Vegetables in Kindergarten

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A study of social psychological factors involved in vegetable serving in Norwegian kindergartens
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Abstract

In Oslo the amount of vegetables served in kindergarten is considerably lower than suggested by national authorities. This is a concern for both immediate and long-term health issues. The aim of the study was to investigate factors that contribute to vegetable serving in kindergartens. These factors could then be targeted in future interventions in order to increase vegetable serving in kindergartens. The study investigated social psychological factors in vegetable serving. This included collective efficacy, goal commitment, group goal commitment, perceived barriers and attitudes. The sample of the study was 27 kindergartens consisting of 272 individual respondents. Respondents were given questionnaires, which were later analyzed by using quantitative and qualitative methods. The results indicated that in general, employees’ attitudes towards vegetable serving are favorable and that intention to serve vegetables is present among employees. Collective efficacy positively predicts vegetable serving. Goal commitment and group goal commitment both positively predicts vegetable serving, but group goal commitment is a slightly stronger predictor. Group goal commitment was also found to be a mediator between collective efficacy and vegetable serving. Economy, time-pressure, children’s taste-preferences, psychological factors and low availability/variety of vegetables were found to be important barriers for not serving vegetables in kindergarten. Implications of the study are that future interventions and research should focus upon group-processes and teamwork in kindergartens.
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1. Introduction


This is the way the very popular Norwegian children’s song written by Thorbjørn Egner in the 1950s goes. It emphasizes the importance of eating vegetables to have good health, and the message is just as important and relevant today as it was six decades ago. Children sing this song in kindergartens all over Norway. However, many kindergartens do not practice what is preached in the song. 5,3 % of kindergartens in Oslo report to never provide their children with vegetables (Paulsen, Høvding, Andersen, & Kristiansen, 2012a). This is a health-issue of concern.

Meanwhile, a recent study reports that 16 % of Norwegian third graders are overweight (Hovengen & Strand, 2011). See Figure 1 in Appendix A. This increases the chances of developing diseases both at the present time and later in life. Higher prevalence of lifestyle diseases is costly both for the individual in terms of lower quality of life and costly for the society in terms of lowered work-productivity, a pressed health care system and in turn financial strain. Overweight could also lead to negative body image and social stigma, which can cause poor psychological health as well (Puhl & Latner, 2007; Strauss & Pollack, 2003). Therefore the need to prevent children from becoming overweight is of great importance. This prevention must start early in life, before the children get the opportunity to become overweight. It should start already in kindergarten.
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Prevention of overweight should be done by making the children adopt healthy food habits. Vegetables are an important part of a healthy diet, and contribute to prevention of overweight and disease (Bazzano, 2005). It is estimated that 1, 7 million people die every year due to inadequate consumption of fruit and vegetables (World health Organizaton, 2014). The Norwegian Directorate of Health recommends five servings of fruit and vegetables every day (Helsedirektoratet, 2011). About half of this amount should be vegetables. However, it is estimated that about 80-90 % of people eat less vegetables than what is recommended (Nasjonalt råd for ernæring, 2011). If the recommendations are followed, about 10-15 % of heart diseases and diet-related forms of cancer could be prevented (Opplysningskontoret for frukt og grønt, n.d.).The recommendation applies to both children and adults, but is even more significant for children who are in development and healthy nutrient is essential for healthy growth.

The responsibility of serving children healthy food and vegetables is first and foremost the responsibility of parents, and what kinds of meals children receive at home is of great importance. The society can however also make a difference in helping the children establish healthy food habits. Serving vegetables in kindergarten is an easy way to make vegetables a part of children’s daily diet, and thereby help building healthy eating habits. Kindergartens are also a basic institution in society that reaches children with diverse backgrounds and provides them with equal opportunities. An intervention in this institution is easy and economical because of the wide reach across society.

2. Background: Kindergartens do not serve enough vegetables

The positive effects of eating vegetables in well communicated through media and other channels. Regional and communal organizations which is responsible for the health among citizens, like for example Helseetaten in Oslo, has a focus upon vegetable serving in kindergartens. Still many Norwegian kindergartens do not serve their children sufficient
amounts of vegetables, and some do not serve vegetables at all (Paulsen et al., 2012a). A survey done by Helseetaten indicates that only 32.1% of kindergartens in Oslo serve fresh vegetables to the children five days a week, and that 5.3% of kindergartens in Oslo seldom or never serve vegetables to the children (Paulsen et al., 2012a). See table 1 in Appendix A. Not all kindergartens participated in the survey, so the numbers of kindergartens not serving vegetables may be even higher. A similar survey on the national level included 1100 kindergartens from all Norway. The survey indicated that only 35.6% serve vegetables five days a week, and that 3.6% of kindergartens seldom or never serve vegetables (Paulsen, Høvding, Andersen, & Kristiansen, 2012b). See table 2 in Appendix A. In general it seems like it have been done little previous research upon vegetable serving in kindergartens, both on a national and international level. A literature research was conducted using Google scholar to locate any previous research upon the topic, but with no success. It is therefore important to start investigating vegetable serving in kindergartens.

2.1. Aim of the thesis

The important question is why kindergartens do not serve enough vegetables. It cannot be because the childcare providers do not have sufficient amount of knowledge about the beneficial health effects of vegetables. This is frequently communicated to them by both Helsedirektoratet, Helseetaten and the media (e.g. Helsedirektoratet, 2007). It is also probably not because the childcare providers do not care about the children´s health. Most childcare providers are probably dedicated to their work and to the children they supervise. There must be other factors influencing why they do not serve enough vegetables. If the factors that influence vegetable serving in kindergarten are researched, they can be targeted in interventions so that vegetable serving will increase.

External factors and practical barriers may be of significance, but psychological factors are probably just as important to explain why vegetables are not served. Social psychological
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factors may be especially interesting to investigate. In kindergarten the staff work interdependent and in interaction with each other. They are part of a group, and so group processes will influence vegetable serving. In order to serve vegetables they need to act as a group. This thesis will therefore investigate possible social psychological factors among employees in kindergartens that contribute to them serving vegetables to the children. The focus will be upon group factors like collective efficacy, goal commitment, group goal commitment, attitudes to vegetable serving and perceived barriers. Social cognitive theory, goal setting theory and the theory of planned behavior will be used as a theoretical foundation in the thesis.

The reason for the focus upon group processes is that one can assume that the kindergartens have a prescriptive norm of serving vegetables, since the importance of serving vegetables is already strongly communicated to them by Helseetaten and other channels. How they choose to do it is up to each kindergarten. This is something they need to decide upon and do together as a group. Investigation of group processes and collective behavior are therefore important.

Given the existing prescriptive norm of serving vegetables, the kindergarten staff knows that it is expected from them to serve vegetables, and one can expect that they have a goal to do so. Investigating commitment to this goal is therefore important. Because they goal of serving vegetables is probably already present, it is also necessarily to look into which barriers the staff experience that stops them from completing the goal and serve vegetables.

The present study is based upon a request from Helseetaten in Oslo to gain more knowledge on vegetable serving in kindergartens in order to increase the serving. Lack of research on the topic of vegetable serving in Norwegian kindergartens makes it important to start investigating, so that positive changes can be made. For this reason the present study was conducted as a master thesis to get more knowledge of vegetable serving in kindergartens.
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The study is part of a project that consists of two separate studies. The first study consists of investigating factors that contribute to vegetable serving in kindergartens. This study will be the focus of this thesis. The second study consists of a practical intervention to increase vegetable serving in kindergartens. This study can be read about in a separate thesis, written by co-student Christine Vollan at the University of Oslo.

3. Social psychological factors in vegetable serving in kindergartens

To explain why some kindergartens are better at serving vegetables, researching social psychological factors is important. This is because the staff in a kindergarten is a social group in which members interact with each other on a daily basis. The perceptions and behavior of group members is likely to influence both the other individuals in the group and the general social environment.

The theory of planned behavior (Ajzen, 1991) emphasizes the role of norms, attitudes and efficacy beliefs in explaining behavior. The norm of vegetable serving is assumable already present in the kindergarten. This is because of the pressure from Helseetaten and national policies to serve vegetables in the kindergarten. They believe this is what they should do. One can therefore assume that the employees have positive attitudes towards serving vegetables in kindergarten, but it would be important to check this assumption. The employee’s efficacy-beliefs for serving vegetables would be interesting to investigate further. It would be relevant to look at the efficacy-belief for the group’s ability to serve vegetables, not for the individual, because of the fact that serving vegetables in kindergarten is a group-task. Social cognitive theory (Bandura, 1985) also strongly emphasizes the role of efficacy, and efficacy beliefs have been found to predict various behavior (e.g. Bandura, 1997).

The group’s commitment to the goal of serving vegetables would also be important to investigate. This is because even though the kindergartens have a prescribed norm and therefore probably created a goal of serving vegetables, they may not be fully committed to
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the goal. Then vegetable serving will be much harder to see through. Goal setting theory
(Locke & Latham, 1990) describes goal commitment as an important factor in goal
achievement and research indicates that strong commitment to a goal improves performance
(Locke & Latham, 2002). The strength of commitment the group has to the goal of serving
vegetables may therefore explain the amount of vegetables they serve.

Perceived barriers in the group regarding vegetable serving would also be important to
investigate. This aspect is also based upon social cognitive theory (Bandura, 1997). Bandura
(1997) explains that in order to perform a certain behavior and judge the efficacy as high, the
person or the group must judge their available resources and positive aspects as greater than
the barriers associated with the behavior. What kind of barriers the different kindergartens
finds important can differ, but getting an indication of common barriers is important, so that
they can be addressed.

It is also an established finding that leadership, especially informal leadership, is of
importance in group and work-settings like this (e.g. Pescosolido, 2001) and can make
difference. This would have been an interesting topic to investigate further. In the study an
attempt was made to research this factor, but a high percentage of missing values in the data
prevented this analysis from being conducted. For interested readers, the theoretical part about
informal leadership can be found in Appendix B.

In light of this, the social factors that will be investigated further in this thesis are
collective efficacy, individual goal commitment, group goal commitment, perceived barriers
and attitudes towards vegetable serving. Next follows a more specific description of these
factors.

3.1. Collective efficacy

Collective efficacy can be defined as a group’s shared belief in it’s own ability to organize
and execute courses of action required to produce given levels of attainment (Bandura, 1997).
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This belief will influence the goals that the group set for themselves, the amount of effort it will put into the task, and how persistent it will be in the face of failure (Bandura, 1997). It means that if people in a group believe that they together can achieve the desired goal, they will put more effort into trying to achieve it. If people in a group do not believe that they together can achieve the goal, the effort will be much smaller.

Collective efficacy is conceptually rooted in self-efficacy (Bandura, 1997). Self-efficacy as described by Bandura is a person’s beliefs in his or her capability to perform a given action. Rooted in Social cognitive theory (Bandura, 1997), self-efficacy involves cognitive judgments about whether or not one can perform a certain action. A person may have excellent self-efficacy in relation to one task, but have poor self-efficacy for another. For example an employee in a kindergarten may have high self-efficacy when it comes to chopping vegetables for the children to eat, but have low self-efficacy for serving these vegetables to the children in a funny and engaging way.

Self-efficacy and collective efficacy differ in the unit of agency (individual versus group). While self-efficacy concerns beliefs the individual have for his or her own capabilities, collective efficacy concerns the beliefs the individual have for the group’s capabilities. However, both forms of efficacy have similar sources, serve similar functions and operate through similar processes. Both self-efficacy and collective efficacy are based upon social cognitive theory (Bandura, 1997). Collective efficacy combines perceptions at the individual level and group level. The individual has to take both his or her own capabilities as well as the capabilities of other people into account, when judging collective efficacy.

Collective efficacy beliefs develop through individual cognitive processing (Bandura, 1997). Bandura (1997) emphasizes four sources that contribute to the development of both individual and collective efficacy. Information in memory about mastery experience based upon previous experience of success and failure in the group are one important source in the
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development of collective-efficacy. Modeling by another group that is similar to the group itself is another important source. In the case of kindergartens, this could for example be another kindergarten that is about the same size or lies in the same area. If other similar kindergartens are good at serving vegetables it could invoke a belief that “If they can, we can also do this”. Two additional sources of collective efficacy are verbal persuasion by other people, and affective states in the group. These four aspects are combined and weighted. The outcome of this weighting will create a perception of whether or not the task at hand can be performed by the group. Cognitive processing is therefore of great significance, as people in a group may have the same experiences, but different interpretation of them.

