------------------------|------|--------------------|
| Outcome evaluation low self-production control group | 4.30 | 0.94 |
| Outcome evaluation high self-production control group | 4.94 | 0.99 |

Table 7: Outcome evaluation - low vs. high SP

An independent-samples t-test showed that there was a significant difference in the scores for the low self-production control group and the high self-production control group conditions; $t(34) = -2.01, p = 0.05$.

Summary hypothesis 1a

This result indicates that self-production has a positive effect on outcome evaluation.

4.1.2 Test of Hypothesis 1_B: Self-production has a positive effect on input product evaluation

As we showed in hypothesis 1_a, self-production has a positive effect on outcome evaluation. We can show that self-production also has a positive effect on evaluations of the input product by testing that first, the high self-production control has a significant higher score on the evaluation of the input product compared to the low self-production group, second, there is a positive correlation between the evaluation of outcome and evaluation of input product and third, the input product evaluation should be mediated by outcome evaluation, tested through a Sobel test.

4.1.2.1 Difference in input product evaluation between high and low self-production

We needed to perform independent-samples t-test showing significant difference between high and low self-production control groups. We measured evaluations of the input product on three seven-point semantic differential scales (“disliked/liked,” “bad/good,” and “dissatisfying/satisfying,”; $\alpha_{\text{input product}} = .90$) (appendix H_{1B}).

| Variable | Mean | Standard deviation |
|-------------------------------------------------------------|------|--------------------|
| Input product evaluation low self-production control group | 3.94 | 1.06 |
| Input product evaluation high self-production control group | 4.93 | 0.90 |

Table 8: Input evaluation - low vs. high SP

The t-test was conducted to compare evaluation of the input product in the low self-production control group and high self-production control group conditions (appendix *ibid.*). There was a significant difference in the scores for the low self-production control group and the high self-production control group conditions; $t(34) = -2.99, p = 0.01$.

4.1.2.2 Positive correlation between input product evaluation and outcome evaluation

A Pearson product-moment correlation coefficient was computed to assess the relationship between the evaluation outcome and evaluation of the input product (appendix Hypothesis 1B: Correlation). We found a positive correlation between the two variables ($r = 0.73$, $n = 112$, $p = 0.00$). A scatter plot summarizes the results (appendix *ibid.*).

4.1.2.3 Input product evaluation mediated by outcome evaluation

In order to test if outcome evaluation would mediate the positive effect of self-production on evaluation of the input product, we ran a Sobel test (appendix Mediation) (SPSS macro by A. F. Hayes, 2013). Self-production level was the independent variable (only control groups), outcome evaluation was the mediator, and evaluation of the input product was the dependent variable. The test turned out statistically significant (Z -value = 1.99, $p = .05$). Self-production has a positive effect on the outcome evaluation ($\beta = 0.65$, $p = .05$). We also found that self-production has a positive effect on input evaluation ($\beta = .98$, $p = .01$). The test measured that outcome evaluation has a significant effect on input product evaluation ($\beta = 0.84$, $p = .00$).

However, we could not indicate that the outcome evaluation mediates the relationship between self-production and input product evaluation. This was due to the results showing that the direct effect on input product evaluation still was there, even when we accounted for outcome evaluation ($\beta = 0.44$, $p = 0.04$). We remark that the p -value was close to the 5-% level and only moderately significant.

Summary hypothesis 1B

We note that self-production influences input product evaluation, and there exists a positive correlation between input product evaluation and outcome evaluation. However, input product evaluation is only partly mediated by outcome evaluation. The results indicated that self-production has a positive effect on the input product evaluation.

4.1.3 Summary for H₁

In this section we have replicated some of the findings done by Supphellen and Troye (2012). By testing the boundary conditions, such as manipulation and ambiguity check, we replicated the main results, and confirm H_{1A} and H_{1B}. Note that the goal relevance condition was not fulfilled, but this did not seem to affect the results. This is a result contrary to previous research. In our research goal relevance does not seem to be a necessary boundary condition for associative self-anchoring to take effect. It seems that self-production positively influences input product evaluation, but this is only partly mediated by outcome evaluation.

| Hypothesis | Confirmed/not confirmed |
|--------------------------------------------------------------------------------------------|--------------------------------|
| <i>H_{1A}: "Self-production has a positive effect on outcome evaluation"</i> | Confirmed. |
| <i>H_{1B}: "Self-production has a positive effect on input product evaluation"</i> | Confirmed. |

Table 9: Summary - hypothesis H_{1A} and H_{1B}

4.2 Test of H₂-H₅: Effects of social feedback

In the former section we replicated Supphellen and Troye (2012). Here we add the variable of social response to the model, and present the findings that leaves us with. This section will be divided between the results concerning negative, neutral and positive social response and their effect on outcome evaluations (H₂-H₄), and the on whether social response activates self-serving bias (H₅). Before we start exploring the results of our hypotheses, we need to present the outcome evaluation table as it will be referred to through hypotheses 2-4.

Outcome evaluation

Descriptive Statistics

Dependent Variable: Outcome evaluation

| All 5 groups | Mean | Std. Deviation | N |
|--------------|--------|----------------|-----|
| Low SP | 4,2963 | ,94204 | 18 |
| Negative SR | 3,2436 | ,90213 | 26 |
| Neutral SR | 3,4722 | ,95258 | 24 |
| Positive SR | 4,5385 | ,85415 | 26 |
| High SP | 4,9444 | ,99180 | 18 |
| Total | 4,0357 | 1,11443 | 112 |

Table 10: Outcome evaluation for all the groups

4.2.1 Test of H₂: Negative social feedback will significantly reduce the effect of self-production on outcome evaluation

In the theory section we assumed that negative social response could contribute to a significantly lower outcome evaluation score compared to positive social feedback and the two control groups. The assumption was based Gawronski and Bodenhausen's (2006) work, and we believed that if the explicit evaluation based on the positively biased taste perception was rendered invalid and the negative social response was valid, a possible result could be that the ambiguous taste perception was modified to a more negative evaluation, to match the negative social response, solving the inconsistency.

To see if these assumptions proved to be accurate, we had to measure the scores for the negative social control group concerning outcome evaluations:

| Variable | Mean | Standard deviation |
|---------------------------------------------------|------|--------------------|
| Social response | 2 | - |
| Outcome evaluation negative social response group | 3.24 | 0.90 |

Table 11: Outcome evaluation - negative social response group

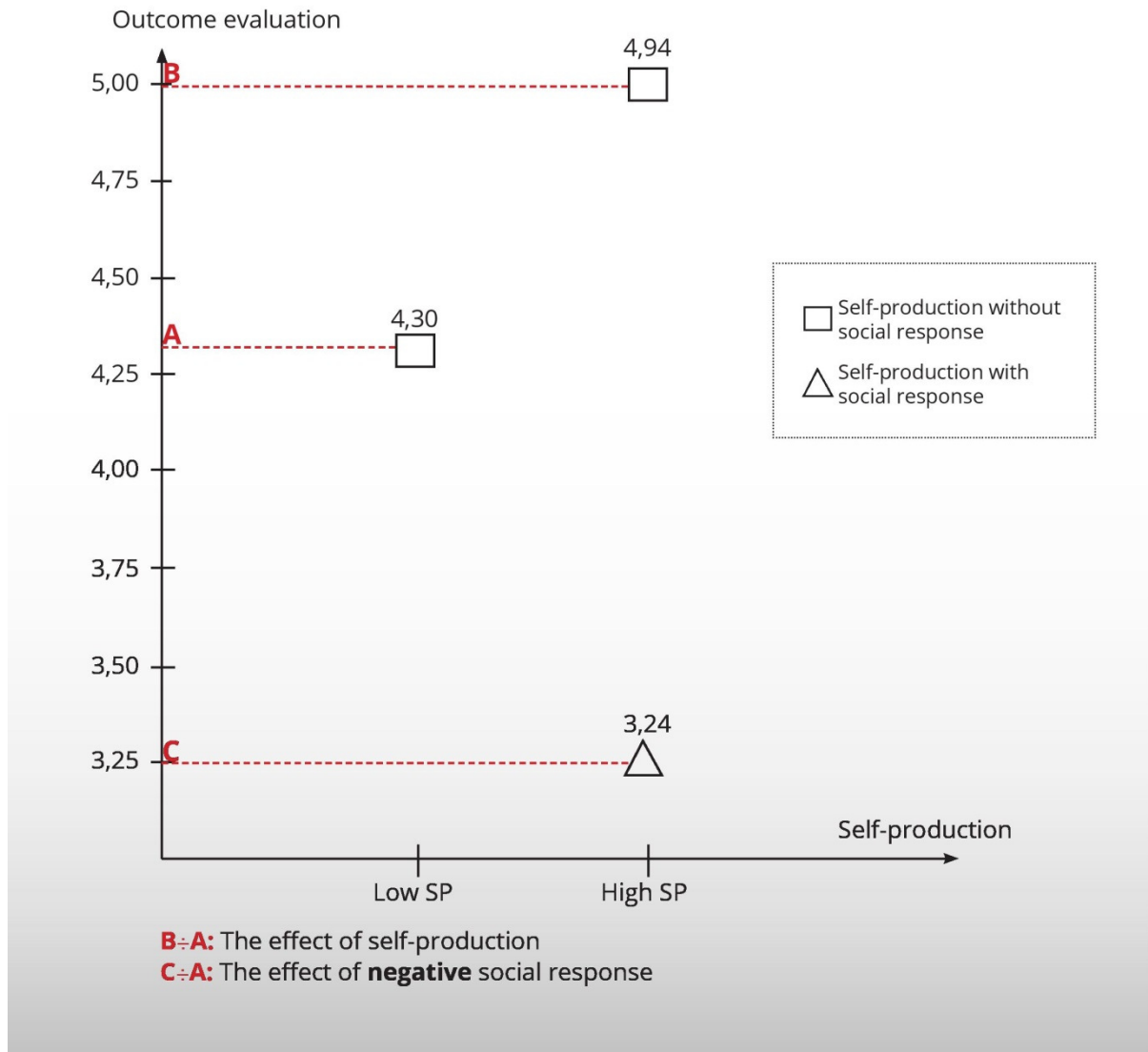


Figure 2: Outcome evaluation for negative SR

As we can see in table 10, the negative social response group scored below the score of the high self-production control group ($M_{NEG} = 3.24 < M_{HSP} = 4.94$). Keep in mind that the only difference between the two groups is the addition of the social response, as both have high levels of self-production. Figure 2 shows how the negative social response group scored

compared to the high and low self-production control groups. To check if the negative social response group actually scored significantly lower than the other groups (except neutral social response group) we performed an ANCOVA (appendix H₂). The analysis confirmed that the group scored significantly lower than the other groups, except for the neutral response group (as expected).

| <i>M_{evaluation of outcome}</i> | Negative SR | Neutral SR | Positive SR | Low SP | High SP |
|------------------------------------------|-------------|-----------------|----------------|----------------|----------------|
| Negative SR | | <i>p</i> = 0.38 | <i>p</i> = .00 | <i>p</i> = .00 | <i>p</i> = .00 |

Table 12: Negative SR compared to the other groups

Summary H₂

This finding supports our assumption, and indicates that negative social response feedback significantly reduces the effect of self-production on outcome evaluation.