When assessing efficacy for the given task, the members weigh their perception of competence in the task up against the demands of the task (Bandura, 1997). Perceived competence includes judgments about for example food serving methods, skills, training and expertise. The task demands are analyzed by weighing perception of constraints and opportunities in the task, ability and motivation of the children to eat vegetables and perception of level of support from the environment (e.g. parents). For example, the competence of the group may be perceived as rather high, because one of the employees have previously worked as a chef, and the rest of employees use a lot of vegetables in their private home cooking. The demands of the task may be however be judged as high because the kindergarten have few employees to spare for cooking and they do not have high standard kitchen equipment available to prepare vegetables. The demands of the task may therefore outweigh the perceived group competence and result in not serving vegetables.

3.1.1. Measurement of collective efficacy. There are two main approaches for measuring collective efficacy (Bandura, 1997). The first one is an aggregation of the members’ self-efficacy for the task. This approach is not well suited for the present study or in general because it does not take social processes and group processes into account. It only focuses on
individual self-efficacy for each group member added together. There may be social factors that operate at the group level that may not be captured in the measure of individual self-efficacy. It also does not take into account the perception of other group members and their capabilities. An individual can have high self-efficacy, but may perceive the other group members as not capable of performing the task. The likelihood for success will then be perceived as low. This may result in the person putting low effort into the task, because he or she sees it as hopeless to try if the others are not capable.

The second approach is called a holistic approach, and it consists of aggregating each members’ appraisal of their groups’ capability as whole to perform the task (Bandura, 1997). This will capture social factors in the group to a greater extent. This also includes how well they judge their teammates to perform their task.

Collective efficacy will also depend upon the interdependence of the group. This means how dependent the employees are of each other to perform their tasks. High interdependence requires cooperation, coordination and effective communication. A holistic approach to collective efficacy would be better suited and have better predictive value for the group performance when the group is interdependent. This is because when members have to work more closely together and rely on each other, social group processes is more likely to affect them. Groups with members who work independent of each other have much less contact and are less influenced by social group factors. Kindergartens are in this study vied as interdependent, because employees have to work closely together all day to coordinate the activities. This supports the holistic approach to measuring collective efficacy.

A distinction between the terms collective efficacy and group-efficacy can also be made. Collective efficacy is the aggregation of individual group member perceptions of the efficacy of the group, whereas group efficacy is the consensus of the group regarding their own efficacy (Mulvey & Klein, 1998). On the basis of this and the other reasons mentioned above,
a holistic approach to measuring collective efficacy was used in the main analysis in this study.

3.1.2. Past research on collective efficacy. Studies of collective efficacy beliefs on performance have indicated that the beliefs of collective efficacy can predict level of group performance. This seems to be the case whether it is naturally occurring situations or experimentally manipulated (Bandura, 1997). Previous research has established a connection between collective efficacy and group performance (Gist & Mitchell, 1992; Guzzo, Yost, Campbell, & Shea, 1993; Peterson, Mitchell, Thopson, & Burr, 2000; Silver & Bufanio, 1996). A study conducted with undergraduates who worked in teams in engineering courses, found a positive relationship between collective efficacy and group performance (Lent, Schmidt, & Schmidt, 2006). Students worked in project teams and all of the 56 teams were assigned a common engineering project. To succeed in the project, the group had to coordinate and distribute all the tasks and pool their talents and resources together. To measure collective efficacy the individual participants had to indicate their confidence in the team’s ability to perform each of the tasks successfully, on an 18-items scale. It was emphasized that it was their ability as a group rather than individual performance. Individual self-efficacy for the task was also measured. Team performance was judged by students and instructors on a likert-scale. The results indicated that collective efficacy could predict team performance with a correlation of $r = .70$ for students and $r = .44$ for instructors. The correlation between self-efficacy and performance was $r = .60$, which might indicate that collective efficacy is a better predictor of group performance than individual self-efficacy.

Collective efficacy and team performance were also researched by Myers, Feltz, and Short (2004). They measured efficacy beliefs of football players from 10 different teams measured prior to 8 games. They measured both aggregated self-efficacy and aggregated collective efficacy.
Both within teams and across games aggregated collective efficacy measured prior to a game could predict team performance in that game. Performance was measured by accessing frequency-data from the teams different passes and fails on the football field. This was obtained from team-headquarters after the games. Collective efficacy was measured on a scale constructed after recommendations from Bandura (Bandura, 1985, 1997) and showed an alpha value of .95. The collective efficacy scale contained nine items that assessed the degree of confidence an athlete had in his team’s ability to perform against the opponent. The self-efficacy scale contained four items that assessed the degree of confidence the athlete had in his own ability to perform against the opponent. The findings suggested that aggregated collective efficacy influenced performance in subsequent games ($\beta = .29$). The influence of aggregated self-efficacy on performance in games was not significant ($\beta = -.06$). The relationship between aggregated collective efficacy and performance within weeks and across teams, showed that the mean beta was $\beta = .61$ and significant. The hypothesis that collective efficacy predicts performance were supported.

In sum, Collective efficacy is a perception that the effort of the group as a whole will lead to serving more vegetables to the children. Previous research have found a strong link between collective-efficacy and group performance (e.g. Gist & Mitchell, 1992; Guzzo et al., 1993). One can therefore assume that collective efficacy needs to be high in order to serve vegetables. I hypothesize that collective efficacy will predict vegetable serving. Collective efficacy may contribute to vegetable serving by influencing the goal setting process. Therefore I will next describe Goal setting theory and goal commitment.

3.2. Goal setting

Goal-setting theory links goals to performance, and states that people or groups working towards attaining specific and difficult goals, perform better in an organizational setting compared to those who have general goals, easy goals or does not have goals at all (Klein,
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Wesson, Hollenbeck, & Alge, 1999; Locke & Latham, 2002). Setting ambitious goals seems therefore to be important for performance. This research implies that kindergartens that set goals of serving vegetables to the children five days a week, will perform better on this task. Research on goal setting has also found that the relationship between goals and performance are strongest when commitment to the goals is high (Locke & Latham, 1990, 2002). Kindergartens that are committed to the goal of serving vegetables would therefore be expected to perform better than those who do not have strong goal commitment. Goal commitment is therefore an important factor to consider when predicting which kindergartens serve high and low amounts of vegetables.

3.2.1. Facilitation. Locke and Latham (2002) proposed that goal commitment consist of two main facilitators: Efficacy and perceived importance. Goal commitment is facilitated by efficacy, both self-efficacy and collective-efficacy. The group should believe that the goal is possible to reach and they should believe in their ability to perform the behavior that will lead to goal attainment. Then more effort and persistence will be put into achieving the goal and commitment will be higher (Locke & Latham, 2002). Perceived importance reflects how important the outcome of reaching the goal is to the person. If a goal is decided upon externally by other people, and the goal bear no personal importance for the individual, being committed to the goal would be difficult. If however the individual is an active agent in deciding to pursue the goal, commitment will be higher. The wish of pursuing the goal then comes from within. Serving vegetables in kindergarten should therefore be something of importance to all the individuals to ensure commitment to the goal.

3.2.2. Goal conflicts. In a larger group or work-team such as a kindergarten the issues of goal-conflicts may arise. Some members of the group may find the goal of serving vegetables more important than others. Those who do not find it important may invest little effort into achieving the goal. The result would be decreased group-performance. Seijts and Latham
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(2000) performed research upon this issue, and found that having personal goals that were compatible with the group’s goal enhanced group performance, whereas having personal goals that were incompatible with the group goal decreased group performance. The goal of serving more vegetables in the kindergarten should therefore be something that all members of the group feel is of importance, and it should be agreed upon.

In kindergartens, serving vegetables is a goal that is stated in the pedagogic plan for kindergartens and decided upon by national committees. It is not decided by law that all kindergartens must serve vegetables, but stated as a goal that all kindergartens should try to achieve. The kindergartens may also individually set goals for vegetable serving, regarding for example how much vegetable they serve or what kind. Commitment to the goal of serving vegetables will be important for the effort each kindergarten puts into attaining this goal. Group goal commitment I assume is of special importance since it in most cases it seems like it would be of little significance that one group member is highly committed, if all the others are not. Group goal commitment to serving vegetables, could therefore possibly predict the amount of vegetables served.

3.2.3. Past research on (group) goal commitment. Studies done by Mulvey and Klein (1995) researched the relation between goal commitment and group performance. The first study used a sample of 222 students in Human resource management. The groups consisted of 3-6 members. The group-task was to evaluate human resource functioning in an organization. The groups were asked to set a group goal for the task on a scale that went up to 55 in degree of difficulty. Commitment to this goal was measured using a seven-item likert-scale provided by (Hollenbeck, Klein, O’Leary, & Wright, 1989). The grade that the group got from the supervisor served as the measure of group performance. The results indicated that both self set group goal difficulty and group goal commitment were positively and significantly correlated with group performance ($r=.32$ and $r=.30$). The second study also examined the relationship
between goal processes and performance using 365 graduate students in organizational behavior classes groups. The groups performed scrabble tasks that consisted of forming interlocking words. Commitment to a self-set group goal was measured using the same scale as in the first study. Group performance was measured counting the sum of points obtained in the game. The results from this second study replicated the results from the first study with only marginal deviations.

Another study done by Mulvey and Klein (1998) investigated the relationship between different social psychological variables including the correlation between group goal commitment and group performance. The study consisted of 259 undergraduate students who were divided into 63 groups to perform an academic task. The groups set group-goals that they wished to achieve in the task. Group goal commitment to was assessed using the seven-item self-report measure developed by (Hollenbeck et al., 1989). To measure performance, instructors gave the group scores on how well they had done in the project. The results showed that group goal commitment were positively correlated with group performance ($r = .30$).

On the basis of this previous research, I therefore hypothesize that group goal commitment to serving vegetables, could predict the amount of vegetables served.

### 3.3. Collective efficacy and group goal commitment

Group goal commitment is proposed to be a mediator of the relationship between collective efficacy and behavior (Locke & Latham, 2002). Locke and Latham (2002) proposed that goal commitment is facilitated by efficacy. Silver and Bufanio (1996) hypothesized that the positive effect of group efficacy on performance comes through the mediating variable of group goals and the goal-setting process. An experiment conducted with 75 undergraduate students showed that group efficacy was correlated highly with group goals and task performance (Silver & Bufanio, 1996). The students were put into groups of three,
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and were assigned two different tasks that centered on building model trucks out of Lego. Group performance was evaluated by measuring the time it took for the groups to do the assigned tasks and the quality of the Lego trucks. Before the groups started working on the task, measures of group efficacy and group goal commitment were given. The group did these evaluations jointly. When measuring group efficacy, the groups rated whether or not they could perform at different levels. The groups were then asked for their goal for the assignment task and were in addition given the goal commitment measure developed by Hollenbeck et al. (1989). The results of the experiment showed a significant correlation between group efficacy and group performance of $r = .62$ and $r = .37$ for the two tasks. The results did further show that group efficacy accounted for a significant proportion of the variance in group goals, even when past performance was controlled for. This was 18 and 35 % for the two tasks respectively.

Bandura (1982) also argued that “perceived collective efficacy will influence what people choose to do as a group, how much effort they put into it, and their staying power when group efforts fail to produce results”. This would mean that when collective efficacy is high the group would be more motivated to do the task, and create an intention to do so. They will set goals and be more committed to them. When collective efficacy for serving vegetable is high, it will lead to higher goal commitment, which will lead to more vegetables served.