4.2.2 Test of H₃: Neutral social feedback will significantly reduce the effect of self-production on outcome evaluation

Based on the same theoretical explanation as in hypothesis 2, we wanted to explore if neutral social response would cause a significantly lower outcome evaluation score. As for the last hypothesis, we started with a measure of the outcome evaluation score and used a figure to show how the group scored compared to the two control groups:

| Variable | Mean | Standard deviation |
|--------------------------------------------------|------|--------------------|
| Social response | 3.5 | - |
| Outcome evaluation neutral social response group | 3.47 | 0.90 |

Table 13: Outcome evaluation - neutral social response group

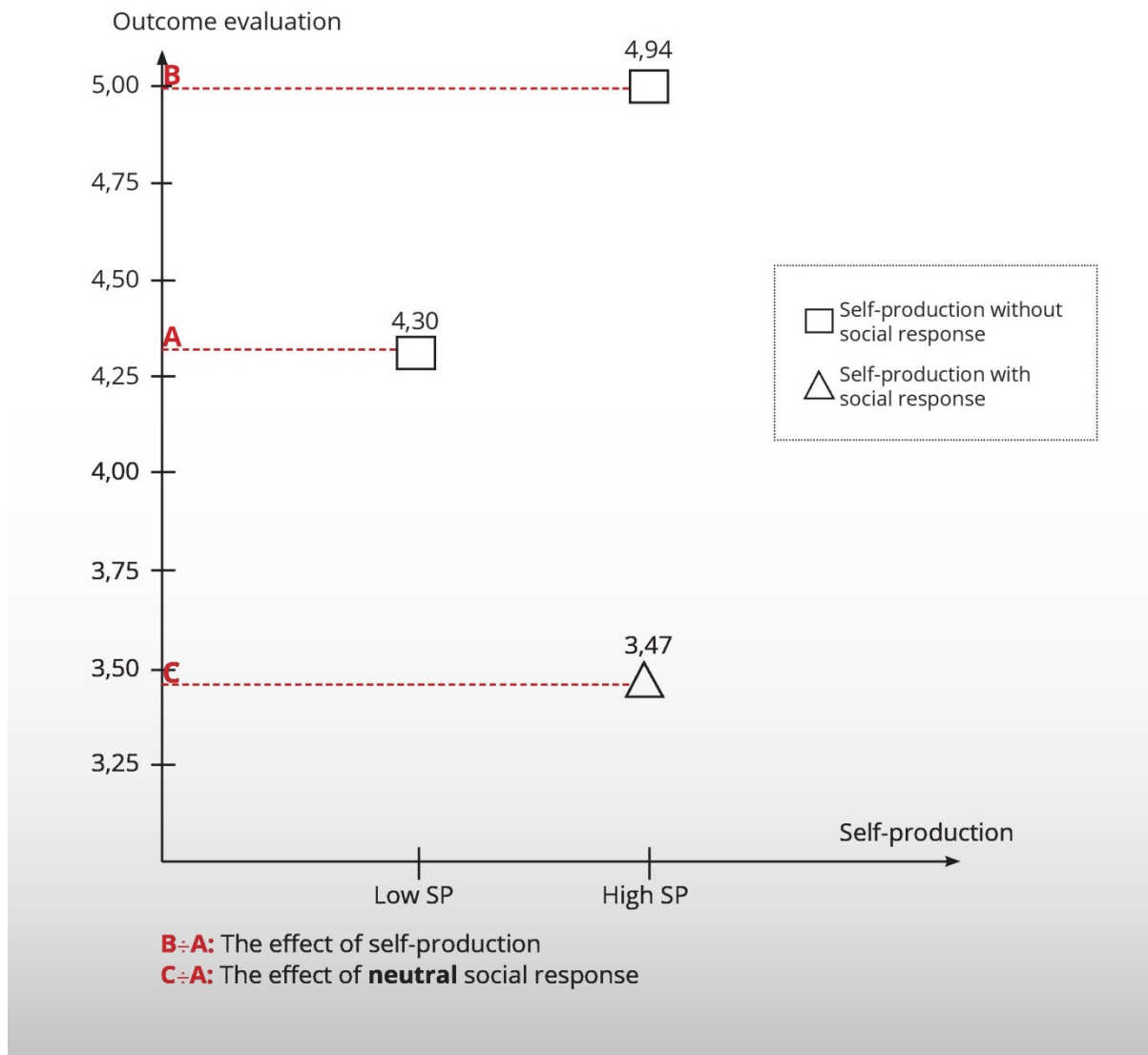


Figure 3: Outcome evaluation for neutral SR

Also the neutral social response group had a mean score well below high self-production control group ($M_{NEU} = 3.47 < M_{HSP} = 4.94$). Keep in mind that the only difference between the two groups is the addition of the social response, as both have high levels of self-production. The figure shows that the group scored well below the two control groups. An ANCOVA analysis (appendix H₃) showed that the neutral social response group scored significantly lower than all other groups except the negative response group

| $M_{evaluation\ of\ outcome}$ | Negative SR | Neutral SR | Positive SR | Low SP | High SP |
|-------------------------------|-------------|------------|-------------|-----------|-----------|
| Neutral SR | $p = 0.38$ | | $p = .00$ | $p = .01$ | $p = .00$ |

Table 14: Neutral SR compared to the other groups

Summary H₃

The results for hypothesis 3 support our assumption, indicating that neutral social response feedback significantly reduces the effect of self-production on outcome evaluation.

4.2.3 Test of H₄: Positive social feedback will not change the effect of self-production on outcome evaluation

According to Gawronski and Bodenhausen (2006), the affective reaction will be transformed into an explicit evaluation through the propositional format. When the affective reactions are positive due to self-production, the explicit evaluation will also be positive. The other explicit evaluation is that of social feedback. In the case of positive social feedback, both the explicit evaluations will be positive, thereby leading to the consistency criterion being fulfilled. As the consistency is fulfilled we should not experience any change in the effect of self-production on outcome evaluation.

This should be seen in the results as a significantly higher score for the positive social response groups compared to the negative and neutral social response group. A score above average could also indicate that the self-production effect is activated. As in the previous hypotheses we measured the scores and made a figure comparing the group to the two control groups:

| Variable | Mean | Standard deviation |
|---------------------------------------------------|------|--------------------|
| Social response | 6.0 | - |
| Outcome evaluation positive social response group | 4.54 | 0.85 |

Table 15: Outcome evaluation - positive social response group

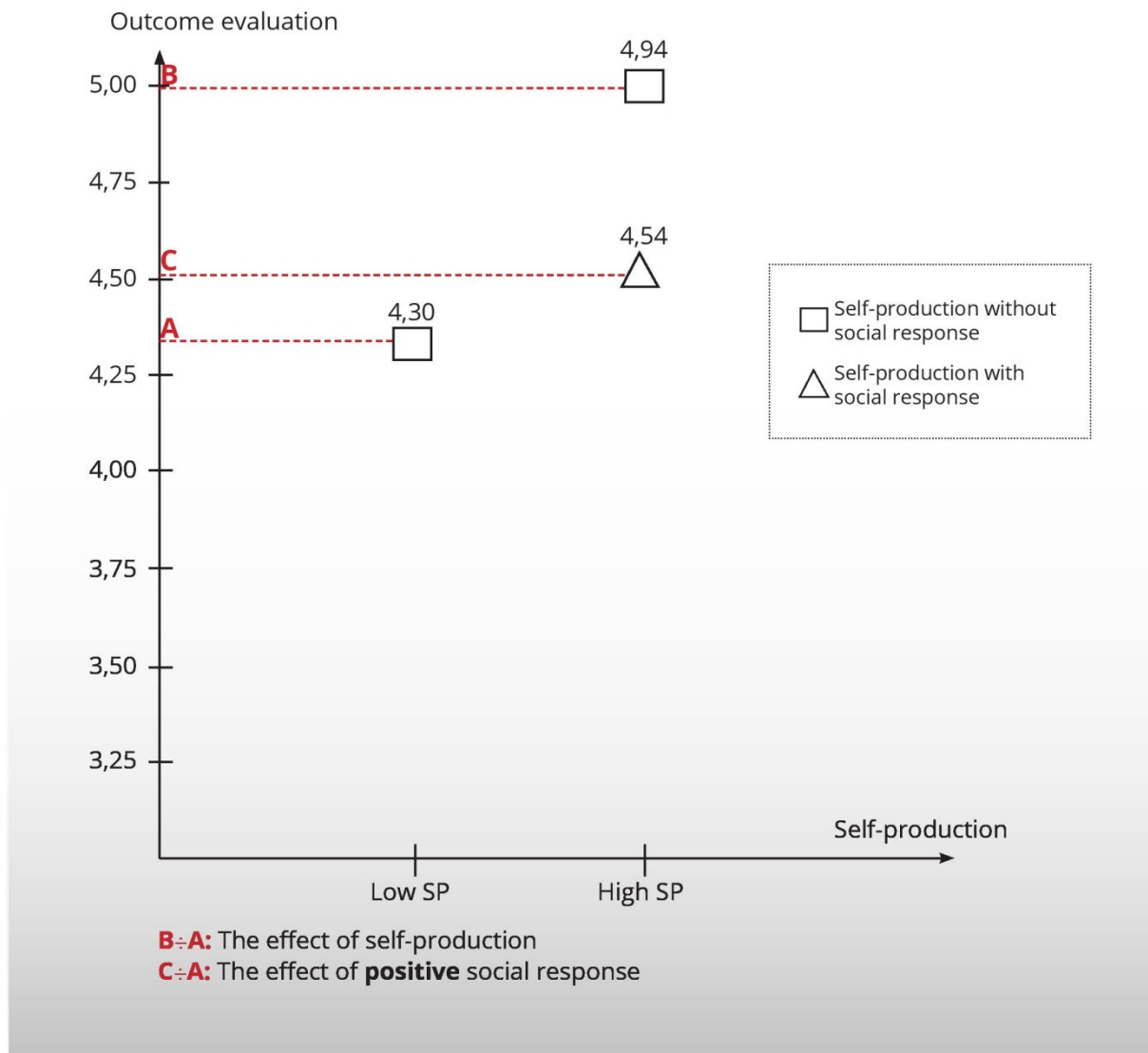


Figure 4: Outcome evaluation for positive SR

The positive social response group had a score only slightly lower than that of the high self-production control group ($M_{POS} = 4.54 < M_{HSP} = 4.94$), as shown in table Outcome Evaluation and figure 4. The score was however not significantly different from the high self-production control group, as shown in table 10 below and in appendix H₄. An ANCOVA analysis confirmed that the group scored significantly higher than the other two social response groups.

| $M_{evaluation\ of\ outcome}$ | Negative SR | Neutral SR | Low SP | High SP |
|-------------------------------|-------------|------------|-----------|-----------|
| Positive SR | $p = .00$ | $p = .00$ | $p = .39$ | $p = .15$ |

Table 16: Positive SR compared to the other groups

Summary H₄

The results indicate that positive social response does not change the effect of self-production on outcome evaluation. If social response did have any effect, the outcome evaluation score would be significantly different from the reference group: The high self-production control group. This was not the case (appendix H₄). The results indicate that positive social response does not change the effects of self-production on outcome evaluation.

4.2.4 Summary for H₂-H₄

Our results indicate that negative and neutral social response significantly reduces the effect of self-production on outcome evaluations. Positive social response does not appear to change the effect of self-production on outcome evaluation. The hypotheses are being summarized in the table below:

| Hypothesis | Confirmed/not confirmed |
|------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <i>H₂: Negative social feedback will significantly reduce the effect of self-production on outcome evaluation</i> | Confirmed. |
| <i>H₃: Neutral social feedback will significantly reduce the effect of self-production on outcome evaluation</i> | Confirmed. |
| <i>H₄: Positive social feedback will not change the effect of self-production on outcome evaluation</i> | Confirmed. |

Table 17: Summary - hypotheses H₂-H₄

4.2.5 Test of H₅: Negative social feedback activates the self-serving bias and leads to external attribution (blaming the company) if the participants can not improve on the outcome

In their research, Supphellen and Troye (2012) argued that self-serving bias was reduced by the positive effect of associative self-anchoring. As we could not do the same tests in our design, we wanted to look at the attribution scores to see if the negative social response group had attributions that could indicate self-serving bias. First, if the group were to have self-serving bias they needed to experience the outcome as a failure. We cannot test this in the design, but the discrepancy between expectations and received social response can give an indication. The social response was 2 out of 7. The expectations were measured on two items on seven-point scales (“I think the test-person is going to like my meal,” and “The meal I’ve prepared will receive good praise”; $\alpha = .95$) (appendix H₅), and is listed in the table below:

Expectations

Descriptive Statistics

Dependent Variable: SR_expectations

| All 5 groups | Mean | Std. Deviation | N |
|--------------|--------|----------------|----|
| Negative SR | 4,9815 | ,82604 | 27 |
| Neutral SR | 4,7273 | ,94777 | 22 |
| Positive SR | 5,0741 | ,87380 | 27 |
| Total | 4,9408 | ,87927 | 76 |

Table 18: Expectations for the social response groups

As we can see, the group had a fairly high expectations of their evaluation on a seven-point scales ($M_{neg} = 4.98$, $SD_{neg} = 0.83$). The discrepancy between the expectation and the received social response of $SR_{neg} = 2$, was likely to be interpreted as a failure. By the time they got their social feedback, the meal was already made and thus non-improvable.

To measure if the blame for the result was being placed internally or externally, we focused on three questions, all on seven-point scales ($\alpha = .73$) (appendix *ibid.*). For the question of “My effort would account for much of the taste experience”, the negative group scored $M = 2.89$ ($SD = 1.67$). As for the question “The quality of the taste was mainly down to the result of my effort”, the group scored even lower ($M = 2.52$, $SD = 1.45$). The last question - “The qualities of the taste were mainly down to the results of the producer (TORO)” – showed that

the negative social response group gave the producer a good portion of the blame ($M = 5.96$, $SD = .85$).

In order to check if the group's scores were significant externally attributed, we decided to test them with a one-sample t-test against the average score of 4 for the three mentioned questions (which were all on seven-point scales). As 4 on a seven-point scale is the median, a significantly below or above could indicate external attribution (depending on the question). In this case, external attribution would be indicated if the group scored significantly lower than 4 on the first two questions and significantly higher than 4 on the last question.