3.4. Perceived barriers

Perception of barriers for serving vegetables will also contribute to explain the amount of vegetables kindergartens serve. This is because that if the staff perceives the barriers to serving vegetables as higher than their available resources, they will not serve vegetables. This is supported by Social cognitive theory (Bandura, 1997). Perceiving barriers that are judged as difficult to overcome with the available resources in the kindergarten could prevent the staff from serving vegetables. When barriers are perceived, and the group judges the
barriers to override their capabilities, the collective efficacy will probably be low and motivation and intention to take action will also be low. There might be many small barriers that when accumulated make it hard for the staff to serve vegetables. It might also be that the employees perceive only one barrier, but that it is an important one that is very hard to overcome with available resources. The barriers that employees perceive could be very different, even within the same kindergarten. Some people may perceive economy as an important barrier that is hard to overcome. Others may think that lack of money is a problem that it is possible to solve, but they perceive negative colleagues as the hardest barrier to get around. The barriers may be of practical nature, or it may be factors within the employees that are hard to overcome.

The difference between barriers and challenges is that barriers are perceived as harder to overcome. A challenge is something that is often perceived as something that can be dealt with and possibly solved. It implies action and effort. A barrier or problem signalizes something that is much harder to overcome regardless of effort, and therefore action is often not taken. It is important to know what factors employees in kindergarten perceive as very hard to overcome in serving vegetables, because it implies where one must intervene to change the situation.

3.5. **Attitudes**

Attitudes are according to the Theory of planned behavior an important factor in explaining behavior (Ajzen, 1991). If a person holds a negative attitude towards a behavior, it is unlikely that the behavior will be performed, unless it is forced. Regarding vegetable serving in the kindergarten it is assumed that the employees have favorable attitudes towards this action, because of the positive focus on vegetables in kindergarten communicated to them. Attitudes are however not the only determinant of behavior. According to the theory of planned behavior, norms and efficacy believes are also important (Ajzen, 1991). One can
assume that norms for serving vegetables in kindergarten are present due to the focus and pressure from Helseetaten and the government to do so. The theory of planned behavior has also been criticized to have low predictive validity of behavior, because there is a gap between intention and actual behavior (e.g. Greve, 2001). Based on this it is not safe to assume that attitudes alone can predict vegetable serving. Attitudes are however an important factor to consider that has to be present in order to voluntarily perform the behavior. Attitudes to serving vegetables among employee should therefore be positive for the kindergartens to serve vegetables. In the thesis it is a presumption that attitudes towards vegetable serving among employees are positive. The assumptions will however be tested.

4. Hypothesis

From the previous research, the present study sets the following main hypothesis:

1. Collective efficacy will predict vegetable serving in a positive way. Kindergartens in which aggregated collective efficacy are high, will serve a higher amount of vegetables than kindergartens where average collective efficacy is low.

2. Individual goal commitment will predict vegetable serving in a positive way.

3. Group Goal Commitment will predict vegetable serving in a positive way. Kindergartens in which aggregated group goal commitment is high will serve a higher amount of vegetables than kindergartens where aggregated group goal commitment is low.

4. Mediation hypothesis: Group goal commitment mediates the relationship between collective efficacy and vegetable serving in the kindergartens.

In addition we want to tests the preliminary assumptions regarding attitudes and intentions to vegetable serving. Attitudes are measured by measuring perceived importance of vegetable serving and ideal vegetable serving.

Assumption 1. Perceived importance of vegetable serving will be high, indicating a positive attitude.
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Assumption 2. Perceived importance of vegetable serving will not correlate high with actual vegetable serving, indicating that attitudes alone do not predict behavior.

Assumption 3. Perceived importance will correlate high with both ideal serving of vegetables and goal commitment, indicating an intention to serve vegetables.

5. Method

5.1. Design

The project consists of two separate studies, where the first study is the focus in this paper. The goal of the study is to measure variables that could predict vegetable serving in the kindergarten. The focus is upon social psychological factors. The study consisted of constructing a questionnaire that was conducted with participants employed in kindergartens. The questionnaire yielded information about participant’s employment and commitment to the kindergarten, food practices and vegetable serving in the kindergarten per now, perceptions of general goals in the kindergarten, importance of vegetable serving and perceptions of barriers to vegetable serving. Measures of social psychological variables such as collective efficacy, perceived leadership and goal commitment were then included.

The second study in the project was designed as an intervention. Participants were exposed to an intervention that aimed at increasing the serving of vegetables in the kindergarten. Techniques of mental contrasting combined with implementation intentions were used. After the intervention was completed, serving of vegetables were recorded in a post-measure to see if there had been an increase. The results of this second part of the study is not a focus of this paper, but can be read in a separate master thesis written by Christine Vollan at the University of Oslo.

5.2. Sample

In Oslo there are 783 Kindergartens. The final sample in the study consisted of 27 kindergartens. This is 3.45% of the total amount of kindergartens. About 60 kindergartens
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initially agreed to participate, but about 33 of them withdrew from the study for various reasons. All 27 kindergartens received the questionnaire, and the aim was that as many individual employees as possible would fill out the questionnaire. Informed consent to take part of the study was collected from the participants. The response within each kindergarten was relatively low, since participation was voluntarily. In total there were 172 individual respondents from these kindergartens.

Kindergartens that were asked to participate were randomly selected among all private and communal kindergartens in Oslo (Oslo kommune, n.d). Most of the kindergartens were recruited by sending out e-mails and making individual phone calls. The city of Oslo has 15 districts. We aimed at recruiting kindergartens from each district. This was done to make sure that not all kindergartens were pooled from the same area, and so to assure that the sample was representative for most of Oslo. This was important due to socioeconomic and ethnical differences between districts. It was however hard to make sure that all districts were equally represented in the end, because of a difficult recruitment process, with many participants declining or backing out of the study. It was also important that the sample consisted of both private and communal kindergartens, since private kindergartens tend to have better economy and therefore possibly more money to spend on food than communal kindergartens. The final sample consisted of 14 private and 13 communal kindergartens. This approximately equal split assures that the sample is representative for both types of kindergartens.

The highest number of individual participants per kindergarten was 17 and the lowest number was 2 (see table 3 in Appendix A). It would have been ideal to have a larger sample size with more kindergartens participating and more individual respondents from each kindergarten. However, the recruitment process and gathering of data proved to be difficult and quite demanding, both because of reluctance to participate and because of incomplete responses to questionnaires. In an attempt of trying to raise the sample size, prizes were
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offered in terms of posters and participation in a kitchen-aid lottery. Numerous personal visits to the kindergartens were also done in order to hand out and collect questionnaires. This was also done to commit the kindergartens to participating and to encourage employees to participate. These efforts probably had some effect, but it was still very difficult to recruit participants.

5.3. Measurement

The constructs were measured by designing a questionnaire that was distributed to the kindergartens. The questionnaire included measurements on conditions of employment and vegetable serving per now, attitudes to serving vegetables, collective efficacy, goal commitment, barriers and informal leadership. The questionnaire was self-constructed. Similar questionnaires that have been used in previous research of the same constructs but in different context were used as a basis. The questions were carefully translated and adopted to this specific context. The questionnaire was pre-tested in a kindergarten before administering it to the participants, with positive results. Due to low response rate for the questions about informal leadership, the analysis of informal leadership could not be conducted and therefore no results are presented for this measurement. The part about informal leadership can be found in Appendix B. The questionnaire can also be found in Appendix C. Measurement of the constructs will be described in the following section.

5.3.1. Employment and vegetable serving. The first part of the questionnaire included questions of employment. This included what position the individual hold in the kindergarten and how long the person has been working there. It also included a question of how committed or engaged the person generally is in the kindergarten, measured on a five-point scale. The purpose of these questions was to get an indication of how committed the person was to the kindergarten and possibly how committed he or she would be to the goal of serving vegetables. Vegetable serving were also measured in this first section. It first included a
question of the amount of vegetables that are served per now. Questions of the amount of vegetables the respondents thought that the kindergarten should ideally serve, and what they though should be the minimum amount to serve was then included. This was to get an indication of the employees intention to serve vegetables. These three questions of vegetable serving were measured using a six-point scale consisting of “several times a day”, ”daily”, ”every other day”, ”one-two times per week”, ”one-two times per month”, ”less often than this”.

5.3.2. Attitudes. To measure the preliminary assumptions of respondent’s attitudes to vegetable serving in kindergarten, the questionnaire included a question of how important they think vegetable serving in kindergarten is for children’s health. This question was measured on a five-point scale reaching from very important to not very important.

5.3.3. Collective efficacy.

A holistic approach to measuring collective efficacy was used in the main analysis in this study. This is the approach that will best capture social processes in the group. This was done by aggregating the collective-efficacy scores of respondents within a kindergarten into a mean for each kindergarten. One analysis was also conducted using individual respondents score on the collective efficacy scale. This was done to see if the two different measurement of collective efficacy provided significantly different results.

The scale used in the questionnaire to measure collective efficacy was composed by carefully placing together items from previous collective-efficacy scales (Goddard, 2002). Most of the scale is derived from a 12-item likert-scale for use in schools to asses to which extent the staff believes in their group capability to influence student learning (Goddard, 2002). This 12-item scale has previously had a high internal consistency with alpha = .94. Factor analysis was also conducted and a one-factor solution was extracted. The results showed that all but 1 item correlated .73 or above, a single factor having an eigenvalue of
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7.69 and explaining 64.10% of the variance (Goddard, 2002). The scale was used a basis for measuring collective efficacy in our study because a school is somewhat similar to a kindergarten in the way that there are teachers trying to influence children with positive habits. It must still be kept in mind that the situation is not identical. The items were carefully translated from English to Norwegian. Not all items could be translated literally, but they were adopted in a way so that the intended purpose of the question was intact. Some items were not suitable for the kindergarten-context and were therefore not included. They were replaced with items that seemed more relevant to kindergartens. The scale was in the end evaluated and agreed upon by our research team, consisting of both 4 experts and 2 master students.

5.3.4. Goal commitment. The questionnaire measured two forms of goal commitment to serving vegetables; individual goal commitment and group goal commitment. Goal commitment was in this study measured by using two approaches. The first measurement consisted of asking the respondents about perceptions of general goal setting in the kindergarten. This consisted of two questions. The first question regarded what the respondents individually thought should be the five most important goals to strive for in the kindergarten. This captured how they thought it ideally should be like in the kindergarten. The purpose of this question was to see if they regarded vegetable serving or serving healthy food as important in the kindergarten. Perceived importance of the goal of serving vegetables would be an indicator of goal commitment. Respondents received points referring to how far up on the list they put food related goals. The points ranged from 1 (mentioned as primary goal) through 5 (mentioned as last goal on the list) to 6 (not mentioned at all).

The second question regarded what they assumed to be the five most important goals that the kindergarten strived to attain. This captured which goals they perceived that the kindergarten has today, and the purpose was to see if vegetable serving or serving healthy
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food was one of the top five priorities in the kindergarten. This question was measured the same way as the question of personal goals. The respondents were not given any examples of goals to choose among, because it was not desirable to prime them into giving certain answers. Using this measurement would indicate how important healthy food and vegetable serving is to the kindergartens and the individual employees, and give a pinpoint of how committed they are to the goal of serving vegetables. The drawback of this method is that the respondents may find vegetable serving important, but they find other goals slightly more important. Vegetable serving may therefore not make the list, but still be of importance. Another drawback is that the respondents may perceive many different goals that the kindergarten strives to attain. Many different goals may be listed, and deciding may be hard.

Goal commitment was also measured by including a goal commitment scale in the questionnaire. A frequently used five-item scale recommended by (Klein, Wesson, Hollenbeck, Wright, & DeShon, 2001) was used. This scale is based upon a previous nine-item scale for goal commitment originally developed by (Hollenbeck et al., 1989). Klein et al. (2001) recommend using this five-item scale based on their meta-analysis. They argue that it is purer, more efficient, more robust, unidimensional and more generalizable than the original full nine-item scale. The scale was found to have a reliability of alpha 0.74 (Klein et al., 2001). The specific goal of serving vegetables to the children in the kindergarten was given and, the scale measured commitment to this goal. The scale was used to measure goal commitment both on the individual level and group level. Individual goal commitment indicated how committed each respondent is to serving vegetables in the kindergarten. Perception of group goal commitment indicated how committed the group is to serving vegetable in the kindergarten.
These two measurements of general goal setting and goal commitment can together give a good indication on how important vegetable serving is to the kindergarten and how much effort they would be willing to put into the goal of serving more vegetables.

5.3.5. Perceived Barriers. Barriers to serving vegetables were measured both on individual and group level. Measuring individual barriers was done by asking which problems the respondent experienced regarding preparation and serving of vegetables in the kindergarten. Measuring barriers at the group level was done by asking respondents which problems the kindergarten experienced in preparing and serving vegetables. It was possible to give up to eight answers on each question. The word “problem” was used instead of “barriers” because it is a more commonly used word in the Norwegian language. The answers were qualitatively analyzed by sorting the answers into categories. The results are also supplemented with experiences retrieved from informal discussion with kindergarten-staff.

5.4. Statistical analysis

Analyzing the results were done by using the statistical program SPSS. The analyses consisted of using correlation, multiple regression analyses and by using a multilevel linear model to test different hypothesis. In some of the hypothesis the unit analysis are individual participants and in some hypothesis the unit of analysis are the group.

The analysis of perceived barriers was done qualitatively. Five categories of barriers were identified as they emerged from the dataset.

6. Results

6.1. Reliability of scales

The collective-efficacy scale initially showed a reliability of $\alpha = .69$. The reliability rose to $\alpha = .78$ if item 10 was deleted, which by convention is an acceptable value (George & Mallery, 2003). Item 10 did also have a low correlation low with the other items in the scale, and this low correlation also seemed theoretically logical. Item 10 were therefore removed
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from subsequent analyses. The goal commitment scale had a reliability of $\alpha = .845$, which is a good alpha level.

6.2. Vegetable serving

The mean value of vegetable serving was 4.19 (SD = 1.21) on a scale from 1 to 6. This indicates that in average, most respondents reported the serving of vegetables in their kindergarten to be about every other day. When calculating the serving of vegetable using the aggregated mean of all respondents within each kindergarten, the average reported vegetable serving is 4.18. The reported ideal serving of vegetables was on average 5.02 (SD = 0.69), which means that daily serving of vegetables is what most of the respondents wishes. A correlational analysis between actual and ideal serving of vegetables resulted in a correlation of .584, which means that there is a moderate relationship between how much vegetables employees wish to serve and how much they actually serve.

6.3 Collective efficacy

A linear regression analysis was also executed to test the relationship between collective efficacy and vegetable serving, both measured at group the level using the average of each kindergarten (aggregated scores) as recommended by the literature (Bandura, 1997). The results indicated that average collective efficacy in a kindergarten could explain 59% of the variance in vegetable serving (R square = .594) and that the effect of collective efficacy on vegetable serving is 2.356, $p < .001$. The results are displayed in table 5 and illustrated graphically in figure 2 in Appendix A. The results support hypothesis 1.

To test the hypothesis that collective efficacy can predict vegetable serving further, a multilevel model analysis was executed at the individual respondents level allowing the intercept to vary across kindergartens. The relationship between collective efficacy and vegetable serving, both measured at the individual level, did show significant variance in intercepts across kindergartens, $\text{var}(u_{0j}) = .648, p < .005$. This indicates that respondents
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within a kindergarten are more similar to each other than they are to respondents from other kindergartens. The results showed that collective efficacy significantly predicts vegetable serving, F (1,10) = .363, p < .01. An increase in collective efficacy with one unit, gives an increase in vegetable serving with 0,363 units. The results can be viewed in table 6 in Appendix A. High collective efficacy predicts high vegetable serving, and low collective efficacy predicts low vegetable serving. There is however little spread in the scores, since most respondents' scores high on both variables. This could possibly indicate a ceiling effect. In conclusion, the results support hypothesis 1 that collective efficacy predicts vegetable serving.

6.4. **Goal commitment and group goal commitment.**

The first measurement of goal commitment where the respondents should name important general goals in the kindergarten, indicated that healthy food are of somewhat importance for the employees. The first question regarded goals that the individual perceives are important that the kindergarten strive for. 153 respondents answered this question. 51 (29.7%) named serving/focusing on vegetables or healthy food as an important goal in the top five goals, whereas 102 (59.3 %) respondents did not mention this at all. 8 respondents (4,7%) mentioned healthy food as the most important goal. The results are shown in table 7 in Appendix A.

In the second question regarding which goals the respondents perceive as being important in the kindergarten per now, 146 respondents answered. 50 (29.1%) respondents mentioned serving/focusing on vegetables or healthy food as an important goal in the top five, whereas 96 (55,8%) respondents did not mention this goal at all. 11 (6.4%) of the respondents mentioned healthy food as the most important goal. The results are shown in table 7 in Appendix A.

A correlation analysis was done to look at the correlation between individual goal commitment and perceived group goal commitment. The correlation was r = .647, and
significant \((p < .001)\), which indicates that employees who rates themselves as committed to the goal of serving vegetables in kindergarten also moderately perceives the kindergarten unit to share their goal. This relationship was also tested using a multilevel model analysis. The results indicated that individual goal commitment predicts perceived group goal commitment, \(F (1,156) = .753, p < .001\). This means that when individuals goal commitment increase by one unit, their perceived group goal commitment increase by 0.75 units. To test the relationship between goal commitment and group goal commitment further, a mixed model analysis was also conducted to see if group goal commitment could predict individual goal commitment. The results showed that the effect of group goal commitment on individual goal commitment was \(F (1, 152) = .424, p < .001\), meaning that an increase of one unit on group goal commitment would give an increase in individual goal commitment by 0.42 units. A kindergarten may for example have an average score of 4 on group goal commitment and the employees score 3 on individual goal commitment. Another kindergarten may score 5 on group goal commitment, and these employees will score 3.42 on individual goal commitment.

To test the hypothesis that individual goal commitment predicts vegetable serving, a multilevel model analysis with random intercepts was conducted. The results showed that goal commitment significantly predicts vegetable serving \(F (1,145) = .249, p < .05\). An increase in the individual goal commitment by 1 gives an increase in vegetable serving by 0.25 units. The results also showed that the intercept was significant \(F (1, 159) .718, p < .01\). This means that the respondents within each kindergarten are more similar to each other when it comes to goal commitment for vegetable serving than they are similar to employees of other kindergartens. These results supports hypothesis 2. The same analysis was conducted to test the relationship between perceived group goal commitment and vegetable serving measured at the individual respondents level. The results showed that group goal commitment significantly predicts vegetable serving, \(F (1,148) = .313, p < .001\). An increase in the
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group’s goal commitment by one unit gives an increase in vegetable serving by 0.31 units. The intercept was significant .571, \( p < .005 \), meaning that the respondents within each kindergarten are more similar to each other in perceived group goal commitment than they are to employees of other kindergartens. High group goal commitment predicts high vegetable serving, and low group goal commitment predicts low vegetable serving. The effect is also stronger for group goal commitment than for individual goal commitment. This results supports hypothesis 3.

In addition, a linear regression analyses was conducted to test the hypothesis that group goal commitment predicts vegetable serving. In this analysis aggregated group goal commitment scores and aggregated reports of vegetable serving for each kindergarten were used. The results indicated that group goal commitment could account for 53% of the variance in vegetable serving R square = .527. The results further showed that group goal commitment significantly predicts vegetable serving when scores are aggregated \( F(1,170) = 1.418, \beta = .726, \ p < .001 \). The results are shown in table 8 in Appendix A. Figure 3 in Appendix A shows the relationship. This result did also find support for hypothesis 3.

6.5. Group goal commitment as mediator

To test hypothesis 4, that group goal commitment mediates the relationship between collective efficacy and vegetable serving both measured at the aggregated group level, a multiple regression analysis was performed. The direct effect of collective efficacy on vegetable serving without the mediation effect was \( b = 2.356 \ (0.149), \ \beta = 0.771, \ p = .000 \). R square in this model was .594 , which means the model explains 59.4% of the variance in vegetable serving. The relationship between collective efficacy and group goal commitment was then calculated and gave a result of \( b = 0.516(0.029), \ \beta = 0.208, \ p = .000 \). The second model showed that relationship between group goal commitment and vegetable serving were \( b = 0.580(0.165), \ \beta = 0.297, \ p = .000 \). It also showed that the direct effect of collective
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efficacy on vegetable serving were now $b = 1.623(0.245)$, $\beta = 0.531$, $p = .000$. The R square for this second model was .625, indicating that the model explains 62.5% of the variance in vegetable serving, and is now a better predictor that model 1. Collective efficacy and goal commitment together can account for more variation in vegetable serving than either of the predictors can do alone. These results can be viewed in Table 9 in Appendix A. The computation of the total effect (indirect + direct effects) of model 2 gave a result of 1.922. This is a decrease from model 1 in which the total effect was 2.356. This can be seen in table 10 in Appendix A. To test if the indirect effect is significantly different from zero, Sobels test for mediation was executed. Sobels test for mediation showed that the indirect effect of collective efficacy (mediated by group goal commitment) on vegetable serving was significant; 3.45 $p < .01$. These results support hypothesis 4, by indicating that group goal commitment partly mediates the relationship between collective efficacy and vegetable serving.

6.6. Attitudes.

The results of the analysis testing the preliminary assumptions of attitudes show that perceived importance of serving vegetables in kindergarten for children’s health is on a scale from 1 to 5, in average 4.08 (SD = 0.55). This indicates that the average kindergarten employee thinks that serving vegetables in kindergartens are very important for children’s health. No respondents rated vegetable serving in kindergarten as somewhat unimportant. This supports the assumption that attitudes towards vegetable serving are positive among kindergarten staff. It could possibly be a ceiling effect, indicating that all people tend to agree that vegetables are important for children’s health. The correlation between perceived importance and individual reports of vegetable serving was significant but low ($r = .238$, $p < .01$), which means that even though employees find it important to serve vegetables to the children and therefore have a positive attitude, they do not serve vegetables. Since the
correlation was significant but low, it partly supports the assumptions that perceived importance of vegetable serving will not correlate with or be able to predict actual vegetable serving. A mixed model analysis was then conducted to test the preliminary assumption that perceived importance will correlate with ideal vegetable serving and goal commitment, indicating intention to serve vegetables. The results showed that perceived importance of vegetable serving predict ideal vegetable serving, but that the effect is weak, $F(1,162) = .185, p < .05$. The intercept was found significant, $F(1,167) = .085, p < .05$. It indicates that respondents within a kindergarten are more similar to each other than they are to respondents from other kindergartens, but that the effect is weak. In addition, the correlation between perceived importance and ideal vegetable serving was found to be positive but weak ($r = .217, p < .005$). Perceived importance of serving vegetables also correlates weakly with reports of the minimum amount of times per week vegetables should be served ($r = .272, p < .001$).

These results indicate that positive attitudes towards serving vegetables in kindergarten, does not necessarily make employees want to increase serving. A mixed model analysis was done to test the relation between perceived importance and goal commitment. The results showed that perceived importance significantly predicts individual goal commitment, $F(1,160) = .410, p < .005$. The intercept was not significant, $F(1,161) = .034, p = .246$. The correlation between perceived importance and goal commitment showed moderate positive relationship between perceived importance and individual goal commitment ($r = .333, p < .005$). This result indicates that employees, who find vegetable serving in kindergarten important, are moderately committed to the goal of serving vegetables in kindergarten five times a week.

The assumption of a link between attitudes towards vegetable serving and intention to serve is therefore partly supported, as perceived importance is a moderately good predictor for individual goal commitment, but is not a very good predictor of ideal vegetable serving. The results of the correlations can be seen in table 4 in Appendix A.
6.7. Barriers

The qualitative analysis of perceived barriers to serving vegetables in kindergarten revealed five major categories of barriers. The categories identified were economy, lack of time, psychological factors (memory, motivation, support, attitudes), children’s taste preferences, and availability/variety of vegetables. Some barriers could not be categorized and were therefore put in the category called “other.” The main findings of the analysis of perceived barriers can be seen in table 11 and table 12 in Appendix A.

6.7.1. Economy. Economy was mentioned by 12 kindergartens (44.4%). In total 37 respondents mentioned lack of money as a major barrier to serving vegetables in the kindergarten. More respondents from communal than from private kindergartens reported economy as a barrier. Respondents from 9 communal kindergartens mentioned economy as a barrier, whereas economy was only mentioned by respondents from 3 private kindergartens. 11 respondents rated economy as a barrier that is very hard to overcome and not solvable. 14 respondents rated economy as a barrier that is difficult, and perhaps solvable. 8 respondents rated economical barriers as difficult, but solvable. Only one respondent rated economy as a barrier that is easy to overcome and solvable.