The questions were arranged in the same order as in the section above, and the negative social response group scored significantly lower on the first two questions concerning taste experience and attribution to self ($t(26) = -3.45$, $p = 0.00$ and $t(26) = -5.31$, $p = 0.00$). For the last question concerning attribution to TORO, the group scored significantly higher ($t(26) = 11.94$, $p = 0.00$). The results indicate and external attribution (appendix H₅).

Summary for H₅

The results indicated that the failure was being attributed externally (appendix Failure H7). Our assumption is that the self-threat of a negative social response under non-improvable conditions has caused the self-serving bias to occur. It is worth mentioning that our scores for the neutral and positive social response group did however not show a pattern indicating self-serving bias. We would therefore encourage these groups to be explored more thoroughly in future research.

| Hypothesis | Confirmed/not confirmed |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| <i>H₅: Negative social feedback activates the self-serving bias and leads to external attribution (blaming the company) if the participants can not improve on the outcome</i> | Confirmed. |

Table 19: Summary - hypothesis H₅

5. Discussion

The discussion will draw the lines from what we have learned so far, what this means for our research, and for future research. With this in mind we have divided the chapter into a brief introduction with the most important findings, follow by four parts. In the first part we will discuss the theoretical implications of what we have found, both for Supphellen and Troye's (2012) research and for our own. Second we will see what kind of managerial implications our findings have for other marketers and brand managers. Third we will discuss the credibility of the research, by examining the validity and the reliability of the research design. In the last part we will look at the limitations of our research and suggest what can be explored in future research.

5.1 Introduction

In the introduction chapter of this thesis we presented our problem statement:

“How, if at all, does social feedback influence evaluations of self-produced outcomes?”

We wanted to answer this question by exploring six different hypotheses (H_{1A} and H_{1B} , H_2 - H_5). In the first two hypotheses (H_{1A+B}) we replicated Supphellen and Troye (2012), and showed that self-production has a positive effect on outcome evaluation and evaluation of input product. The results of H_2 and H_3 indicated that negative and neutral social response significantly reduced the effect of self-production on outcome evaluation. In H_4 we found that there was no change in the effect of self-production on outcome evaluation when we had positive social feedback. The last hypothesis (H_5) indicated that the negative social feedback had activated the self-serving bias as the scores for this group was being attributed externally.

5.2 Theoretical implications

5.2.1 Replication: Effects of self-production

Even though the goal relevance condition was not fulfilled, the thesis successfully replicated the research done by Supphellen and Troye (2012), confirming the effect of self-production on outcome evaluation. The lack of goal relevance is noteworthy. The condition of goal relevance is required because it creates greater potential for affect, and more and stronger

links from the self to the object. In addition, greater goal relevance makes the positive sides of the outcome more obvious than the negative ones.

There is a possibility that goal relevance actually had an effect, but that we were unable to find a good measure for it. If we assume that the lack of effects from goal relevance does not come from poor measures, it could be that the amount of connections from the self to the object was high and strong enough for sufficient affect transfer anyway, thereby allowing the positive effects of self-production to give significant effects on outcome evaluation. These connections could have happened due to participants' involvement through physical and mental handling of ingredients and equipment (Supphellen and Troye, 2012).

Our results indicate that the consistency criterion (Gawronski & Bodenhausen 2006) has been fulfilled. The explicit evaluations in this particular situation do not seem to be in conflict, as the positive affective reaction due to self-production is not opposed by any other explicit evaluations. Therefore, there is no need for propositional reasoning.

The APE model used by Supphellen and Troye (2012) claims that the associative processes are more intuitive and automatic, while propositional processes are more cognitive and deliberate in nature. Since there does not seem to be any conflict that needs to be resolved, there is no need for these processes to be raised to a more cognitive, deliberate level. Based on this, the valence of the outcome evaluation seems to be guided by the positively biased taste perceptions, leading to a more positive outcome evaluation than under conditions of low self-production where this effect is not as prominent. According to Supphellen and Troye, this is because more and stronger links are created. Our results are in accordance with this, with a significant difference in the outcome evaluation score between high and low self-production control groups.

Concerning H_{1B} , the input product was hypothesised to benefit from self-production, if the outcome was ambiguous. This was because the positive effects of self-production would reduce the level of self-threat, decreasing self-serving bias. According to this, the finished dish becomes a medium by which the input product is imbued with positive affect from the self. The criteria for this to occur was fulfilled as first, the high self-production control group received a higher input product evaluation than the low self-production control group, and second, there was a positive correlation between outcome evaluation and input product

evaluation. However, we failed to explain exactly how self-production affects input product evaluation, as the Sobel-test showed that input product evaluation was only partly mediated by outcome evaluation.

Summarizing H_1 , it seems that even without fulfilling the goal relevance condition, self-production is sufficiently effective in creating many and strong enough links between the self and the object. This allows for a sufficient amount of transfer of positive affect from the self to the object, leading to significantly higher outcome evaluation. Concerning the positive effects of self-production on input product evaluation there seems to be a connection, but exactly what this connection consists of remains inconclusive in our research. Even though there are some differences between our research and the research performed by Troye and Supphellen (2012), the most important findings are successfully replicated, increasing the validity of their work.

In addition to replicating Supphellen and Troye (*ibid.*) we also had some findings in our own research.

5.2.2 Effects of social response

5.2.2.1 The effect of negative and neutral response on outcome evaluation

Following the same logic as for H_{1A} and H_{1B} , we hypothesised that the explicit evaluations resulting from social response are likely to create inconsistencies, and therefore a need for propositional reasoning. In the case of negative and neutral social feedback, it seems that the inconsistency is solved through assigning a negative truth value to the positive evaluation of the dish due to biased taste perception because of self-production, while keeping the social response's truth value as valid, given that the participant believes strongly enough in the social feedback.

There are situations where social feedback would be rejected as a basis for evaluation (assigned a negative truth value, thereby keeping the positive explicit evaluation caused by self-production), for instance if the person believes strongly in their own taste compared to that of the person giving the social feedback. This is likely to be the case if the person believes strongly in own abilities, for instance if they are professional cooks.

There exists more support for the strength of social feedback in such a situation. A theory by Kawakami, Dovidio, & Dijksterhuis (2003), cited by Gawronski & Bodenhausen (2006), states that mere knowledge of a proposition endorsed by other people can contribute to the activation of corresponding associations in memory regardless of truth values. Let's consider this for all types of social feedback: When other people tell someone through social response that their self-produced food was (a: very good, b: average or c: very bad), this can activate associations supporting this view. If a person gets a negative social response, this can remind that person that he/she has made some poor meals in the past. This activation happens even though the person thinks that he/she is a good cook, making the proposition of negative social feedback stronger. This could be used as support for why the social response seems to overrun the effects of associative self-anchoring in our sample. Further research is necessary before one can understand the underlying processes in the APE model under the conditions investigated in this thesis.

To summarize, what happens under negative and neutral social response (under certain conditions) is that the explicit evaluations created from the positively biased taste perception is rendered invalid and the explicit evaluation created from negative or neutral social response is kept valid. After this, the taste perception is modified to a more negative evaluation, to match the negative social response, solving the inconsistency, creating a more negative outcome evaluation.

5.2.2.2 Positive social response and evaluation of outcome

For the group receiving positive social response, we argued that there would be no change in the self-production effect on outcome evaluation. We believed this due to the suggested lack of conflict between the positive effects of self-production through affective reactions and the explicit evaluation caused by the (positive) social response. Our assumption was that the group therefore would score significantly higher on the evaluation of outcome, compared to the negative and neutral group, but not significantly different from the high self-production control group. We could confirm that there were no additional effects from positive social response under conditions of high self-production, and that the outcome evaluation benefits from the positive effects of self-production.

5.2.2.3 Activation of the self-serving bias and external attribution

Supphellen and Troye (2012) argue that with self-production under ambiguous conditions, the positive effect of associative self-anchoring would reduce the self-threat and hence reduce the reason for self-serving bias to occur. With our design, we were not able to test and replicate this assumption. However, we could test if the group receiving negative social feedback would produce scores that showed external attribution.

Our results indicated that the group indeed attributed the “blame” externally, as we had assumed. We believe that this is caused by the negative social response, as the feedback threatens the person’s ego (self-threat). Campbell and Sedikides (1999) say that self-threat occurs when a condition (e.g. negative social response) that is perceived as unfavourable to the self is present. This is in line with our assumptions. According to the same Campbell and Sedikides (*ibid.*), self-threat magnifies the self-serving bias, which seems to be what has happened in our experiment. The condition of non-improvement in the experiment could also be a reason to why we seem to experience self-serving bias. Duval and Silvia (2002) state that when the outcome can’t be improved – as with the self-produced dish in our research – the perceived failure will be attributed externally by the participant. If the participants in the negative social group perceive the feedback as a failure, this reaction would be in line with the mentioned theory.

We did not explore the attribution scores for the neutral and positive social response group in this thesis, as the groups did not show a pattern indicating self-serving bias. As we chose not focus on these groups, we would recommend others to explore them in future research.

5.2.3 Summary theoretical implications

We believe our findings support the research done by Supphellen and Troye (2012) and increase the validity of their work. Our own results indicate that for our sample, a negative or neutral feedback will lower the evaluation of outcome score due to a change in truth values through propositional reasoning, rendering the explicit evaluation from the positively biased taste perception invalid and the explicit evaluation from the negative or neutral response valid. The results show that positive feedback will not change the positive self-production effect on outcome evaluation, as we received a score that did not differ significantly from the

group with regular high self-production. We were able to indicate a self-serving bias effect for the negative social response group, as this group have significant external attribution. Our assumption is that this effect is caused by the negative social response enhancing the self-threat and activating the self-serving bias. The conditions of non-improvability also support this assumption.

5.3 Managerial implications

The first implication that we can draw from our research is that the work of Supphellen and Troye (2012) has received better empirical support with this study, and by us being able to successfully replicate their work. Supphellen and Troye (ibid.) state in their article that their findings suggest that self-production is a powerful tool in order to create and maintain bonds between the consumers and the product.

Our findings show that the self-production effect is sensible to the impact of social response, and especially negative and neutral social response. So how does this transfer to reality? It's common knowledge that people seldom give direct negative feedback to others, as this is not in line with social norms (seen as socially unacceptable). The exception is kids, because they are still young and haven't learnt all the rules and procedures yet. As a negative social response seems unlikely, we will focus more on a scenario which seems more realistic in a social situation: Self-production with a neutral feedback. As our results indicated, this feedback could cause a drop in the outcome evaluation (because of the inconsistency). Therefore, creating solutions that deals with this challenge becomes a priority for marketers and brand managers.

In the introduction we talked about a social situation where you in order to save time would use a dinner kit when having a friend over for dinner. If this friend then gives you a neutral social feedback like "Your dish tasted OK", the result could be a significantly lower opinion of the outcome evaluation than if the comment didn't occur (experiencing regular positive high self-production effect).

How can the marketers and brand managers cope with this challenge? A possibility could be to create offerings with increased customization possibilities, for instance with extra added spices. This would provide opportunity for added involvement in the self-production process,

making the outcome a joint effort between the person preparing the food ("the chef"), and the other person eating it ("the friend"). Based on the presented self-production theory, this should have a positive effect on the friend's evaluation of the outcome, granted that the involvement is sufficiently big. This should encourage customization, providing opportunities for a personal touch not just from the chef, but also for people in the role of the friend. Really, this encompasses all involved in the self-production process that will evaluate the outcome.

This presents a dilemma, as producers would then need to consider the trade-off between the possible gains in input product evaluation scores, compared to the desirability of the dinner kit as a solution when preparing food. This is because more customization could be interpreted as more effort, making the dinner kit a less optimal solution for solving consumer needs in certain situations, especially if it was preferred for its ability to save time in the first place.

5.4 Credibility of the research

5.4.1 Validity

Validity concerns how well the data represents the phenomenon we wish to explore (Johannessen, Kristoffersen, and Tufte, 2004) or put differently, if we measure what we wish to measure (Ringdal, 2010). If we have low validity in our variables, we run the risk of making conclusions on the basis of variables that measure the wrong things, or the right things in the wrong way.

We will explore four types of validity: Internal and external validity, statistical validity and construct validity. As the chosen research design is an experiment, this has implications for the strength of the internal and external validity.

5.4.1.1 Internal validity

Weaknesses

Ringdal (2001) mentions five factors that can threaten the validity in an experiment; history, maturing, instrumental effects, selection and dropout rate. Only three of these are really relevant for a laboratory experiment running over a short amount of time, as history and dropout rate only applies for experiments that go on for some time. Instrumental effects can be explained as additional effect on the dependent variable Y from the participation in the experiment (for instance placebo and Hawthorne effects), not just from the dependent variable(s). This should not have been a problem in our research, as all groups were exposed for the same conditions, and the effects should therefore have been the same for all the groups.