6.7.2. Lack of time. Difficulties related to time-pressure in the kindergarten, were mentioned by employees in 16 kindergartens (59.3%), and in total 36 respondents. 8 of these kindergartens were communal and 8 where private. One respondent reported time-pressure as very hard to overcome and not solvable. 13 of the respondents reported this barrier as hard to overcome, and perhaps solvable. 17 of the respondents reported time-pressure as a barrier that was hard to overcome, but solvable. 9 respondents reported it as easy and solvable.

6.7.3. Children’s taste-preferences. Employees in 15 kindergartens (55.5%), in total 35 respondents, mentioned children’s likings and preferences for food as a barrier to serving vegetables. 5 of these kindergartens were communal and 10 were private. No respondents
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reported children’s taste-preferences as very hard to overcome and not solvable. 9 of the respondents reported this barrier as hard to overcome, and perhaps solvable. 15 of the respondents reported children’s taste-preferences as a barrier that was hard to overcome, but solvable. 8 respondents reported this barrier it as easy and solvable.

6.7.4. Psychological factors. Employees in 14 kindergartens (51,9%) kindergartens, in total 25 respondents, mentioned various barriers that could be classified as psychological. 8 of these kindergartens were communal and 7 were private. 9 of the respondents mentioned that forgetfulness was an important barrier. 9 respondents also mentioned negative attitudes, lack of knowledge of the importance vegetables or lack of initiative. One respondent reported the psychological barrier as very hard to overcome and not solvable. 2 of the respondents reported the psychological barrier as hard to overcome, and perhaps solvable. 2 of the respondents reported it hard to overcome, but solvable, while 18 respondents reported this barrier it as easy and solvable.

6.7.5. Availability/variety of vegetables. Employees in two kindergartens (7,4%), in total 11 respondents, mentioned that low amount of available vegetables in the kindergarten or at the grocery store were a barrier. Some of these also mentioned that the variation of available vegetables was too low. It was one communal and one private kindergarten. No respondents reported that lack of availability and variety of vegetables were hard to overcome and not solvable. No respondents reported that the barrier was very hard to overcome, and perhaps solvable. 2 of the respondents reported the availability and variety problem as hard to overcome, but solvable. 9 respondents reported this it as easy and solvable.

6.7.6. Other. The remaining barriers that respondents mentioned could not be classified into categories. This concerned barriers mentioned by 25 respondents in 10 (37,0%) kindergartens. Some of these barriers were for example problems with including the children
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in the food-preparation, sharp knives not suitable for children, small kitchen space, problems with delivery, vegetables going bad and small storage space.

7. Discussion

Employees in kindergartens seem to find the goal of serving vegetables somewhat important and they ideally want to serve vegetables every day. They also indicate that they are committed to the goal of serving vegetables, if directly asked about it. When employees are just asked to think of general goals they find important in the kindergarten, vegetable serving seems not to be rated high. It does not mean that employees do not find vegetable serving important, but in competition with other goals, vegetable serving takes lower priority.

The attitudes towards serving vegetables were found to be favorable, but as expected from the literature (e.g. Greve, 2001), attitudes did not predict vegetable serving. This supports the assumptions that attitudes towards vegetable serving are positive, but it is not a good predictor of vegetable serving. The reason why attitudes alone is not a good predictor of vegetable serving could be that there are also other factors involved in determining the behavior. Social norms and efficacy believes are example of other factors that can have am impact. Positive attitudes can however be assumed to be essential for voluntarily vegetable serving. This is because without a favorable attitude, motivation to perform the behavior will be low, and people will not create a behavioral intention. Positive attitudes are necessarily, but not sufficient.

The results further indicated that perceived importance of serving vegetables among employees do predict how much vegetables they ideally want to serve in the kindergarten, but that the effect is marginal. It could be that people rate vegetable serving as important just because norms in society emphasize vegetables as healthy and important, but that they do not think it is necessarily to increase serving too much. Perceived importance also predicts the employee’s individual commitment to the goal of serving vegetables five times a week. This
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means that employees who find it very important to serve vegetables are also more committed to the goal. These results could indicate that the employees have formed an intention to serve vegetables every day and are personally committed to this goal. This is however an individual intention, and do perhaps not predict actual vegetable serving, because it does not take factors on group level into account. The group also needs to have a conjoint intention and group commitment to serve vegetables.

Efficacy beliefs of the group are also assumed to be of importance for vegetable serving. Collective efficacy was found to predict the amount of vegetables served in the kindergartens. This supports hypothesis 1 which say that collective efficacy will predict vegetable serving positively. This is also consistent with the literature and previous research (e.g. Bandura, 1997). This implies the importance of group-processes and teamwork. Kindergartens employees are not just individuals performing their assigned work, but they are also part of a group that has to work interdependent. The belief they have in each other’s abilities and the group as a whole is important. This further implies that in order to be able to serve vegetables to the children, they have to work together as a team and provide mutual support so that they can believe in each other. One person wanting to serve vegetables is probably not enough.

The whole team has to agree upon the goal and help each other.

This is also supported by the results from the group goal commitment analysis. The results supported hypothesis 2 and 3 that both individual goal commitment and group goal commitment can predict vegetable serving, but that group goal commitment will be a slightly better predictor. Individual goal commitment could predict vegetable serving, indicating that single individuals can have an impact. Group goal commitment does however have a stronger effect on vegetable serving, indicating that the group is of higher importance than individuals. When the whole group is committed to the goal of serving vegetables, serving will be easier. It makes sense, since it is easier to accomplish things when more people are working towards
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a common goal than if on person were to work alone against all others. The often-used saying that there is “power in numbers” seems appropriate. This strengthens the assumptions that vegetable serving in kindergarten is teamwork. The whole team should be motivated to serve vegetables and committed to this goal. Positive attitudes in individuals towards serving vegetables are important but do not help much, if the group do not believe in themselves and together can agree upon a goal that they will stay committed to.

The analysis did also find support for the mediation hypothesis, which stated that group goal commitment functioned as a mediator between collective efficacy and vegetable serving. It implies that when the group and the members in it believe in their conjoint ability to serve vegetables, they will form a goal of serving vegetables, and they will be more committed to this goal. The strong commitment to the goal will lead to more vegetable serving. This link between collective efficacy and goal commitment are also supported in the literature (e.g. Locke & Latham, 2002; Silver & Bufiano, 1996). It makes sense that when the group believe in themselves and their abilities to reach the goal of serving vegetables, it is easier for the group to form a behavioral intention of serving vegetables and to create a commitment to this goal.

In addition, the results indicate that the goal commitment of individuals predicts the group goal commitment. This further strengthens the assumption that there are social factors that influence the employees. Individuals can affect each other with their ideas and attitudes. It was also found that group goal commitment predicts individual goal commitment. It is interesting that the social environment can also affect the individual. It implicates that if for example a new member comes into the group it would be likely that he or she would personally adopt the same level commitment to the goal as the group already has. The reason for this could for example be norms in the work-environment and in the team that influence
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the employees, or there could be powerful individuals who influence the group and the individual members in it. This would be an interesting topic of further research.

In light if the results, strengthening the work-environment and the team seems important. This can be done by focusing on helping each other, inspiring each other and creating a work environment in which people can freely communicate their meanings and ideas. This will build a more open and strong team that can rely on each other, make use of each other’s strengths, improve each other’s weaknesses, and work together towards a common goal – serving vegetables.

One way to strengthen the team could be to arrange activities for the team to participate in, which will strengthen their ability to work together and support each other. This could be in terms of arranging various courses with focus on professional content relevant to the kindergarten, perhaps in relation to food. There are already seminars about healthy food that are available for the kindergarten staff (Helseetaten, 2014), but normally only a few of the kindergarten staff participate at this. All members of the group should participate, not just one or two representatives from the group. This is because the whole group should be present to learn teamwork and develop as a group. It would be nice if the courses also had tasks that the employees should do jointly, because practicing on solving tasks and problems together could make it easier for the group to also do this in the kindergarten. It would also give the members of the group practice in listening to each other’s suggestions and new ideas, and practice on communicating personal suggestions. If the group members become comfortable with communicating and listening to each other’s ideas, it would be easier to do this also in the kindergarten. This will strengthen the abilities to perform teamwork. An alternative could be that the kindergarten staff participates in an activity that does not have a professional content, but is merely for fun. This would perhaps result in employees getting to know each other better and make them more comfortable with each other. This could make it easier for the
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employees to trust each other and feel free to communicate ideas. Each organization has to judge the effectiveness of team building, as research indicate that team building may work well for some types of teams, but for others not (Arnold et al., 2010). The highly interdependent nature of teams in kindergartens would perhaps make the kindergartens benefit from team building exercises because of the focus upon mutual communication, coordination, respect, and openness.

It has also been emphasized that team building is most effective when it is focused upon identifying different roles within the team (Arnold et al., 2010). Employees differ in terms of knowledge, skill and abilities. Some people within the team are better at some things than others. This should be recognized and made use of by assigning employees to the tasks that they are good at. Some employees may be very good at making vegetable soup, while others are better at organizing the grocery shopping. The employees should however also be encouraged to try out new tasks they are not familiar with. It is therefore important that employees are willing to share their knowledge and show colleagues how to perform various tasks. It is also worth of remembering that people in groups also take on different team-roles. Some people are extrovert, energetic and focused on achievement, some people are organizers and coordinators, while some people are more introverted, thoughtful and devoted to detail. It has been argued that an important factor for creating effective teams is that the teams consist of people who perform such different team roles (Arnold et al., 2010). These people have different contributions to the group when solving tasks, and this should be acknowledged.

There are also existing interventions that focus upon teamwork and the goal setting process in groups. A intervention-project written as a master thesis by co-student Christine Vollan aimed to get kindergartens in Oslo to serve more vegetables. The intervention aimed to create a goal for vegetable serving and ensuring group goal commitment to this goal. This was done by using the technique of implementation intentions and mental contrasting (Stadler,
Vegetables in kindergarten

Oettingen, & Gollwitzer, 2010; Webb & Sheeran, 2008) on group level. Christine Vollan and I conducted this intervention with success, and if desirable these results can be read about further in Christine Vollan’s master thesis written at the University of Oslo in the spring 2014.

7.1. Barriers

The analysis of perceived barriers indicated that five categories of barriers were of special importance. It should be considered that the results may not be representable for all employees in the kindergartens, but it gives insight into what barriers are frequently mentioned. This provides an indication of which barriers are problematic and should be addressed further.

7.1.1. Economy. Economy was mentioned frequently by the respondents. Lack of money prevented them from buying fresh vegetables, because the money had to be spent on different food and other things that were of higher priority. It is a known problem among kindergartens in Norway that they do not get sufficient economical support from the government. Most kindergartens report that if there were more money they would follow through on more of their ideas and initiatives to promote children’s health and welfare. This is a more extensive problem for communal kindergartens, because they can only rely on money they get from the state. Private kindergartens have the opportunity to take money from the parents that they can spend on food or other things they see necessary. They have more economical freedom. This is supported by the results, where more communal than private kindergartens reported economy as a barrier. Most of the respondents that reported economy as a barrier also reported that this is a barrier that is important and not solvable. Some respondents mentioned this as an important barrier that could be solved. These respondents could have meant that the money they receive, could be differently organized and prioritized within the kindergarten to make vegetable serving possible. This is a question of priority within the kindergarten. It
Vegetables in kindergarten could also mean that vegetables can be supplemented from other sources, such as from parents.

In conclusion, it seems that communal kindergartens experience economy as a greater barrier than private kindergartens do. This is probably due to differences in how much money they receive. Economy is perceived as a barrier that is hard to overcome unless the state decides to give more money to kindergartens. Today it seems unlikely that the state will provide more money. Possible solutions of this barrier could be different prioritizing or supplement from parents.