The threat of maturing should not be very big as the chance of respondent fatigue occurring is relatively small. This is because the questionnaire did not take that long to fill out, and the questions were not very monotonous for most of the questionnaire. The biggest threat to the validity of the experiment is selection, which is systematic skewness in the sample. Validity problems due to selection could arise because the groups are dissimilar on important variables.

The most important variable for our experiment would be the level of self-production. We needed the low self-production control group to be significantly lower on perceived self-effort than the four high self-production groups (appendix Manipulation). The high self-production control group and positive and neutral social response groups were all significantly different at the 5%- level, while the negative social response group were significantly different at the 10%-level. This could weaken the validity of the research.

Strengths

The strength of real experiments lies in the opportunity to control the variables that are of interest. This results in a high certainty about causality, or in other words high internal validity. In the experiment, H₁ test the impact of self-production (cause) on outcome evaluation (effect), H₂-H₄ test for the impact of social response (cause) on outcome evaluation (effect), while H₅ test for the impact of social response (cause) on attribution processes (effect).

There are three conditions that must be satisfied before one can assume causality (Johannessen, Kristoffersen, and Tufte, 2004):

- A correlation must be detected between the events
- On a timeline, the cause must happen before (or at least at the same time as) the effect
- Other possible explanations must be eliminated

If we have high internal validity, we can assume that our results indicate causality with more certainty than if the internal validity was low. The price to pay for high internal validity is that this sacrifices realism; it creates less realistic situations, making the findings from the sample harder to generalize to the population. Let's explore the validity of the different hypotheses:

Criteria 1: Correlation between the events

All the 5 hypotheses were confirmed or partly confirmed in the research.

Criteria 2: Cause must happen before the effect

As this was a real experiment in a laboratory setting, we had the opportunity to decide how to manipulate variables of interest. Therefore we successfully manipulated the level of self-

production (cause) in H₁, allowing it to occur before the outcome evaluation (effect). In H₂-H₄ we successfully introduced social response (cause) as a stimulus before outcome evaluation (effect). In H₅, social response (cause) was introduced before attribution (effect).

Criteria 3: Elimination of other possible explanations

In H₁, the purpose was to support the research by Supphellen and Troye (2012) to increase the external validity of their work, through replication. We reduced the risk of disturbing effects from other variables on outcome evaluation through the experiment, by exposing both the high self-production control group and the low self-production control group for the same conditions. In their research, Supphellen and Troye (2012) accounted for other possible explanations, which our research did not explore in depth. However, successfully replicating their findings does indicate that their explanation seem correct, increasing the external validity of their research.

For H₂-H₄ the purpose was to explore what, if any, influence social feedback had on evaluations of self-produced outcomes. We reduced the risk of disturbing effects from other variables on outcome evaluation through the experiment, by exposing both the high self-production control group and the social response groups for the same conditions.

For H₅, the purpose was to explore how social response influenced attribution. The findings indicated external attribution for negative social response. This finding is in line with theory on self-serving bias, but exploration of the underlying processes is beyond the scope of this thesis. We lack a good comparative standard, so we cannot assume causality.

The potential impact of procedural errors

The advantage of an experiment is being able to control the important variables. However, it is difficult to have complete control over every procedure in the experiment all the time. There are several small details that may have contributed to lower validity, because we are unaware of the effects of the details. From the experiment, details that can influence the quality of the research through procedural errors could be failing to maintain some variables at a constant level. Examples could be the temperature of the served dish or the quality of the ambiguous food from day to day. Even though we prepared the dish at the same time each

day after a very specific recipe, and attempted to keep the dish at the same serving temperature for all participants, some differences may have occurred. Obviously, if these differences are significant they could have influenced outcome evaluation in this experiment.

To summarize, even though there are some weaknesses in the thesis the internal validity of the research seems to be quite strong.

5.4.1.2 External validity

A high external validity means that we can generalize the findings from the research to the population with a large degree of certainty.

Concerning the possibility for generalization to the population, the experiments external validity is quite weak. The sample was partly a convenience sample, in addition to consisting mainly of people in their early twenties. With a sample that was both homogenous and not representative the external validity is low, and the findings cannot easily be generalized to the population.

5.4.1.3 Statistical validity

Statistical validity concerns if the presented models are statistically significant. A weakness with our research is the total sample size. If we look at the size of the different groups, both control groups have 18 respondents and the social response groups have 27, 27, and 24. Even though the sample size was small most of the findings are statistically significant at a 5% level, giving good statistical validity. However, Studenmund (2011) gives a warning: Even though there are statistically significant relationships in our data, this could be due to spurious correlation and not causality. Statistical validity does not test theoretical validity. Therefore, further research should explore these findings on bigger sample sizes.

5.4.1.4 Construct validity

If we have high construct validity, we measure the theoretical term we actually wish to measure. For this thesis, outcome evaluation and perceived self-effort are examples of theoretical concepts which we attempt to measure. So how well are they measured? There are

several ways to test this. Face validity is the use of common sense to tell us whether the indicators are valid or not (Ringdal, 2001). As we are two researchers, we have discussed all the variables used, all with satisfying face validity. Content validity is high if the indicators chosen are a representative sample from the population of indicators (Ibid.). In other words, content validity is a subjective assessment by the researcher to whether the indicators used sufficiently cover the theoretical term. In addition to use the same variables as Supphellen and Troye (2012), our subjective judgement of the variables is that they should cover the term quite nicely. For reference to how the terms are created, view the operationalization-section of this thesis.

5.4.2 Reliability

When working with data it is important to ask the question: Can these data be trusted? Ensuring a high reliability means ensuring that repeated measurements with the same instrument is likely to give the same results (Ringdal, 2001). If the reliability in the experiment is low, then the findings may just be coincidence.

While validity requires a theoretical evaluation, reliability is purely an empirical question (ibid.). Reliability can be influenced by three factors: First, by how one actually generates the data (the collection instrument), second, by what data are generated, and third, by the way the data are processed.

5.4.2.1 The collection instrument

We stated that reliability is about getting the same results with repeated measurements with the same instrument. The reliability in the actual data generation for this experiment concerns the quality of the questionnaire. Are the questions formulated in a good way, or are they imprecise or open for misinterpretation? The latter would increase the chance of getting different results, lowering the reliability. To avoid this, the questions in our questionnaire were based on the original questionnaire used by Supphellen and Troye (2012). In addition, the structure of the questionnaire and the format of the questions have been approved by our supervisor Magne Supphellen.

5.4.2.2 The generated data

To understand the reliability in the process of generating the data, let us examine the conditions in which the questionnaires were answered. The possible error sources were attempted minimized with the participants being instructed on how to fill out the questionnaire in advance, in addition to having the opportunity of asking questions as we went along. Any potential disruptions were attempted minimized through denying them any communication. In addition, they were informed that they had plenty of time, to lower the chance of stress influence how they answered the questions. A few of the participants did not answer the complete questionnaire, but these were only rare exceptions.

5.4.2.3 The data processing

Reliability in the data processing concerns what you do with the data. The raw data in this experiment were generated through manually filled out questionnaires. All of these data then had to be manually plotted into SPSS, a process that took one person about 3 days. Even though we had five different groups to generate data from, the ID-system we used made the process of plotting the data a simple process, although quite tedious. The fact that this process had to be performed manually increases the chance of mistakes being made, but we are quite certain that no mistakes have been made.

For the actual analysis, several composite measures were created. For this process, each step was documented, and then discussed between the researchers. The fact that we were two people working on this thesis was a strength, as it allows for more critical reflection. In addition, we communicated with our supervisor concerning what measures to use when we were unsure, adding an extra level of quality check.

5.5 Limitations and future research

5.5.1 Limitations

Sample size. The small sample size is a limitation, and can weaken the credibility of the findings. This applies especially to the high and low self-production control groups who were critically small, with only 18 participants each. This can have resulted in a partly skewed sample in some of the analyses.

Convenience sample. The sample was a convenience sample. It was also quite homogenous, consisting mostly of people in their early 20's, resulting in weak external validity. As with the research of Supphellen and Troye (2012) we chose to focus on day-to-day self-production rather than tasks requiring more effort and choices. Thus, we cannot generalize our findings to such situations.

Ambiguity scores. In the experiment itself, the effects of self-production could possibly have been higher if the ambiguity scores on the dish were higher. This could have been achieved through use of professional cooks.

Measurements of implicit evaluations. Due to the limited scope of this thesis, we use the underlying theory of the APE model to make assumptions about implicit evaluations, but we have not measured implicit evaluations specifically. Supphellen and Troye (2012) cite Gawronski, Bodenhausen, and Becker (2007) and Gibson (2008) on how this can be done, but dismisses the possibility of performing this in their experiment due to the large number of trials required. The same applies to our research.

5.5.2 Future research

General findings. As these findings were based on a relatively small sample size, replication with greater sample sizes could increase the validity of the research.

Mundane self-production task. Just as the research of Supphellen and Troye (2012), this thesis focused on a mundane day-to-day self-production situation. Exploring whether the effects of self-production extends to more elaborate and demanding task could be an issue for future research.

Influence of social response

1) *Propositional reasoning.* We focused on the APE model and the process of propositional reasoning for explaining the effects of social response on outcome evaluation. We discussed briefly what could lead to assignment of negative or positive truth values to the different explicit evaluations. Further exploration of what could influence the strength of each proposition and the following process leading to one of them prevailing could be interesting.

There are at least two things worth exploring, based on our research. First, the relationship between the person self-producing the outcome and the person giving the feedback was anonymous in the experiment. This is unrealistic. What would the effects of a closer relationship between these people be? Second, our sample was mostly students in their early 20's. Will the effects of social response affect a different sample in the same way?

2) *Effects of social feedback on input product evaluations.* Our research indicated that negative and neutral social feedback has a detrimental effect on outcome evaluation of self-produced outcomes. If this can be confirmed on a larger sample, it would be of great managerial interest to test whether this extends to the evaluation of the input product, and through what mechanisms.

Self-serving bias. In their research, Supphellen and Troye (2012) claimed that self-production would weaken the self-threat, reducing the risk of self-serving bias. In our research, the findings suggested that negative social response lead to external attribution, but we could not confirm sufficient internal attribution for positive social response. Further research on the effects of social feedback on attribution of self-produced outcomes could be interesting.

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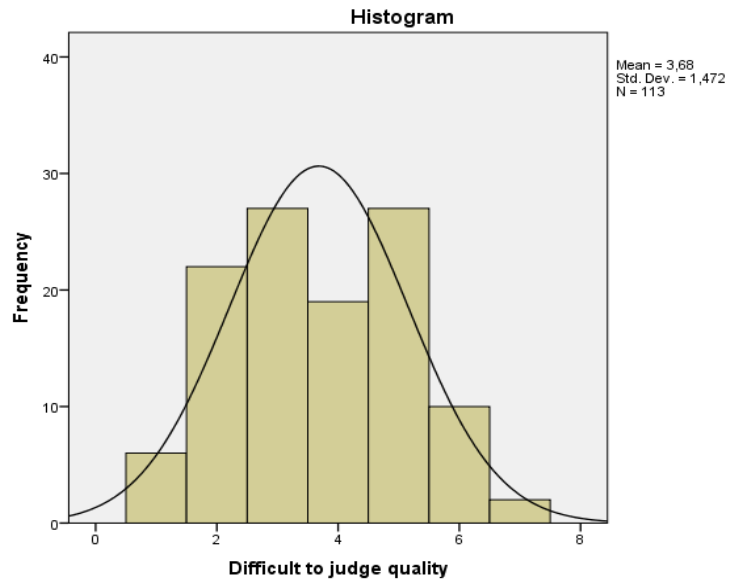
Appendix – test of hypothesis 1 (replication)

Ambiguity Check

Difficult to judge quality

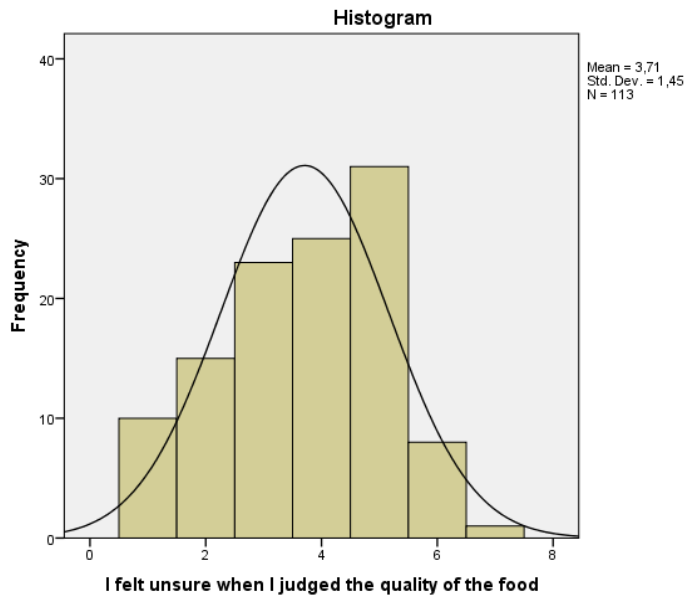
| | | |
|--------------------|---------|----------------|
| N | Valid | 113 |
| | Missing | 1 |
| Mean | | 3,68 |
| Std. Error of Mean | | ,138 |
| Median | | 4,00 |
| Mode | | 3 ^a |
| Std. Deviation | | 1,472 |

a. Multiple modes exist. The smallest value is shown



I felt unsure when I judged the quality of the food

| | | |
|--------------------|---------|-------------|
| N | Valid | 113 |
| | Missing | 1 |
| Mean | | 3,71 |
| Std. Error of Mean | | ,136 |
| Median | | 4,00 |
| Mode | | 5 |
| Std. Deviation | | 1,450 |



Ambiguity Check

Descriptives

Difficult to judge quality

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum | Between-Component Variance |
|----------------|-----|------|----------------|-------------------|----------------------------------|-------------------|---------|---------|----------------------------|
| | | | | | Lower Bound | Upper Bound | | | |
| High SP | 18 | 3,94 | 1,552 | ,366 | 3,17 | 4,72 | 1 | 7 | |
| Negative SR | 27 | 3,78 | 1,553 | ,299 | 3,16 | 4,39 | 1 | 6 | |
| Neutral SR | 23 | 3,87 | 1,766 | ,368 | 3,11 | 4,63 | 1 | 7 | |
| Positive SR | 27 | 3,48 | 1,221 | ,235 | 3,00 | 3,96 | 2 | 6 | |
| Low SP | 18 | 3,33 | 1,237 | ,291 | 2,72 | 3,95 | 2 | 6 | |
| Total | 113 | 3,68 | 1,472 | ,138 | 3,41 | 3,96 | 1 | 7 | |
| Model | | | | | | | | | |
| Fixed Effects | | | 1,481 | ,139 | 3,41 | 3,96 | | | |
| Random Effects | | | | ,139 ^a | 3,29 ^a | 4,07 ^a | | | -,036 |

a. Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.

Test of Homogeneity of Variances

Difficult to judge quality

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| 1,524 | 4 | 108 | ,200 |

ANOVA

Difficult to judge quality

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|------|------|
| Between Groups | 5,570 | 4 | 1,393 | ,635 | ,639 |
| Within Groups | 236,961 | 108 | 2,194 | | |
| Total | 242,531 | 112 | | | |

Ambiguity Check

Descriptives

I felt unsure when I judged the quality of the food

| | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum | Between-Component Variance |
|----------------|-----|------|----------------|-------------------|----------------------------------|-------------------|---------|---------|----------------------------|
| | | | | | Lower Bound | Upper Bound | | | |
| High SP | 18 | 4,11 | 1,410 | ,332 | 3,41 | 4,81 | 1 | 7 | |
| Negative SR | 27 | 3,81 | 1,520 | ,293 | 3,21 | 4,42 | 1 | 6 | |
| Neutral SR | 23 | 3,83 | 1,586 | ,331 | 3,14 | 4,51 | 1 | 6 | |
| Positive SR | 27 | 3,41 | 1,309 | ,252 | 2,89 | 3,93 | 1 | 6 | |
| Low SP | 18 | 3,44 | 1,423 | ,336 | 2,74 | 4,15 | 1 | 6 | |
| Total | 113 | 3,71 | 1,450 | ,136 | 3,44 | 3,98 | 1 | 7 | |
| Model | | | 1,453 | ,137 | 3,44 | 3,98 | | | |
| Fixed Effects | | | | | | | | | |
| Random Effects | | | | ,137 ^a | 3,33 ^a | 4,09 ^a | | | -,013 |

a. Warning: Between-component variance is negative. It was replaced by 0.0 in computing this random effects measure.

Test of Homogeneity of Variances

I felt unsure when I judged the quality of the food

| Levene Statistic | df1 | df2 | Sig. |
|------------------|-----|-----|------|
| ,378 | 4 | 108 | ,824 |

ANOVA

I felt unsure when I judged the quality of the food

| | Sum of Squares | df | Mean Square | F | Sig. |
|----------------|----------------|-----|-------------|------|------|
| Between Groups | 7,244 | 4 | 1,811 | ,857 | ,492 |
| Within Groups | 228,119 | 108 | 2,112 | | |
| Total | 235,363 | 112 | | | |

Appendix Interest in cooking

Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|----------------------------------------------|------------|
| ,879 | ,882 | 4 |

Statistics

Relationship to cooking

| | | |
|--------------------|---------|----------------|
| N | Valid | 112 |
| | Missing | 2 |
| Mean | | 4,6875 |
| Std. Error of Mean | | ,11657 |
| Median | | 4,7500 |
| Mode | | 6,00 |
| Std. Deviation | | 1,23368 |

Tests of Between-Subjects Effects

Dependent Variable: Outcome evaluation

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|----------------------------------|-------------------------|----|-------------|--------|-------------|---------------------|
| Corrected Model | 5,228 ^a | 3 | 1,743 | 1,837 | ,160 | ,147 |
| Intercept | 56,902 | 1 | 56,902 | 59,972 | ,000 | ,652 |
| Groups_LvsH | ,416 | 1 | ,416 | ,439 | ,513 | ,014 |
| CookingID_1_RTC | ,096 | 1 | ,096 | ,101 | ,752 | ,003 |
| Groups_LvsH * CookingID_1_RTC | 1,431 | 1 | 1,431 | 1,509 | ,228 | ,045 |
| Error | 30,362 | 32 | ,949 | | | |
| Total | 804,111 | 36 | | | | |
| Corrected Total | 35,590 | 35 | | | | |

a. R Squared = ,147 (Adjusted R Squared = ,067)

Appendix Usage product

Statistics

Average monthly use of dinner kits

| | | |
|--------------------|---------|--------------|
| N | Valid | 114 |
| | Missing | 0 |
| Mean | | 3,17 |
| Std. Error of Mean | | ,346 |
| Median | | 2,00 |
| Mode | | 1 |
| Std. Deviation | | 3,696 |
| Sum | | 361 |

Tests of Between-Subjects Effects

Dependent Variable: Outcome evaluation

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|--------------------------------------------|-------------------------|----|-------------|---------|-------------|---------------------|
| Corrected Model | 4,088 ^a | 3 | 1,363 | 1,384 | ,265 | ,115 |
| Intercept | 470,348 | 1 | 470,348 | 477,796 | ,000 | ,937 |
| Groups_LvsH | 2,041 | 1 | 2,041 | 2,073 | ,160 | ,061 |
| Avg_dinnerkit_use_monthly | ,251 | 1 | ,251 | ,255 | ,617 | ,008 |
| Groups_LvsH * Avg_dinnerkit_use_monthly | ,058 | 1 | ,058 | ,059 | ,809 | ,002 |
| Error | 31,501 | 32 | ,984 | | | |
| Total | 804,111 | 36 | | | | |
| Corrected Total | 35,590 | 35 | | | | |

a. R Squared = ,115 (Adjusted R Squared = ,032)

Appendix Manipulation

Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|----------------------------------------------|------------|
| ,769 | ,772 | 3 |

Tests of Between-Subjects Effects

Dependent Variable: Perceived self-effort

| Source | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta Squared |
|-------------------------------------------|-------------------------|-----|-------------|---------|-------------|---------------------|
| Corrected Model | 18,244 ^a | 9 | 2,027 | 2,005 | ,046 | ,148 |
| Intercept | 254,846 | 1 | 254,846 | 252,036 | ,000 | ,708 |
| All_Groups | 11,051 | 4 | 2,763 | 2,732 | ,033 | ,095 |
| Avg_dinnerkit_use_monthly | 2,630 | 1 | 2,630 | 2,601 | ,110 | ,024 |
| All_Groups * Avg_dinnerkit_use_monthly | 8,124 | 4 | 2,031 | 2,009 | ,099 | ,072 |
| Error | 105,159 | 104 | 1,011 | | | |
| Total | 689,333 | 114 | | | | |
| Corrected Total | 123,404 | 113 | | | | |

a. R Squared = ,148 (Adjusted R Squared = ,074)

Appendix Manipulation

Contrast Results (K Matrix)

| All 5 groups Simple Contrast ^a | | Dependent Variable | |
|-------------------------------------------|----------------------------------------|-----------------------|-------|
| | | Perceived self-effort | |
| Neg SR vs. Low SP | Contrast Estimate | ,702 | |
| | Hypothesized Value | 0 | |
| | Difference (Estimate - Hypothesized) | ,702 | |
| | Std. Error | ,394 | |
| | Sig. | ,078 | |
| | 95% Confidence Interval for Difference | Lower Bound | -,079 |
| | | Upper Bound | 1,483 |
| Neu SR vs. Low SP | Contrast Estimate | 1,086 | |
| | Hypothesized Value | 0 | |
| | Difference (Estimate - Hypothesized) | 1,086 | |
| | Std. Error | ,454 | |
| | Sig. | ,018 | |
| | 95% Confidence Interval for Difference | Lower Bound | ,187 |
| | | Upper Bound | 1,986 |
| Pos SR vs. Low SP | Contrast Estimate | ,888 | |
| | Hypothesized Value | 0 | |
| | Difference (Estimate - Hypothesized) | ,888 | |
| | Std. Error | ,416 | |
| | Sig. | ,035 | |
| | 95% Confidence Interval for Difference | Lower Bound | ,064 |
| | | Upper Bound | 1,712 |
| High SP vs. Low SP | Contrast Estimate | 1,320 | |
| | Hypothesized Value | 0 | |
| | Difference (Estimate - Hypothesized) | 1,320 | |
| | Std. Error | ,423 | |
| | Sig. | ,002 | |
| | 95% Confidence Interval for Difference | Lower Bound | ,481 |
| | | Upper Bound | 2,158 |

a. Reference category = 1

Appendix H_{1A}

Group Statistics

| | All 5 groups | N | Mean | Std. Deviation | Std. Error Mean |
|--------------------|--------------|----|--------|----------------|-----------------|
| Outcome evaluation | Low SP | 18 | 4,2963 | ,94204 | ,22204 |
| | High SP | 18 | 4,9444 | ,99180 | ,23377 |

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | |
|--------------------|-----------------------------|-----------------------------------------|------|------------------------------|--------|-----------------|-----------------------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Std. Error Difference |
| Outcome evaluation | Equal variances assumed | ,462 | ,501 | -2,010 | 34 | ,052 | ,32241 |
| | Equal variances not assumed | | | -2,010 | 33,910 | ,052 | ,32241 |

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| ,854 | 3 |

Appendix H_{1B}

Group Statistics

| | All 5 groups | N | Mean | Std. Deviation | Std. Error Mean |
|---------------|--------------|----|--------|----------------|-----------------|
| Input product | Low SP | 18 | 3,9444 | 1,06181 | ,25027 |
| | High SP | 18 | 4,9259 | ,90428 | ,21314 |

Independent Samples Test

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | |
|---------------|-----------------------------|-----------------------------------------|------|------------------------------|--------|-----------------|-----------------------|
| | | F | Sig. | t | df | Sig. (2-tailed) | Std. Error Difference |
| Input product | Equal variances assumed | ,002 | ,968 | -2,986 | 34 | ,005 | ,32873 |
| | Equal variances not assumed | | | -2,986 | 33,159 | ,005 | ,32873 |