7.1.2. **Lack of time.** The data revealed that employees in kindergartens often perceive time-pressure as a significant barrier. It seemed not to be differences between communal and private kindergartens. Some of the respondents mentioned that in order to prepare vegetables, staff members had to leave the group of children, which was problematical. The staff in kindergartens is often pressed for time, as they have to perform various duties in the kindergarten such as food preparation and grocery shopping while at the same time attending to the children. Children demand and deserve much of the attention, and finding time to prepare vegetables is therefore often not prioritized. The average number of children per child care provider in Norwegian kindergartens was 4,6 in 2011 (Westervold, 2012). This is due to political and economical reasons at the national level, and is hard for individual kindergartens to change.

Most of the respondents that reported lack of time as an important barrier also reported that it was hard to overcome, but possibly solvable. None of these respondents reported that time-pressure was hard to overcome and not solvable. This indicates that solutions to the barrier of time-pressure can be found. One solution could be to establish proper daily routines. When discussing with kindergarten staff, several people mentioned getting vegetables into the daily routines as important. This could include preparing vegetables in the early morning every day.
and placing it in the refrigerator until later. Vegetables could also be served regularly as a side dish for other meals such as breakfast or lunch. Vegetables can very well be used as sandwich spread and put on the table together with the bread and butter. Many kindergartens also regularly serve fruit to the children as afternoon snack. The fruit would also need time to be prepared, and a solution could be to either change fruit for vegetables or prepare it together in the same meal. Creating such daily routines could save the staff valuable time, and it would not affect the children too much.

An alternative solution would be to bring the children when doing grocery shopping and preparing meals in the kitchen. This would also be positive for the children because they can learn to cook and be inspired, which would increase the chance of children adopting healthy food habits themselves. However, respondents also reported a few barriers related to bringing the children along when cooking. Two respondents mentioned small kitchen space and dangerous knives as important barriers. Solutions could be to rotate which children to bring in the kitchen, just bring the older children who will not hurt themselves too much, or give children proper tasks that does not include dangerous utensils like placing vegetables on plates or stirring the soup.

In conclusion, time-pressure is an issue many employees seem to regard a barrier to serving vegetables. This barrier is however not perceived as impossible to solve. Creating functional daily routines and involving children in food-preparation can be possible solutions.

7.1.3. Children’s taste-preferences. Many children express dislike for vegetables, and the employees find it hard to make them eat it. The reasons for children saying they don’t like vegetables could be many. It could be that they are not used to it from home and therefore find the taste unfamiliar or because of pervious negative experiences with vegetables. Regardless of the reason for this, employees do not want to serve vegetables when the food is
not eaten. It will go to waste, and the children may end up hungry. If they try to force the children to eat it, unpleasant drama may arise.

When providing children with new unfamiliar food, one usually has to try serving it to them a couple of times before they start liking it. New and unfamiliar things seem scary, and people tend to go for what they already know and love. It often takes the taste buds a couple of tries before they adapt to the new taste. Research indicates that children’s liking of new food is a result of an exposure effect and positive comments from caregivers on the food (Birch & Marlin, 1982; Carruth, Ziegler, Gordon, & Barr, 2004). This is important to remember for staff in kindergartens. If the child does not want to try to eat, or say they do not like it, trying again another time is important. It would also help if the employees that serve the vegetables give positive comments on the food and eat vegetables together with the children. It would signalize that the food is good and okay to eat. It is important to inform employees about this. It could motivate them to try serving vegetables, even if some kids are resistant at first.

Allergy was also mentioned by two respondents as a barrier that was difficult but solvable. Some children are allergic to some vegetables, and it requires adaptation. It could be solved by preparing a special meal for this child without the specific vegetables, or choose other vegetables instead to serve the children. If a child has a severe allergy for a certain vegetable that could cause serious illness, this vegetable should not be included in the menu at all. It is possible to work around the issue of allergy, but it requires some adaptation and motivation to do so.

7.1.4. Psychological factors. Some of the barriers mentioned were classified as psychological factors. This includes forgetfulness, motivation and perceived support.

7.1.4.1. Forgetfulness. Some staff members mentioned that forgetfulness was a significant barrier for not serving vegetables. They simply forgot to put vegetables on the grocery list, or
they had vegetables in the refrigerator but forgot to put it on the table. This seems to be an issue of routines. Creating good routines for vegetable serving could eliminate this barrier. Routines such as checking the refrigerator every morning to get an overview over the food that is available and which food should be used before it goes bad is a good daily routine, to prevent the vegetable from being forgotten. At the same time the staff should write down which vegetables they are low on and it should be added to the grocery list. Making plans over what food to serve which day and at which time are also a good routine that many kindergartens already have in place, but it should also include vegetables.

7.1.4.2. Motivation and support. Some respondents also mentioned lack of motivation or support. This was mostly directed at coworkers. Respondents said that more vegetables would have been served if they had more support from other employees. Some of their coworkers seemed negative to serving vegetables and thought it was a task too challenging. This lowered motivation. One respondent said that food serving is just not prioritized. If only a few of the staff members are motivated to serve vegetables, but the majority of staff members are not, it seems harder for these few individuals to push through changes. Fear of rejection or mocking may be one explanation for them not taking the initiative on behalf of the group. Another explanation could be that they perceive getting the rest of the staff on board with vegetable serving as an impossible task, and that there is no use in trying. More extensive managerial support could perhaps make a difference, as people could respond more favorably if the initiative comes from an authority person. Support from parents is probably also important, especially if much the food served comes from home. A reported barrier was lack of vegetables in children’s homemade lunch-boxes. Parents who insist on bringing cake for birthdays and that are not willing to pack vegetables instead of yoghurt and fruit, can demotivate the staff. Kindergartens where parents on the other hand are active promoters of vegetables will probably benefit from this. It will be easier to push through vegetable serving
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and be motivated to do so. This is because it is a parental demand, and kindergartens most often strive to please parents.

In conclusion, support from coworkers, management and parents seem to be important to be able to motivate employees to serve vegetables.

7.1.5. Availability/variety of vegetables. Respondents also mentioned lack of available vegetables in the kindergartens as a barrier. If the vegetables had been present in the kitchen, it would have been easier for them to use it when preparing meals. Some respondents also mentioned that low variety in vegetables that was bought in was an issue. They probably found it to be of little inspiration that the only vegetables available to them were cucumber and paprika. A solution to this problem could be to organize the shopping routines better. The person responsible for shopping should receive input from the other employees on which vegetables to buy more or to buy less of. Some respondents also complained of low selection of vegetables at the local grocery store. A suggestion would be to shop at another grocery store if possible or to purchase food from a different firm if the food is delivered. This could of course be difficult if there is only one grocery store in the neighborhood area or if the kindergarten already has a written agreement with a food delivery company. Each kindergarten has to adjust this according to their practices. Still the questions of availability and variety are a question of establishing proper routines and communication.

7.2. Limitations to the study

7.2.1. Desirability effects. Knowing that one is studied could generate actual behaviour change or it could make the respondents want to present themselves in a good light. The heading of the questionnaire was ”grønnsaker i barnehagen” and the information-sheet included information of the goal of the study. This could have affected the respondents to be more primed and focused on vegetables, which could have affected their answers. There is
also the possibility on the respondents altering the truth to make their kindergarten look good and healthy.

7.2.2. Biased sample. The aim was to get kindergartens with different characteristics to participate. This included kindergartens that were both private and communal, that came from different areas of the city, that differed in size, and that differed in how much vegetables they served. However, it proved hard to recruit respondents, so the sample is not completely blindly selected. The kindergartens choosing to respond could have some characteristics in common that have an effect on the results. That is however hard to control.

7.2.3. Sample size. It would have been ideal to have a larger sample, but difficulties in recruitment prevented this. Getting kindergartens to commit to participate was hard, and many of the kindergartens backed out late in the process.

Too few respondents in each group were also a problem. Some kindergartens are quite small, and sometimes one cannot get all employees to participate. This is however challenging to do something about. The questionnaire was voluntarily and people cannot be forced into responding. The only thing one can do is to try out various techniques to improve response rate. This was done by offering prizes, bargaining, and talking to people face to face without too much luck.

7.2.4. Respondent errors. In psychological research involving humans there is always the possibility of respondents misunderstanding. The participants could have misunderstood some of the questions or not read the questions properly. Some of the questions were reversed, and respondents reading too fast may not notice this and give the wrong answer. After the questionnaire was administered, there was also an oral feedback from a respondent on the fact that the definition of vegetables was not included in the questionnaire. A concern is that some people could have misunderstood and regarded fruit as vegetables. That would have affected their report on how much vegetables they served. It was a presumption that everyone
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intuitively knew the difference between fruit and vegetables. In retrospect, a definition should have been included to prevent confusion.

**7.2.5. Degree of difficulty.** In retrospect it also seems that the questionnaire was hard for the respondents to answer. Some kindergartens reported that the employees found it hard to answer parts of the questionnaire. Some also reported that employees with minority background had some trouble understanding the questionnaire because of language difficulties. As a result, some respondents did not fill out the questionnaire completely. The questionnaire was pilot-tested in a kindergarten before it was administered, and these respondents did not have any comment upon this. They answered every question and did not find it hard. More extensive pre-testing could perhaps have prevented this. This problem is a reminder of the fact that when conducting research in psychology, one always has to carefully consider how the respondents will react to the questions. It has to be taken into account that they often are not academics and have diverse backgrounds. Even though the language in the questionnaire was fairly simple and adapted to non-academics, the questionnaire included questions that people in general do not reflect upon in their everyday life. They may perform these actions every day, but it is merely habitual and they do not give it too much thought and reflection. They therefore may find it hard to answer when they have to sit down and think it through. An easier questionnaire, could perhaps have improved the response rate. Some of the possible respondents informed that they would have answered the questionnaire if it were easier.

**7.3. Further research**

It is important that it is invested further resources into investigating the issue of vegetable serving in kindergarten. The results of the present study indicate that group processes are important for understanding kindergartens practices regarding vegetable serving. Research in the future should focus upon investigating how kindergarten-teams work together to serve
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vegetables, and on establishing the effects that teambuilding in the kindergarten has on vegetable serving. It would also be interesting to investigate the effects of different roles within the kindergarten, and how these can contribute to vegetable serving. Informal leadership should be investigated in order to establish if single individuals who are focused on achievement, believe in the group and have high goal commitment could have an impact.

8. Conclusion

The present study has provided a valuable contribution to understanding factors that influence vegetable serving in Norwegian kindergartens. The study shows that group processes are an important factor to consider when trying to make kindergartens serve more vegetables. Individual factors such as attitudes and intentions towards serving vegetables are important as a fundament, but not determinal for vegetable serving. The majority of kindergarten-employees believe that serving vegetables in kindergarten are very important for children’s health. The majority are also committed to the goal of serving vegetables in kindergarten every day and thinks this is a goal worth of achieving. Still they do not serve enough vegetables. It implies that factors on group level are of importance. Collective efficacy and group goal commitment are factors that were found to have an impact upon vegetable serving.

In order to increase vegetable serving in kindergarten, focusing on teamwork therefore seems important. Building a strong work-team with open communication of ideas and support both from colleagues and from the leader is essential. Creating an organizational culture in which mutual support and helping each other with difficult tasks is important. Receiving support from parents is also important for serving vegetables as parents have much influence on what should be done in the kindergarten.

Creating goals for vegetable serving is another important aspect. When the group work as a team, and believe in each other, setting goals and sticking to them will also be easier. Many of
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the individual employees report that a goal of serving vegetables every day is goal worth of striving for. Agreeing upon this goal together as a team, will lead to higher perceived support from leader and colleagues. This will make the employees more committed to the goal, and it will be easier to follow through and serve more vegetables. The goal setting process is therefore important.