Reliability Statistics

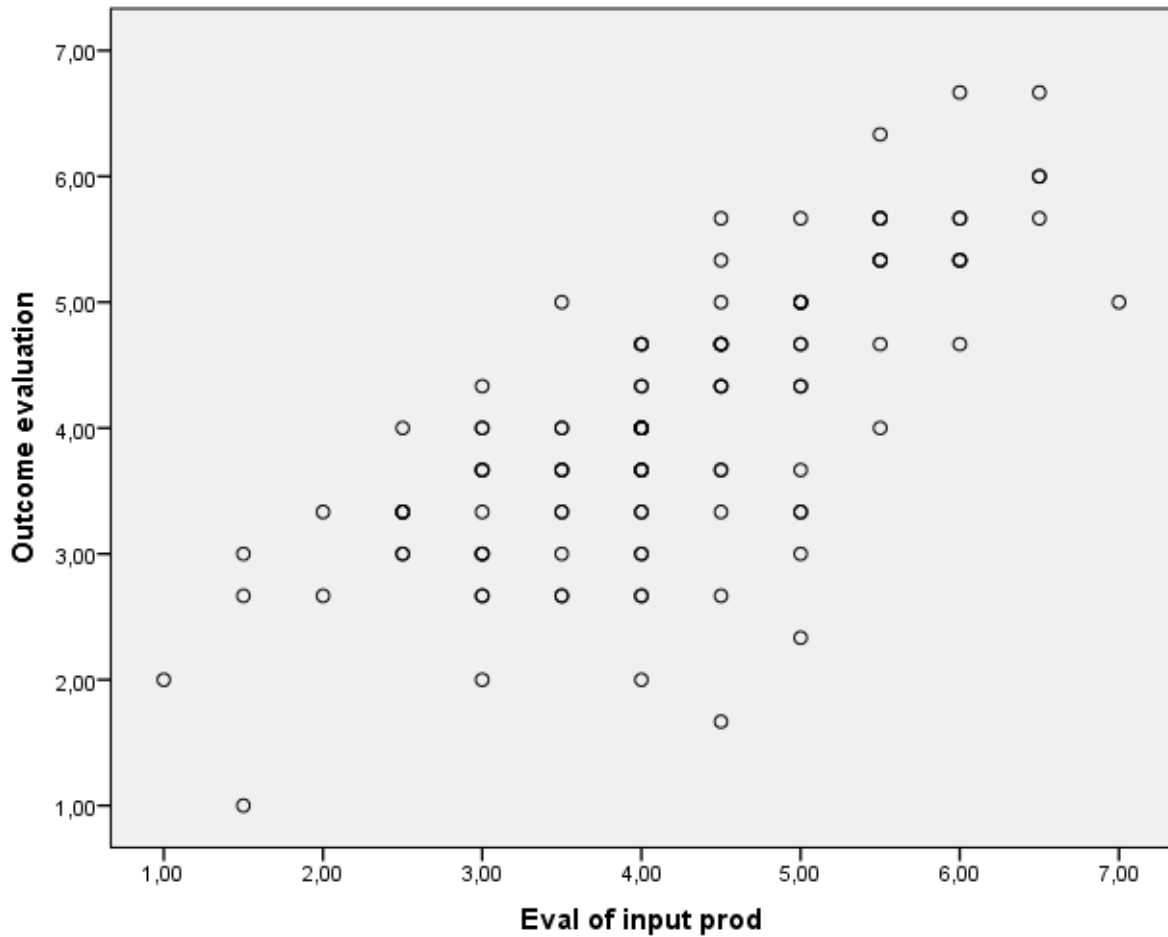
| Cronbach's Alpha | N of Items |
|------------------|------------|
| ,899 | 3 |

Appendix H_{1B}: Correlations

| | | Outcome evaluation | Liker produktet2 - 3 variabler |
|--------------------|---------------------|--------------------|-----------------------------------|
| Outcome evaluation | Pearson Correlation | 1 | ,754** |
| | Sig. (2-tailed) | | ,000 |
| | N | 112 | 112 |
| Input product | Pearson Correlation | ,754** | 1 |
| | Sig. (2-tailed) | ,000 | |
| | N | 112 | 114 |

** . Correlation is significant at the 0.01 level (2-tailed).

Scatter plot



Appendix Mediation

Run MATRIX procedure:

Dependent, Independent, and Proposed Mediator Variables:

DV = VAP_2d

IV = Groups_L

MEDS = Outcome_

Sample size

36

IV to Mediators (a paths)

| | Coeff | se | t | p |
|----------|-------|-------|--------|--------------|
| Outcome_ | ,6481 | ,3224 | 2,0103 | ,0524 |

Direct Effects of Mediators on DV (b paths)

| | Coeff | se | t | p |
|----------|-------|-------|--------|--------------|
| Outcome_ | ,8418 | ,1001 | 8,4070 | ,0000 |

Total Effect of IV on DV (c path)

| | Coeff | se | t | p |
|----------|-------|-------|--------|--------------|
| Groups_L | ,9815 | ,3287 | 2,9857 | ,0052 |

Direct Effect of IV on DV (c' path)

| | Coeff | se | t | p |
|----------|-------|-------|--------|--------------|
| Groups_L | ,4358 | ,1991 | 2,1888 | ,0358 |

Model Summary for DV Model

| R-sq | Adj R-sq | F | df1 | df2 | p |
|-------|----------|---------|--------|---------|-------|
| ,7478 | ,7325 | 48,9301 | 2,0000 | 33,0000 | ,0000 |

NORMAL THEORY TESTS FOR INDIRECT EFFECTS

Indirect Effects of IV on DV through Proposed Mediators (ab paths)

| | Effect | se | Z | p |
|----------|--------|-------|--------|--------------|
| TOTAL | ,5456 | ,2748 | 1,9853 | ,0471 |
| Outcome_ | ,5456 | ,2748 | 1,9853 | ,0471 |

BOOTSTRAP RESULTS FOR INDIRECT EFFECTS

Indirect Effects of IV on DV through Proposed Mediators (ab paths)

| | Data | Boot | Bias | SE |
|----------|-------|-------|-------|-------|
| TOTAL | ,5456 | ,5523 | ,0066 | ,3030 |
| Outcome_ | ,5456 | ,5523 | ,0066 | ,3030 |

Bias Corrected Confidence Intervals

| | Lower | Upper |
|----------|-------|--------|
| TOTAL | ,0112 | 1,2236 |
| Outcome_ | ,0112 | 1,2236 |

Level of Confidence for Confidence Intervals:

95

Number of Bootstrap Resamples:

5000

----- END MATRIX -----

Appendix – test of hypotheses 2-5 (social response)

Appendix H₂

Contrast Results (K Matrix)

| All groups negative = ref5 Simple Contrast ^a | | Dependent Variable |
|----------------------------------------------------------------|-----------------------------------------|--------------------|
| | | Outcome evaluation |
| Low SP vs. Level 5 | Contrast Estimate | 1,053 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | 1,053 |
| | Std. Error | ,283 |
| | Sig. | ,000 |
| | 95% Confidence Interval for Lower Bound | ,491 |
| | Difference Upper Bound | 1,614 |
| Neu SR vs. Level 5 | Contrast Estimate | ,229 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | ,229 |
| | Std. Error | ,261 |
| | Sig. | ,384 |
| | 95% Confidence Interval for Lower Bound | -,290 |
| | Difference Upper Bound | ,747 |
| Pos SR vs. Level 5 | Contrast Estimate | 1,295 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | 1,295 |
| | Std. Error | ,256 |
| | Sig. | ,000 |
| | 95% Confidence Interval for Lower Bound | ,787 |
| | Difference Upper Bound | 1,803 |
| High SP vs. Level 5 | Contrast Estimate | 1,701 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | 1,701 |
| | Std. Error | ,283 |
| | Sig. | ,000 |
| | 95% Confidence Interval for Lower Bound | 1,139 |
| | Difference Upper Bound | 2,262 |

a. Reference category = 5

Appendix H₃

Contrast Results (K Matrix)

| All groups neu = ref5 Simple Contrast ^a | | Dependent Variable |
|----------------------------------------------------|-----------------------------------------|--------------------|
| | | Outcome evaluation |
| Low SP vs. Level 5 | Contrast Estimate | ,824 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | ,824 |
| | Std. Error | ,288 |
| | Sig. | ,005 |
| | 95% Confidence Interval for Lower Bound | ,253 |
| | Difference Upper Bound | 1,395 |
| Neg SR vs. Level 5 | Contrast Estimate | -,229 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | -,229 |
| | Std. Error | ,261 |
| | Sig. | ,384 |
| | 95% Confidence Interval for Lower Bound | -,747 |
| | Difference Upper Bound | ,290 |
| Pos SR vs. Level 5 | Contrast Estimate | 1,066 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | 1,066 |
| | Std. Error | ,261 |
| | Sig. | ,000 |
| | 95% Confidence Interval for Lower Bound | ,548 |
| | Difference Upper Bound | 1,584 |
| High SP vs. Level 5 | Contrast Estimate | 1,472 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | 1,472 |
| | Std. Error | ,288 |
| | Sig. | ,000 |
| | 95% Confidence Interval for Lower Bound | ,901 |
| | Difference Upper Bound | 2,043 |

a. Reference category = 5

Appendix H4

Contrast Results (K Matrix)

| All groups positive = ref5 Simple Contrast ^a | | Dependent Variable |
|----------------------------------------------------------------|-----------------------------------------|--------------------|
| | | Outcome evaluation |
| Low SP vs. Level 5 | Contrast Estimate | -,242 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | -,242 |
| | Std. Error | ,283 |
| | Sig. | ,394 |
| | 95% Confidence Interval for Lower Bound | -,804 |
| | Difference Upper Bound | ,319 |
| Neg SR vs. Level 5 | Contrast Estimate | -1,295 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | -1,295 |
| | Std. Error | ,256 |
| | Sig. | ,000 |
| | 95% Confidence Interval for Lower Bound | -1,803 |
| | Difference Upper Bound | -,787 |
| Neu SR vs. Level 5 | Contrast Estimate | -1,066 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | -1,066 |
| | Std. Error | ,261 |
| | Sig. | ,000 |
| | 95% Confidence Interval for Lower Bound | -1,584 |
| | Difference Upper Bound | -,548 |
| High SP vs. Level 5 | Contrast Estimate | ,406 |
| | Hypothesized Value | 0 |
| | Difference (Estimate - Hypothesized) | ,406 |
| | Std. Error | ,283 |
| | Sig. | ,155 |
| | 95% Confidence Interval for Lower Bound | -,155 |
| | Difference Upper Bound | ,967 |

a. Reference category = 5

Appendix H₅

Reliability Statistics

| Cronbach's Alpha | Cronbach's Alpha Based on Standardized Items | N of Items |
|------------------|----------------------------------------------|------------|
| ,947 | ,947 | 2 |

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| ,725 | 3 |

Descriptive Statistics

Dependent Variable: SE attribution taste exp

| All 5 groups | Mean | Std. Deviation | N |
|--------------------|-------------|----------------|-----|
| Low SP | 3,11 | 1,568 | 18 |
| Negative SR | 2,89 | 1,672 | 27 |
| Neutral SR | 3,17 | 1,711 | 24 |
| Positive SR | 3,04 | 1,506 | 27 |
| High SP | 3,11 | 1,023 | 18 |
| Total | 3,05 | 1,516 | 114 |

Descriptive Statistics

Dependent Variable: SE result attributed to me

| All 5 groups | Mean | Std. Deviation | N |
|--------------------|-------------|----------------|-----|
| Low SP | 2,50 | 1,505 | 18 |
| Negative SR | 2,52 | 1,451 | 27 |
| Neutral SR | 2,83 | 1,579 | 24 |
| Positive SR | 2,93 | 1,615 | 27 |
| High SP | 2,61 | 1,195 | 18 |
| Total | 2,69 | 1,476 | 114 |

Descriptive Statistics

Dependent Variable: SE result attributed to Toro

| All 5 groups | Mean | Std. Deviation | N |
|--------------------|-------------|----------------|-----|
| Low SP | 5,67 | 1,085 | 18 |
| Negative SR | 5,96 | ,854 | 27 |
| Neutral SR | 4,92 | 1,472 | 24 |
| Positive SR | 5,41 | 1,366 | 27 |
| High SP | 5,94 | ,725 | 18 |
| Total | 5,56 | 1,205 | 114 |

Appendix H₅

One-Sample Statistics

| | N | Mean | Std. Deviation | Std. Error Mean |
|--------------------------|----|------|----------------|-----------------|
| SE attribution taste exp | 27 | 2,89 | 1,672 | ,322 |

One-Sample Test

| | Test Value = 4 | | | |
|--------------------------|----------------|----|-----------------|-----------------|
| | t | df | Sig. (2-tailed) | Mean Difference |
| SE attribution taste exp | -3,453 | 26 | ,002 | -1,111 |

One-Sample Statistics

| | N | Mean | Std. Deviation | Std. Error Mean |
|----------------------------|----|------|----------------|-----------------|
| SE result attributed to me | 27 | 2,52 | 1,451 | ,279 |

One-Sample Test

| | Test Value = 4 | | | |
|----------------------------|----------------|----|-----------------|-----------------|
| | t | df | Sig. (2-tailed) | Mean Difference |
| SE result attributed to me | -5,305 | 26 | ,000 | -1,481 |

One-Sample Statistics

| | N | Mean | Std. Deviation | Std. Error Mean |
|------------------------------|----|------|----------------|-----------------|
| SE result attributed to Toro | 27 | 5,96 | ,854 | ,164 |

One-Sample Test

| | Test Value = 4 | | | |
|------------------------------|----------------|----|-----------------|-----------------|
| | t | df | Sig. (2-tailed) | Mean Difference |
| SE result attributed to Toro | 11,943 | 26 | ,000 | 1,963 |

Appendix Experiment full procedure

Phase 1 – Preparation

Ambiguous food

The ambiguous food was prepared in advance, typically 5-6 hours before the participants started arriving. This was due to the large amounts of ambiguous food that were needed to be able to perform a plausible switch of the food with the food that the participants had made. The full amount of ambiguous dish was made following the modified recipe for five portions (appendix recipe ambiguous food), and it took about 3-4 hours to make all of it. The food was prepared in another location and brought to the venue by car each day.

Preparing the location

Ingredients and equipment for the participants

The location of the experiment was at a school kitchen for a Norwegian junior high school. The school kitchen was equipped with five ovens, with four hobs at each. Each participant had access to two hobs. The working station of each participant, including ingredients and equipment, will hereby be referred to as a cooking station.

To ensure that everything went smoothly, each of these cooking stations were ID-marked in advance, corresponding to the ID's the participants received during their briefing. The main purpose of this was to ensure that the later food switch would go smoothly. The participants in the experiment were provided with the following ingredients, corresponding to two portions (an entire dinner kit would be four portions).

- 53 g of dinner kit powder
- 1 dl sour cream
- 3 dl water
- 200g of minced meat
- A small piece of butter
- Salt
- Pepper

Equipment:

- Spatula
- Scraper
- Frying pan
- Whisk
- Sauce pan

The ingredients were typically measured up about one hour before the participants arrived and stored in a refrigerator (sour cream and minced meat), or in the storage/test room (dinner kit powder). In addition to the ingredients and equipment, each station was provided with two spoons and one small plate related to the taste process later on in the experiment. All cooking stations were equipped with the same amount of ingredients and the same type of equipment. The participants were supposed to use all of the ingredients, with the exception of the salt and pepper which they could decide for themselves if and how much they wanted to use.

Preparing waiting room

Before the participants arrived, seating was made available in the waiting room. In addition, some light foods were prepared; apples, oranges and some light bread and butter. Consent forms with corresponding IDs for the participants who had signed up for that session, were handled by an assistant.

Placing questionnaires

For this experiment the participants had to fill out two questionnaires. The first should be filled out after the participants had prepared the food, but not yet tasted it. This questionnaire was located in the hall at the second floor of the building, removing the participants from the kitchen and enabling the authors and assistants to switch the dish prepared by the participants with the ambiguous one. The second questionnaire was placed at a long table in the kitchen, allowing the participants to start filling them out immediately after they had tasted what they thought was their dish, but what really was the ambiguous dish prepared in advance.

Preparing storage room/test panel room

As the participants were going to receive social feedback on their cooking, there was need for a credible source of feedback. This problem was solved by creating a fictitious test panel, located behind a curtain in the end of the kitchen. The panel itself did not consist of any

people, but as the area was hidden behind a curtain the participants had no way of knowing that the test panel did not really exist. During all of the experiment, one or two of the assistants responsible for monitoring the ambiguous food was behind the curtain (in the storage room/test panel room), and as such giving an impression that there was an actual test panel. An informal test was performed in advance to check that it seemed likely that a test panel was located behind the curtain, and gave positive results. A suspicion check was done in the questionnaires, and none of the participants suspected the test panel to be fake. In addition, a radio played from a Norwegian radio station during the experiment, so that the participants could not hear what was going on behind the curtain. More information on the cooking process itself will be elaborated on under phase 3.

Phase 2 – Arrival of participants and briefing

Arrival

At arrival the participants were greeted and guided to a welcome room. This room was supervised by one of the assistants, whose main responsibility was to make sure that hungry participants grabbed something to eat. This was to prevent the participants' taste perceptions from being distorted by hunger. Other tasks assigned to the assistants were to answer calls from late arriving participants, and to keep them occupied while the authors and other assistants prepared the kitchen. After being greeted, the participants were assigned an ID-number along with their consent form.

Briefing

After reading the consent form, and signing it, the participants were briefed by one of the authors. They were informed about what they were supposed to do, and how they should behave during the experiment (explained in detail below). To not arouse suspicion the word "experiment" was never used during this briefing, instead it was referred to as "the cooking and tasting of TORO Jegergryte".

About the cooking and tasting

First the participants were told that they would participate in cooking and tasting of a dinner kit from a known Norwegian food brand, namely TORO. The dish was TORO Jegergryte. They were told that to make this as realistic to a normal consumer situation as possible, and to pretend to be in the following scenario:

- They are in their own homes, preparing a meal for an acquaintance who has just arrived.
- They prepare the meal in the kitchen, while the acquaintance waits in the living room.

Next, they were informed that since it was realistically impossible to have any one of their acquaintances test their food, one person from a test panel consisting of random normal people would taste their food and give them a written feedback. The participants were told that they were to fill out two questionnaires during this session. The first one concerning the food preparation process, the second one concerning the taste.

The rundown of the cooking and tasting-session, as explained to the participants, was:

- 1) Prepare the food after the recipe provided.
- 2) When done, follow the assistant to the hallway in the second floor, where the you will fill out a questionnaire about the experience of preparing the food.
- 3) Return to the kitchen laboratory.
- 4) Put a spoon of the dish on a plastic plate and have one of the assistants or scientists deliver it to the test panel.
- 5) Taste the food (only a small piece).
- 6) Receive the feedback from the test panel on a written note, without showing it to anyone else.
- 7) Fill out questionnaire part 2 about the taste.
- 8) Done – you can now eat.

Behavioral instructions

- Since you are to pretend to be in your own kitchen, the other people in present “are not really there”. Therefore you can not talk to each other or interact in any other way.
- Since people easily get influenced by others, you are not allowed to give any oral or visual response to others on how you feel the food tastes.
- You are not allowed to get a visual impression of any of the members of the test panel, or vice versa. Therefore the test panel are hidden behind a curtain. The reason for this is that a visual impression could bias the test panel’s evaluation (which should be objective).

When all of this was understood, the practicalities were explained:

- Every cooking station has a fixed set of ingredients, all measured up and ready.
- It also has all the equipment you will need.
- The recipe (adapted to 2 portions of finished dish) is on a piece of paper at the cooking station, and so are the general rules.

As soon as the participants were done with the briefing, they were guided from the welcome room into the kitchen laboratory.

Phase 3 - Food preparation by the participants

When entering the kitchen laboratory, the participants were instructed to find their cooking station, and to wash their hands for hygienic reasons. After a short recap of the briefing, the participants were given permission to start. The authors and assistants stayed in the kitchen during the cooking, to answer questions from the participants. They surveilled the process and did any necessary cleaning to keep up with the schedule. At the finishing stages of the cooking process, the participants were told to raise one hand to signal that they were done preparing their meal. As soon as 3-5 participants were done, they were guided by one of the authors or assistants to the second floor to fill out the first questionnaire.

Phase 4 - Food switch

When all the participants had left the room, the remaining authors and assistants started to switch the participant's food with the ambiguous. To keep track of the food, all sauce pans were marked with the corresponding ID before being brought into the panel room. Every cooking station were cleaned properly, as the only items left at each station would be the ambiguous food, the two spoons for tasting, and the small plate for taste sampling. The ambiguous food was brought in from the panel room, just before the participants were to arrive after filling out questionnaire 1. This was necessary to keep the food realistically warm before the tasting.

Phase 5 - Questionnaire 1 – about food preparation

While the authors performed the food switch, the participants were guided to the hall of the second floor where they filled out the questionnaire. One of the authors supervised and answered questions about the questionnaire. When the participants were done, the author present communicated through SMS with the other author in the kitchen, and led the participants downstairs as soon as the switch had been made.

Phase 6 - Tasting

As the participants entered the kitchen, they were told to find their cooking stations. They were instructed to use one spoon to taste the food, and the other spoon to take some of the food over to the smaller plate for the person in the test panel to taste.

Phase 7 - Social feedback

The authors then collected, according to the ID system, each taste sample and brought behind the curtain for an evaluation of the dish by the fictitious test panel. The written evaluation was returned to the participant, and he or she were given permission to sit down and start filling out questionnaire 2. There were three different forms of social feedback. It was decided to use a scale from 1 to 7, with 1 being the worst and 7 being the best.

- Group 1 received a positive evaluation; a score of 6 on a scale from 1 to 7.
- Group 2 received a neutral evaluation; a score of 3.5 on a scale from 1 to 7.
- Group 3 received a negative evaluation; a score of 2 on a scale from 1 to 7.

The participants were told not to look at their evaluation before sitting down, and to avoid talking about it or showing any reaction to the other participants.

Phase 8 - Questionnaire 2 – about taste

As they filled out questionnaire 2, they were told to follow their gut regarding similar looking questions. Both the authors supervised the participants and answered any questions they may have had about the questionnaire. When all participants were finished, they were allowed to start eating.

Phase 9 – Debrief

After all the participants had filled out their questionnaires they were informed about the food switch, and the purpose of the experiment. At this point the participants were given the dish they had prepared themselves, which had been hidden behind the curtain since phase 4.

Appendix - Experiment procedure: low self-production control group

Phase 0 - Preparation

To be well prepared, we arrive at the school at least an hour before the first group of participants. Our equipment is already in place, as we put it there after the pre-test run. We start off by preparing logistics and food:

Logistics

- Putting out chairs for everyone in the lobby and in the hallway, making a long table for eating and filling out the questionnaire (remember that questionnaire 1 and 2 have been merged for the low self-production group), and placing a radio in the kitchen
- Making sure all participants have a consent form (lobby) and a pen for each form and for the questionnaire
- Hanging up a drawn map in front of the school showing the participants where to arrive, and other posters inside showing where the bathroom facilities and entry room (lobby) are
- Giving every participant an unique ID, hereby connecting them to their working station and making us able to keep track of the participation

Food

- Heating the ambiguous dish in the one big pan a little bit, so that the participants can collect it from there later.
- Slices of bread, some butter and fresh fruit are prepared and put in the lobby for the participants (to prevent a positive evaluation bias caused by hunger)

Phase 1 - Welcoming

The participants start arriving, and are welcomed by an assistant in the lobby or Mikkel/Jon Helge (from now on referred to as 'the scientists'). The assistant in the lobby is responsible for registering the participants, making them sign the consent form, answer calls from late participants, inform them of what's going to happen, and keeping them company. At the same time, the scientists and assistants continue to prepare phase 0. When all participants have arrived, they are given a briefing of what they are about to do. The briefing can be described as:

Briefing

- The participants are instructed to imagine the following scenario: *"You have ordered meal which is delivered to your door and you have to heat it yourself before tasting and eating it"*
- The next steps are briefly explained:
 - Get in line, receive the food from the big pan, go to your cooking station and heat it for 2-3 minutes. When it is sufficiently hot (not too hot), wait for a while, taste it, and fill out the questionnaire. When you have done this, you could eat.
- They are informed why we have a consent form and that they have the right to withdraw from the experiment at any time. They also get their ID on a sticker.
- They get instructed not to talk to each other
- To keep it from being too quiet, we have a radio in the kitchen
- In the kitchen:
 - Wash your hands before starting to make food
 - NO communication with other participants before the experiment is over
 - Give a signal to scientists or assistants if you have a question and when you are done with the cooking, and with the questionnaire.

Phase 2 - Cooking

The participants are guided to the kitchen where they collect a pot from their cooking station, and then get in line in front on the big pan. Here, one of the assistants keeps the food relatively warm, and gives each person their share. The participants then move on to their cooking stations, where they heat their food. When the cooking is done, the participants are being told to let the meal cool down for a while.

Phase 3 - Tasting and questionnaire

The participants taste their dish, and then go on to sit down at the long table, and start filling out their questionnaire. When it comes to filling out the questionnaire, they are told to:

- Remember to put in their ID
- If anything is unclear about the phrasing, just ask the scientists
- If some questions seem similar, just answer anyway. When in doubt, follow your gut
- When everyone have finished the questionnaire, they can all eat

Phase 4 - Debriefing

After filling out the questionnaires, the participants are told they can eat. But we usually stop them before they start eating to "spoil" the plot. We start this by asking them what they think was the purpose of this experiment. After receiving their answers we tell them what we just did, and why. We tell them that the quality of the meal in front of them is not representative for TORO Jegergryte, as the version they tasted was a less tasty version, with more water and "maizenna".

- There is salt, pepper, water, dishes, spoons and lingonberry jam at the table to use for eating their real meal
- That the most important focus for this experiment is that they DO NOT tell other friends or future participants about what was really going on here, as it would make our research useless
- That they receive a gift certificate worth 100 NOK each (sponsored by TORO), for helping us out
- That an iPad will be given to one lucky participant, and that the draw will take place after the experiment phase is due
- Just to be sure: DO NOT talk about this to friends/participants

When the debriefing is done, one of the scientists keeps the group company while the other and the assistants do some dishwashing and starts putting out equipment and food for each working station (for the next group). As soon as this is under control, we prepare for the next group. An assistant should already be in place in the lobby to welcome new participants, and one of the scientists should prepare the briefing for the coming group. The former group gathers their stuff and leaves, while we start over with the next group.