In order to increase vegetable serving in Norwegian kindergartens, the interventions must also take into account the environmental conditions. Poor economy and lack of staff are factors that in most cases are outside of the kindergartens control. Interventions must therefore be made with the resources already available in the kindergarten in terms of budget and staff required. It is however possible to make vegetable serving in kindergartens possible even with poor economy and lack of time and staff. This is a question of priorities, organizing and crating proper daily routines. Issues of low availability and variety in vegetables, difficulties in remembering to prepare vegetables, and difficulties in getting children to taste vegetables, can also be solved by creating good routines and be open to new possible ways of organizing things. Most problems associated with vegetable serving can be solved, as long as one is open to new practices and willing to collaborate, help and support each other.
9. References


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Vegetables in kindergarten


Table 1: Kindergartens in Oslo: How often are fruit and vegetables offered, amount in %, n=187. Source: Helseetaten

<table>
<thead>
<tr>
<th></th>
<th>5 days a week</th>
<th>3-4 days a week</th>
<th>1-2 days a week</th>
<th>Sometimes</th>
<th>Seldom/never</th>
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<tbody>
<tr>
<td>Fresh fruit/berries</td>
<td>80,2</td>
<td>11,2</td>
<td>4,8</td>
<td>1,6</td>
<td>2,1</td>
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<td>Vegetables</td>
<td>32,1</td>
<td>15,0</td>
<td>26,7</td>
<td>20,9</td>
<td>5,3</td>
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Vegetables in kindergarten

Table 2: Kindergartens in Norway: How often are fruit and vegetables offered, amount in %, n = 1100. Source: Helsedirektoratet.

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<th>5 days a week</th>
<th>3-4 days a week</th>
<th>1-2 days a week</th>
<th>Sometimes</th>
<th>Seldom/never</th>
</tr>
</thead>
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<td>Fresh fruit/berries</td>
<td>88,8</td>
<td>5,5</td>
<td>1,7</td>
<td>2,1</td>
<td>1,8</td>
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<td>Vegetables</td>
<td>35,6</td>
<td>15,2</td>
<td>21,5</td>
<td>24,0</td>
<td>3,6</td>
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Table 3: Number of respondents that participated from each kindergarten.

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<th>Kindergarten</th>
<th>Number of participants</th>
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### Vegetables in kindergarten

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<td>26</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>172</strong></td>
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Table 4: Correlations between measures of attitude and goal commitment.

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<td>Min servering</td>
<td>Goal commitment</td>
<td>Ideal serving</td>
<td>Importance</td>
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<tr>
<td>Min servering</td>
<td>Correlation</td>
<td>.203</td>
<td>.540</td>
<td>.272</td>
<td></td>
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<td>Sign.</td>
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<td>.000</td>
<td>.000</td>
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<tr>
<td>Goal commitment</td>
<td>Correlation</td>
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<td>1</td>
<td>.219</td>
<td>.333</td>
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<td>Sign.</td>
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<td>.005</td>
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<td>Correlation</td>
<td>.540</td>
<td>.219</td>
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<td>.217</td>
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<td>Importance</td>
<td>Correlation</td>
<td>.272</td>
<td>.333</td>
<td>.217</td>
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<td>Sign.</td>
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Table 5: Linear regression between aggregated collective efficacy and aggregated vegetable serving. *$p < .001$
Vegetables in kindergarten

Table 6: Results of mixed model analysis between individual respondents collective efficacy and vegetable serving. *p < .05

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<tr>
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<tr>
<td>Intercept</td>
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<td>.575</td>
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<td>Collective efficacy</td>
<td>.363*</td>
<td>.131</td>
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</table>
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Table 7: Frequencies and percentage for mentioning vegetable serving/serving healthy food as general goals in the kindergarten. Both what the respondents individually though should be important goals and goals they perceived to be of importance in their kindergarten now.

<table>
<thead>
<tr>
<th>Vegetables/healthy food</th>
<th>Individual</th>
<th>Kindergarten</th>
</tr>
</thead>
<tbody>
<tr>
<td>1\textsuperscript{st} mentioned goal</td>
<td>8 (4.7%)</td>
<td>11 (6.4%)</td>
</tr>
<tr>
<td>2\textsuperscript{nd} mentioned goal</td>
<td>5 (2.9%)</td>
<td>13 (7.6%)</td>
</tr>
<tr>
<td>3\textsuperscript{rd} mentioned goal</td>
<td>10 (5.8%)</td>
<td>10 (5.8%)</td>
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<tr>
<td>4\textsuperscript{th} mentioned goal</td>
<td>13 (7.6%)</td>
<td>3 (1.7%)</td>
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<tr>
<td>5\textsuperscript{th} mentioned goal</td>
<td>15 (8.7%)</td>
<td>13 (7.6%)</td>
</tr>
<tr>
<td>Top five total</td>
<td>51 (29.7%)</td>
<td>50 (29.1%)</td>
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<tr>
<td>Not mentioned</td>
<td>102 (59.3%)</td>
<td>96 (55.8%)</td>
</tr>
<tr>
<td>Total responses</td>
<td>153 (89%)</td>
<td>146 (84.9%)</td>
</tr>
<tr>
<td>Total respondents</td>
<td>172 (100%)</td>
<td>172 (100%)</td>
</tr>
</tbody>
</table>
Vegetables in kindergarten

Table 8: Linear regression between aggregated group goal commitment and aggregated vegetable serving. *p < .001

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>SE B</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-1.528</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td>Collective efficacy</td>
<td>1.418</td>
<td>0.10</td>
<td>.726*</td>
</tr>
</tbody>
</table>


Table 9: Results from mediation analysis between collective efficacy and serving (mediated by group goal commitment). *significant at $p < .001$

<table>
<thead>
<tr>
<th></th>
<th>b (se)</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective efficacy</td>
<td>2.356 (0.149)*</td>
<td>.771</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.594</td>
<td></td>
</tr>
<tr>
<td>Model 2:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collective efficacy</td>
<td>1.623 (0.245)</td>
<td>.297</td>
</tr>
<tr>
<td>Group goal commitment</td>
<td>0.580 (0.165)*</td>
<td>.531</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.625</td>
<td></td>
</tr>
</tbody>
</table>
Table 10: Computation of the total effect of collective efficacy and group goal commitment on vegetable serving.

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized</th>
<th>Standardized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct effect</td>
<td>1.623</td>
<td>0.531</td>
</tr>
<tr>
<td>Indirect effect (CE*GGC)</td>
<td>0.516*0.580 = 0.299</td>
<td>0.808*0.297 = 0.239</td>
</tr>
<tr>
<td>Total effect (Direct + Indirect)</td>
<td>1.922</td>
<td>0.521</td>
</tr>
</tbody>
</table>
Table 11: Results of qualitative barrier analysis, displaying frequencies of how many times the various barriers were mentioned.

<table>
<thead>
<tr>
<th></th>
<th>Respondents</th>
<th>Kindergartens (%)</th>
<th>Communal</th>
<th>Private</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economy</td>
<td>37</td>
<td>12 (44,4%)</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Lack of time</td>
<td>36</td>
<td>16 (59,3%)</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Children’s taste preferences</td>
<td>35</td>
<td>15 (55,5%)</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Psychological variables</td>
<td>25</td>
<td>14 (51,9%)</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>Availability/variety of vegetables</td>
<td>11</td>
<td>2 (7,4%)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Other</td>
<td>25</td>
<td>10 (37,0%)</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>
Table 12: Results of qualitative barrier analysis, displaying frequencies for the rating of difficulty and solvability of the barrier.

<table>
<thead>
<tr>
<th></th>
<th>Number of respondents</th>
<th>Very hard and not solvable</th>
<th>Difficult and perhaps solvable</th>
<th>Difficult but solvable</th>
<th>Simple and solvable</th>
<th>Unclassified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economy</td>
<td>37</td>
<td>11 (29,7%)</td>
<td>14 (37,8%)</td>
<td>8 (21,6%)</td>
<td>1 (2,7%)</td>
<td>3 (8,1%)</td>
</tr>
<tr>
<td>Lack of time</td>
<td>36</td>
<td>1 (2,7%)</td>
<td>13 (36,1%)</td>
<td>17 (47,2%)</td>
<td>9 (25,0%)</td>
<td>1 (2,7%)</td>
</tr>
<tr>
<td>Children’s taste preferences</td>
<td>35</td>
<td>0 (0,0%)</td>
<td>9 (25,7%)</td>
<td>15 (42,9%)</td>
<td>8 (22,9%)</td>
<td>1 (2,9%)</td>
</tr>
<tr>
<td>Psychological variables</td>
<td>25</td>
<td>1 (4,0%)</td>
<td>1 (4,0%)</td>
<td>2 (8,0%)</td>
<td>18 (72,0%)</td>
<td>3 (12,0%)</td>
</tr>
<tr>
<td>Availability/variety of vegetables</td>
<td>11</td>
<td>0 (0,0%)</td>
<td>0 (0,0%)</td>
<td>2 (18,2%)</td>
<td>9 (81,8%)</td>
<td>0 (0,0%)</td>
</tr>
</tbody>
</table>
Vegetables in kindergarten

Figures

Figure 1:

Vegetables in kindergarten

Figure 2:

The relationship between aggregated collective efficacy and aggregated vegetable serving for each kindergarten

The mean score of CE in each kindergarten

The mean score of serving in each kindergarten - reversed

R² Linear = 0.594
Figure 3:

The relationship between aggregated group goal commitment and aggregated vegetable serving for each kindergarten.
11. Appendix B

Leadership

Informal leadership is a factor that could influence employees serving of vegetables in kindergarten. Informal leaders could influence both the perceived collective efficacy in the group and group goal commitment.

Leaders are usually people that hold formal positions in the group, like the manager. These leaders exert influence over the employees by means of forming and executing new rules and practices in the group. These are the formal leaders of the group, and they usually exert much influence on the group in respect to social norms and goal setting. Informal leaders can however also have significant impact upon the group. Even though the formal leader holds the power, there may be other people in the group that influences factors such as social norms, decisions, motivation etc. to a greater extent. Scheiner and Goktepe (1983) defined informal leaders as those who exerts influence over other group members. Informal leaders can also be said to come from the team and be chosen by the team (Hollander, 1961; Wheelan & Johnston, 1996). These could often be people with strong meanings that are not afraid to communicate them.

There has been done research on informal leadership which indicate that informal leaders has a strong influence on group processes, norms and outcomes (Bass & Stogdill, 1990; Durham, Knight, & Locke, 1997; Kolodny & Kiggundu, 1980; Wheelan & Johnston, 1996). Since an informal leader influence group members significantly, it can be assumed that they will influence the group-members sense of efficacy. It can possibly influence both individual self-efficacy and collective efficacy. Pescosolido (2001) found that the informal leaders perceptions of collective efficacy influence group-efficacy. The result of this study suggested that informal leaders influenced the decision-making and goal-setting processes in the group. This resulted in bringing the group’s collective-efficacy in line with the leader’s estimation of
Vegetables in kindergarten

initial group-efficacy.

Therefore the hypothesis is that high score for informal leaders on collective efficacy for serving vegetables in the kindergarten, will be associated with high score on the groups aggregated collective efficacy for serving vegetables. This is because the leader will communicate his or her perception of collective efficacy to the group by communicating thoughts and ideas on serving vegetables and by motivating the group to serve vegetables. This will influence the group member’s perception of collective efficacy.

**Informal leadership measurement**

Measuring informal leadership in this study will be done by identifying the informal leaders in each kindergarten. This is done by using methods of peer assessment. Peer nomination technique is one of the frequently used peer assessment methods (Kane & Lawler, 1978). This technique has successfully been used for identifying roles and leaders in various settings, especially in military settings (Hollander & Webb, 1955; Wherry & Fryer, 1949). The method of sample sociometric is similar to peer-nomination and has also been found useful to identify leaders (Valente & Pumpuang, 2007). Sample sociometric means that respondents nominate leaders, and those receiving frequent nominations are selected.

Measurement of informal leadership is in this study based upon peer nomination technique and sample sociometric. This is done by asking each respondent questions regarding who in the group talks the most, who gets through with their ideas and who in the group are likely to take charge. The person receiving most frequent nominations by the people in the group is nominated as the informal leader. To preserve anonymity people are asked to only use initials when naming people. Giving full name of colleagues may invoke concerns of anonymity and an uncomfortable feeling for the respondents, which could result in hesitation to write down names. Using only initials may create higher sense of anonymity among respondents. In the research process the kindergartens are sorted by randomly assigned numbers and not by name.
Vegetables in kindergarten

This is to make sure that it was difficult to figure out which initials that originated from which kindergarten. When a leader is identified, his or hers questionnaire will be located (by using initials) to find the persons score on the efficacy-measures. These scores are compared to the aggregated collective efficacy score for the whole group.