Appendix - Experiment procedure: High self-production with social response

Phase 0 - Preparation

To be well prepared, we arrive at the school at least an hour before the first group of participants. Our equipment is already in place, as we put it there after the pre-test run. We start off by preparing logistics and food:

Logistics

- Putting out chairs for everyone in the lobby and in the hallway, making a long table for eating and filling out questionnaire 2, placing a radio in the kitchen
- Making sure all participants have a consent form (lobby), questionnaire 1 (hallway) and 2 (kitchen), and a pen for each form
- Hanging up a drawn map in front of the school showing the participants where to arrive, and other posters inside showing where the bathroom facilities and entry room (lobby) are
- Handing out necessary equipment for cleaning at each working station
- Giving every participant an unique ID, hereby connecting them to their working station and making us able to keep track of the participation
- Handing out a set of rules and the recipe for TORO Jegergryte for all working stations
- Handing out cooking equipment for all working stations
- A curtain is placed to shield the participants from the social response panel

Food

- Giving all participants the ingredients they need to make TORO Jegergryte
- All participants who are to receive a social response get a cardboard bowl and two spoons at their working station for sampling later in the experiment
- All the spare food are placed either in the refrigerator or in the panel room
- Every working station have salt and pepper which the participants can use to put their own "stamp" on the meal
- Slices of bread, some butter and fresh fruit are prepared and put in the lobby for the participants

Phase 1 - Welcoming

The participants start arriving and are welcomed by an assistant in the lobby or Mikkel/Jon Helge (from now on referred to as “the scientists”). The assistant in the lobby is responsible for registering the participants, making them sign the consent form, answer calls from late participants, inform them of what's going to happen, and keeping them company. At the same time, the scientists and assistants continue to prepare phase 0.

When all participants have arrived, they are given a briefing of what they are about to do. The briefing can be described as:

Briefing

- The participants are instructed to imagine the following scenario: *"You have a friend/acquaintance over for dinner. The person is sitting in the main room while you are making food for both of you in the kitchen."*
- The next steps are briefly explained:
 - Cook the food, fill out questionnaire 1 while the food is cooling, taste your own food, serve the food to a person in the test panel (receive a note with a written response), fill out questionnaire 2, and finally start to eat
- They are informed why we have a consent form and that they have the right to withdraw from the experiment at any time. They also get their ID on a sticker.
- They are told not to talk to each other or the person behind the curtains. To keep it from being too quiet, we have a radio in the kitchen.
- They are allowed to taste the food one - 1 - time during the cooking
- In the kitchen:
 - Ingredients and recipes are ready at each working station
 - Wash your hands before starting to make food
 - NO communication with other participants before the experiment is over
 - Give a signal to scientists or assistants if you have a question and when you are done

Phase 2 - Cooking

The participants are guided to the kitchen where they find their own working station marked with their ID number. Each participant shares an oven with another participant (5 ovens = 10 working stations). The working stations are, as earlier described, filled with the necessary equipment and ingredients.

As the participants start cooking, the scientists and assistants are available for questions and also does the dishwashing/cleaning as soon as the participants are done with some of the equipment.

When the cooking is done, the participants are being told to let the meal cool down while they wait for more participants to be ready. When 3-5 persons are done, one of the scientists escorts them to the hallway where they are to fill out questionnaire 1. The participants are being informed that:

- Some time is needed to do the dish washing
- The food will be ready for tasting once they come back to the kitchen

At the same time as the participants are cooking, the ambiguous food is being heated by the panel room assistant in the panel room.

Phase 3 - Questionnaire 1

One of the scientists follows the participants to the hallway. Here questionnaire 1, chairs, and pens are ready. The process continues until all the participants are gathered there. Then the scientist or an assistant accompanies the participants while they are filling out the forms. The presence is needed to prevent them from talking to each other and to answer any questions they may have about the questionnaire.

Meanwhile, in the kitchen, assistants and the scientist(s) start doing a number of tasks simultaneously:

- Putting stickers on all the boilers with the correct ID, and bringing the boilers to the panel room
- Cleaning all working stations
- Making sure every working station has a plate for the test panel
- Preparing the ambiguous food and bringing it out to the working stations (this happens right before the participants return to keep the food as warm as possible)

Phase 4 - Tasting, social response and questionnaire 2

When everything is ready in the kitchen, the participants come back for the tasting and the social response. They are told that they will be graded on a written scale from 1-7, where 1 is bad and 7 is great. There are possibilities of getting "half grades", such as 3.5 for instance.

The participants are told to use one of the plastic spoons to put some of the meal over in the cardboard bowl (for the person behind the panel), and use the other spoon to taste the meal themselves.

Each cardboard bowl is taken behind the panel by an assistant or the scientists, who returns with a written social response from the panel behind the curtains. The participants can't look at their grade before filling out questionnaire 2, and must also avoid showing their grades to others and talk about it. When the participant has tasted the meal and received the social response, they are to fill out questionnaire 2.

When it comes to filling out questionnaire 2, they are told to:

- Remember to put in their ID
- If anything is unclear about the phrasing, just ask the scientists
- If some questions seem similar, just answer anyway. When in doubt, follow your gut
- When everyone have finished the questionnaire, they can all eat

As the participants fill out their questionnaires, assistants and the scientists continue cleaning. The panel room assistant still hides behind the panel.

Phase 5 - Debriefing

After filling out the questionnaires, the participants are told they can eat. But they are usually stopped before they start eating, as we "spoil" the plot. We start this by asking them what they think was the purpose of this experiment. After receiving their answers we tell them what we just did, and why. We also tell them that what they have in front of them now, isn't their real meal. At this point we start bringing out the real meal from behind the panel so they can eat their own food. Each boiler is marked with the right ID (from phase 3). During the debriefing we also tell them:

- There was no test panel, only a bunch of pre-defined responses (grades)
- The version they tasted was a less tasty version, with more water and "maisenna". We stress that this is NOT representative for the quality of a regular TORO meal
- There is salt, pepper, water, dishes, spoons and lingonberry jam at the table to use for eating their real meal

- The most important focus for this experiment is that they DO NOT tell other friends or future participants about what was really going on here, as it would make our research useless
- That they receive a gift certificate worth 100 NOK each (sponsored by TORO), for helping us out
- That an iPad will be given to one lucky participant, and that the draw will take place after the experiment phase is due
- Just to be sure: DO NOT talk about this to friends/participants

When the debriefing is done, one of the scientists keeps the group company while the other and the assistants (including the panel room assistant) do some dishwashing and starts putting out equipment and food for each working station (for the next group). As soon as this is under control, we prepare for the next group. An assistant should already be in place in the lobby to welcome new participants, and one of the scientists should prepare the briefing for the coming group. The former group gathers their stuff and leaves, while we start over with the next group.

Appendix - Experiment procedure: High self-production control group

Phase 0 - Preparation

To be well prepared, we arrive at the school at least an hour before the first group of participants. Our equipment is already in place, as we put it there after the pre-test run. We start off by preparing logistics and food:

Logistics

- Putting out chairs for everyone in the lobby and in the hallway, making a long table for eating and filling out questionnaire 2, placing a radio in the kitchen
- Making sure all participants have a consent form (lobby), questionnaire 1 (hallway) & 2 (kitchen), and a pen for each form
- Hanging up a drawn map in front of the school showing the participants where to arrive, and other posters inside showing where the bathroom facilities and entry room (lobby) are
- Handing out necessary equipment for cleaning at each working station
- Giving every participant an unique ID, hereby connecting them to their working station and making us able to keep track of the participation
- Handing out a set of rules and the recipe for TORO Jegergryte for all working stations
- Handing out cooking equipment for all working stations
- A curtain is placed to shield the participants from the social response panel

Food

- Giving all participants the ingredients they need to make TORO Jegergryte
- All the spare food are placed either in the refrigerator or in the panel room
- Every working station have salt and pepper which the participants can use to put their own "stamp" on the meal
- Slices of bread, some butter and fresh fruit are prepared and put in the lobby for the participants

Phase 1 - Welcoming

The participants start arriving, and are welcomed by an assistant in the lobby or Mikkel/Jon Helge (from now on referred to as 'the scientists'). The assistant in the lobby is responsible for registering the participants, making them sign the consent form, answer calls from late

participants, inform them of what's going to happen, and keeping them company. At the same time, the scientists and assistants continue to prepare phase 0. When all participants have arrived, they are given a briefing of what they are about to do. The briefing can be described as:

Briefing

- The participants are instructed to imagine the following scenario: *"You have a friend/acquaintance over for dinner. The person is sitting in the main room while you are making food for both of you in the kitchen."*
- The next steps are briefly explained:
 - Cooking, filling out questionnaire 1 while the food is cooling, tasting your own food, filling out questionnaire 2, and finally eating
- They are informed why we have a consent form and that they have the right to withdraw from the experiment at any time. They also get their ID on a sticker.
- They get instructed not to talk to each other. To keep it from being too quiet we have a radio in the kitchen
- They are allowed to taste the food one - 1 - time during the cooking
- In the kitchen:
 - Ingredients and recipes are ready at each working station
 - Wash your hands before starting to make food
 - NO communication with other participants before the experiment is over
 - Give a signal to scientists or assistants if you have a question and when you are done

Phase 2 - Cooking

The participants are guided to the kitchen where they find their own working station marked with their ID number. Each participant shares an oven with another participant (5 ovens = 10 working stations). The working stations are, as earlier described, filled with the necessary equipment and ingredients. As the participants start cooking, the scientists and assistants are available for questions and also does the dishwashing/cleaning as soon as the participants are done with some of the equipment. When the cooking is done, the participants are being told to let the meal cool down while they wait for more participants to be ready. When 3-5 persons are done, one of the scientists escorts them to the hallway where they are to fill out questionnaire 1. The participants are being informed that:

- Some time is needed to do the dish washing
- The food will be ready for tasting once they come back to the kitchen

At the same time as the participants are cooking, the ambiguous food is being heated by the panel room assistant in the panel room.

Phase 3 - Questionnaire 1

One of the scientists follows the participants to the hallway where questionnaire 1, chairs and pens are ready. This goes on until all the participants are gathered there. Then the scientist or an assistant accompanies the participants during the time they are filling out the forms - to prevent them from talking to each other and for answering any questions they may have about the questionnaire. Meanwhile, in the kitchen, assistants and the scientist(s) start doing a number of tasks simultaneously:

- Putting stickers on all the boilers with the correct ID, and bringing the boilers to the panel room.
- Cleaning all working stations
- Preparing the ambiguous food and bringing it out to the working stations (this happens right before the participants return to keep the food as warm as possible)

Phase 4 - Tasting and questionnaire 2

When everything is ready in the kitchen, the participants come back for the tasting. When the participant has tasted the meal, they are to fill out questionnaire 2. When it comes to filling out questionnaire 2, they are told to:

- Remember to put in their ID
- If anything is unclear about the phrasing, just ask the scientists
- If some questions seem similar, just answer anyway. When in doubt, follow your gut
- When everyone have finished the questionnaire, they can all eat

As the participants fill out their questionnaires, assistants and the scientists continue cleaning. The panel room assistant is still hidden behind the panel.

Phase 5 - Debriefing

After filling out the questionnaires, the participants are told they can eat. But we usually stop them before they start eating to "spoil" the plot. We start this by asking them what they think was the purpose of this experiment. After receiving their answers we tell them what we just did, and why. We also tell them that what they have in front of them now, isn't their real

meal. At this point we start bringing out the real meal from behind the panel so they can eat their own food. Each boiler is marked with the right ID as we did in phase 3. During the debriefing we also tell them:

- That the version they tasted was a less tasty version, with more water and "maizenna". We stress that this is NOT representative for the quality of a regular TORO meal
- There is salt, pepper, water, dishes, spoons and lingonberry jam at the table to use for eating their real meal
- That the most important focus for this experiment is that they DO NOT tell other friends or future participants about what was really going on here, as it would make our research useless
- That they receive a gift certificate worth 100 NOK each (sponsored by TORO), for helping us out
- That an iPad will be given to one lucky participant, and that the draw will take place after the experiment phase is due
- Just to be sure: DO NOT talk about this to friends/participants

When the debriefing is done, one of the scientists keeps the group company while the other and the assistants (including the panel room assistant) do some dishwashing and starts putting out equipment and food for each working station (for the next group). As soon as this is under control, we prepare for the next group. An assistant should already be in place in the lobby to welcome new participants, and one of the scientists should prepare the briefing for the coming group. The former group gathers their stuff and leaves, while we start over with the next group.

Appendix Recipe ambiguous food

One (big) portion for 4-5 people

1 “Jegergryte”

1 sour cream (0.33 liters)

500 g minced meat

6 full spoons of maizenna

1.4 liters of water

1 dash caramelized sugar («sukkerkulør»)