Results. Unfortunately it was not possible to obtain the necessary data from the respondents in order to do the analysis on informal leadership. The measurement of leadership by using peer evaluation technique, may have given more useful results, if the response rate in each kindergarten had been higher and if there were less missing data. Many employees did not want to participate in the research, and some did not want to fill out the part of the questionnaire that investigated leadership. Some kindergartens consisted of different departments, and sometimes only one or two people from each department answered. This made it difficult to appoint a leader when analysing the results. There were too few initials and sometimes too many different initials in order to find a person who emerged as a leader. The unwillingness to answer this part of the questionnaire may be because of this theme’s seemingly nonrelation to vegetable serving. Some respondents pointed out that this had little to do with vegetables serving and that it seemed more like an investigation of their work-environment. They may have felt apprehensive about this. Unwillingness to answer the part about leadership may also simply be because respondents found it hard to appoint a person in each question. Some respondents had written next to the questions that everyone contributed equally. Kindergartens are places built upon equality and democracy, and most of the time people work together to achieve agreement. In the Norwegian society in general, the idea of democracy, nonhierarchy and equality are predominant. It would perhaps be hard for the employees to realise or admit that their work place differed from this. Most research on peer association technique has been done in other countries, such as America. These societies are often considered more hierarchical and less democratic in relation to work-environment.
Vegetables in kindergarten

research has also consisted around appointing leaders in military bases (Hollander & Webb, 1955; Wherry & Fryer, 1949). This environment is build upon hierarchy and everyone knows their place. In conclusion, perhaps peer association technique is a better fit in settings other than kindergartens.

**Self-efficacy for group influence**

Self-efficacy for influencing the group was also measured in the questionnaire. This measurement should have been used in the analysis of leadership. Self-efficacy was measured to yield information about how sure the respondent was that he or she had the ability to influence colleagues in the kindergarten with their opinions. It was especially interesting to know whether or not the person that was nominated as informal leader, scores high of this variable. It seems reasonable to assume that if a person is perceived as a leader in the group, it will be partly because this person often get through with his or hers opinions and decides what to do in the kindergarten. If a person does not have self-efficacy for influencing the group, it seems unlikely that he or she will have the “guts” to put forward their opinions and lead the group. It would be interesting to see if a person can be perceived and function as a leader, even though he or she does not seems to believe in personal ability to influence the group. 

Self-efficacy was measured by using guidelines for constructing questionnaire-scales provided by Bandura (Bandura, 1997). This included questions of ability to convince colleagues and formal leaders of their ideas, certainty of whether or not one can influence the decisions that are made in the group, and certainty of whether or not one can communicate personal opinions to the group.
12. Appendix C

Spørreskjema

Takk for at du fyller ut dette spørreskjemaet. Det tar ca. 15 minutter. Din deltagelse gjør at barnehagen din blir med på en trekking av en blander fra Kitchen Aid. Resultater av denne forskningen vil dere få tildelt i en senere rapport.

Under er det oppmerket seks felter hvor du skal skrive inn bokstaver/tall. Dette er for at forskere skal oppbevare svarene på en sikker måte og at andre ikke kan finne ut hvem respondentene er ut i fra spørreskjemaet. Skriv med tydelige bokstaver.

1. Skriv inn andre bokstaven i ditt fornavn.
2. og 3. Skriv inn tallene for hvilken måned du er født (for eksempel 03 for mars)
4. Skriv inn andre bokstaven i din mors fornavn.
5. Skriv inn tredje bokstaven i din fars fornavn.

___    ___    ___    ___    ___    ___

Kryss av det alternativet som passer best

1. Hvilken stilling har du i barnehagen?

<table>
<thead>
<tr>
<th></th>
<th>Deltid</th>
<th>Heltid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bestyrer</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Pedagogisk leder</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Barnehageassistent</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Vikar</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Annen:________________</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

2. Hvor lenge har du jobbet i denne barnehagen?

☐ Mindre enn 2 måneder
☐ 2-6 måneder
☐ 6-12 måneder
☐ 1-3 år
Vegetables in kindergarten

☐ 3-5 år
☐ Mer enn 5 år

3. Angi i hvilken grad du føler at du er engasjert i det som hender i barnehagen?
   ☐ Veldig uengasjert
   ☐ Noe uengasjert
   ☐ Verken engasjert eller uengasjert
   ☐ Noe engasjert
   ☐ Veldig engasjert

Her kommer først noen spørsår om generelle målsettinger i barnehagen.

Hva mener DU burde være viktige mål å oppnå i din barnehage? Lag en liste over de fem viktigste målene, hvor det første målet er det DU anser som viktigst. Målene kan være generelle eller spesifikke.

1. ______________________________________
2. ______________________________________
3. ______________________________________
4. ______________________________________
5. ______________________________________

Hvilke mål tror du BARNEHAGEN din er opptatt av å oppnå? Lag en liste over de fem viktigste målene, hvor det første målet er det BARNEHAGEN anser som viktigst. Det kan være generelle eller spesifikke mål.

1. ______________________________________
2. ______________________________________
3. ______________________________________
4. ______________________________________
5. ______________________________________
Under kommer det noen spørsmål om servering av grønnsaker.

1. Hvor ofte serveres det grønnsaker i barnehagen?

☐ Flere ganger daglig  
☐ Daglig  
☐ Annenhver dag  
☐ En til to ganger i uken  
☐ En til to ganger i måneden  
☐ Sjeldnere  

2. Hvor ofte mener du at dere skal servere grønnsaker i barnehagen ideelt sett?

☐ Flere ganger daglig  
☐ Daglig  
☐ Annenhver dag  
☐ En til to ganger i uken  
☐ En til to ganger i måneden  
☐ Sjeldnere  

3. Hva mener du er minimum antall ganger barnehagen bør serve grønnsaker?

☐ Flere ganger daglig  
☐ Daglig  
☐ Annenhver dag  
☐ En til to ganger i uken  
☐ En til to ganger i måneden  
☐ Sjeldnere  

4. Hvor viktig anser du at det å servere grønnsaker i barnehagen er for barnas helse?

☐ Uunnværlig  
☐ Veldig viktig  
☐ Delvis viktig  
☐ Verken viktig eller uviktig  
☐ Noe uviktig

5. Hvis du jobber med å servere grønnsaker i din barnehage på en eller annen måte, skriv alt du gjør innenfor dette (for eksempel håndtere penger, organisere, hjelpe, kjøpe, tilberede, formidle, ta oppvasken,...)
6. Hva mener du er de største problemene for DEG med å bidra til å servere grønnsaker i barnehagen? Skriv her alle problemene du ser som relevante. For hvert problem skal du også indikere hvor vanskelig det er å løse problemet.

<table>
<thead>
<tr>
<th>Problem</th>
<th>Helt avgjørende og ikke løsbart</th>
<th>Vanskkelig og kanskje løsbart</th>
<th>Vanskelig men løsbart</th>
<th>Enkelt og løsbart</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
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<td>3.</td>
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<td>4.</td>
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<td>6.</td>
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<tr>
<td>7.</td>
<td></td>
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<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hvis disse problemene ble løst, ville dere dere servert grønnsaker oftere i din barnehage?

□ Definitivt
□ Antageligvis
□ Kanskje
□ Kanskje ikke
□ Definitivt ikke

<table>
<thead>
<tr>
<th>Dette problemet er…</th>
<th>Helt avgjørende og ikke løsbart</th>
<th>Vanskelig og kanskje løsbart</th>
<th>Vanskelig men løsbart</th>
<th>Enkelt og løsbart</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
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<tr>
<td>4.</td>
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<td>5.</td>
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<td>6.</td>
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<td>7.</td>
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<tr>
<td>8.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Hvis disse problemene ble løst, ville dere dere servert grønnsaker oftere i din barnehage?

- ☐ Definitivt
- ☐ Antageligvis
- ☐ Kanskje
- ☐ Kanskje ikke
- ☐ Definitivt ikke

Her kommer noen påstander om innflytelse på saker i barnehagen. Du skal angi hvor enig du er med påstandene for din egen del. Kryss av det alternativet om passer best for deg.

1. Jeg kan klare å gi uttrykk for mitt syn på saker som diskuteres i barnehagen når jeg snakker med mine kolleger.
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2. Jeg kan klare å påvirke beslutningene som tas i barnehagen.

3. Jeg kan klare å overtale mine kollegaer med mine synspunkter, selv om de egentlig er uenige.

4. Jeg kan klare å overtale min nærmeste leder med mine synspunkter, selv om han/hun egentlig er uenig.

5. Jeg kan påvirke hva slags mat som serveres i barnehagen.

6. Jeg kan påvirke om det serveres grønnsaker i barnehagen.


1. I denne barnehagen klarer vi å kjøpe inn grønnsaker som er passende for barn å spise.

2. I denne barnehagen klarer vi å bruke de nødvendige redskapene for å tilberede grønnsaker.

3. I denne barnehagen klarer vi å behandle grønnsaker på riktig måte.

4. I denne barnehagen klarer vi å tilberede grønnsakene slik at det blir lett for barna å spise dem.

5. I denne barnehagen kan vi ikke klare å motivere de ansatte til å tilberede grønnsaker.

6. I denne barnehagen kan vi klare å tilberede grønnsaker selv om et oppstår utfordringer underveis.

7. I denne barnehagen klarer vi ikke å tilberede grønnsaker når den som vanligvis gjør det er borte.

8. I denne barnehagen klarer vi ikke å motivere barna til å spise grønnsaker.
9. I denne barnehagen kan vi klare å få barna til å spise grønnsaker, selv om de gir uttrykk for at de ikke har lyst på.
   □ Veldig uenig □ Delvis uenig □ Verken enig eller uenig □ Delvis enig □ Veldig enig

   □ Veldig uenig □ Delvis uenig □ Verken enig eller uenig □ Delvis enig □ Veldig enig

11. I denne barnehagen kan vi klare å presentere grønnsaker til barna på en engasjerende måte.
   □ Veldig uenig □ Delvis uenig □ Verken enig eller uenig □ Delvis enig □ Veldig enig

12. I denne barnehagen kan vi klare å bruke grønnsaker under måltidet på en pedagogisk måte.
   □ Veldig uenig □ Delvis uenig □ Verken enig eller uenig □ Delvis enig □ Veldig enig


Først ønsker vi at du angir dine egne initialer:_________

Angi initialer i rangert rekkefølge (du kan også angi egne initialer dersom du mener det er deg selv som er passende svar). Skriv med tydelige bokstaver.

1. Hvem i gruppen snakker mest?
   • Initialer_________
   • Initialer_________
   • Initialer_________

2. Hvem i gruppen hører flest på?
   • Initialer_________
   • Initialer_________
   • Initialer_________

3. Hvem i gruppen tar lett styringen?
   • Initialer_________
Vegetables in kindergarten

- Initialer___________
- Initialer___________

4. Hvem i gruppen får best gjennomslag for sine ideer?

- Initialer___________
- Initialer___________
- Initialer___________

Det er en målsetning i utdanningsplanen for barnehager at det skal serveres grønnsaker fem dager i uken. Angi i hvilken grad du er enig i påstandene om denne målsetningen for din egen del.

1. Det er vanskelig å ta dette målet seriøst
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

2. Jeg bryr meg egentlig ikke om jeg oppnår dette målet eller ikke.
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

3. Jeg føler meg sterkt forpliktet til å nå dette målet.
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

4. Det er lett for meg å gi opp dette målet.
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

5. Jeg tror dette målet er verdt å gå inn for.
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

Angi i hvilken grad du er enig i påstandene om denne målsetningen for barnehagens/gruppens del.

1. Det er vanskelig for gruppen å ta dette målet seriøst
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

2. I denne barnehagen bryr vi oss egentlig ikke om vi oppnår dette målet eller ikke.
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

3. I denne barnehagen føler vi oss sterkt forpliktet til å nå dette målet.
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

4. I denne barnehagen er det enkelt for oss å gi opp dette målet.
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig

5. I denne barnehagen tror vi dette målet er verdt å gå inn for.
   - Veldig uenig  □ Delvis uenig  □ Verken enig eller uenig  □ Delvis enig  □ Veldig enig