

Tonje Gamman Grønning

## Like Fuel to the Fire?

Testing Reciprocity of Emotional Lability and  
Victimization at Ages 6, 8, and 10 – A Cohort  
Panel Study

Master's thesis in Special Education  
Supervisor: Frode Stenseng

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Faculty of Social and Educational Sciences  
Department of Education and Lifelong Learning





## **Preface**

The work presented is carried out as a study assignment for the Special Education master's programme at the Department of Education and Lifelong Learning, Faculty of Social and Educational Sciences, NTNU Trondheim, under the supervision of Professor Frode Stenseng. It has been written as a scientific article with aims of being submitted to an international peer-reviewed journal. As such, this article is written in accordance to the technical and basic content requirements of the journal *Child Development*. In addition to the scientific article, I have included a more extensive review of theory and literature regarding victimization and emotion regulation, applied methods and a brief summary of the main findings of the study. These additions are presented first, and the scientific article itself is presented second.

## **Acknowledgments**

First and foremost, I would like to thank Professor Frode Stenseng for providing the technical part of the statistical analyses presented in this study, in addition given clear and concrete feedback, inspiration and motivation throughout the period. Thank you!

Secondly, I would like to thank my family and friends for their good support, where a special thanks goes to Olav André Magnussen for encouragement and proofreading in numerous rounds.

Lastly, the data material used in this study was collected for the Trondheim Early Secure Study at NTNU, and it is with great gratitude that I have had the opportunity to access this high-quality data.

Tonje Gamman Grønning  
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## Introduction

As of August 1st 2017, chapter 9a in the education act (Opplæringslova - oppl, 1998) was adjusted making it a statutory zero tolerance towards bullying in school, and the changes entail a clear responsibility for all employees at the school. Although there was a reduction of 0.5% of pupils being victimized (two or more times per month) between 2017 and 2018, the number in 2018 is still as high as 6.1% (Wendelborg, 2019). And when a growing body of research on the detrimental effects of victimization shows that these children have an increased risk for later health problems like anxiety, depression, psychosomatic disorders, suicidal thoughts and suicide attempts (Espelage & Swearer, 2003; Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007), it is a vital to stop or reduce such negative actions. More knowledge within the field is necessary, and knowledge must also be passed on to schools and other instances where victimization takes place.

In a report assigned from the Norwegian government, the Centre for Learning Environment and the Regional Centre for Child and Youth Mental Health and Child Welfare made a literature review about the consequences and measures for children who are exposed to bullying (Breivik et al., 2017). At the end of this report they recommend areas of further research. Some of the areas that needed more research was longitudinal studies with larger selections, and studies where younger children were in focus (most of the studies have been done on children from 10 years and older). Self-regulation as a potential prediction factor and further studies of Norwegian children were also mentioned as areas that needed more research (Breivik et al., 2017).

In the present study, our primary purpose was to establish the impact of emotional regulation and victimization by peers in a longitudinal perspective, using a three-wave longitudinal design, including a large sample population of children from age 6 to 10 years. The primary hypotheses of the study were as follows: (1) Emotional lability at age 6 would predict increased vulnerability for victimization from age 6 to age 8 and with the same pattern from age 8 to age 10. (2) Victimization at age 6 would predict increased emotional lability from age 6 to age 8, and the same from age 8 to age 10. As such, we predict a reciprocal relationship of emotional lability and victimization, investigated in a cross-lagged panel design.

These development relations are according to Breivik et al. (2017), in need of further research, and we therefore hope that this project will contribute in some manner to the

research field. This will in turn help schools to guide and support children, and thus come closer to the zero tolerance towards bullying in school.

In the next part, I will go through some historical and theoretical foundations of victimization and emotion regulation before I look at some scientific consequences of this research. Lastly, the article, which follows the guidelines of Child Development, will be presented. The paper format, style and manuscript structure are written in accordance to Society of Research in Child Development (2019).

## **Historical and Theoretical Foundation**

### **Bullying and Victimization**

Main pioneers in the research on bullying and victimization were Peter-Paul Heinemann, Anatol Pikas and Dan Olweus, and they were first on trying to describe what bullying is and how it works (Roland, 2014). Peter-Paul Heinemann (1973) made observations in the school yard and subsequently defined the act of bullying as consisting of two groups: bullies and victim. He describes the action as a random act where the group dynamic between the bullies accidentally get frustrated and disrupted, and then channel the aggression against the victim, who is the source of the frustration. Anatol Pikas (1976) had a more scientific explanation of bullying focusing on the repeated action. But like Heinemann, he also emphasised the processes in the groups, and not so much on the individual differences between the bully and the victim. These theories have been criticized because of the lack of focus on the individual, and that they describe bullying as a more random act (Roland, 2014). The Swedish-Norwegian psychologist, Dan Olweus (1974), had a different view on bullying. He also focused on the internal processes of a group, but more specifically on the individual characteristics of the bullies and the victims in his understanding of causes and processes in the act of bullying. Later on Olweus has been a very active researcher and probably the most visible and influential individual in the field (Roland, 2014).

Erling Roland, a Norwegian pedagogue, is another recognized researcher in the field of bullying, was also early in trying to understand this negative act which takes place in so many aspects of children's lives. Throughout his work he has therefore tried to explain the psychology of bullying, where the first elements of a theoretical model came in 1980 (Roland, 1983). Later on, the theoretical model has expanded and been tested against empirical data where it has become a complex system that concerns many different aspects. Firstly, it includes the interaction between the bullies, the victim and the crowd (Roland, 2014). He

describes bullying as a distinctive interaction where the bullies demonstrate power by creating a feeling of powerlessness in the victim. The act of bullying is stimulated by excluding another from the group, thus creating a sense of belonging within it. Alongside this stimulation it is believed that belonging to a group lowers the inhibitions for legitimizing an assault, and that repetitions contribute to normalize it. The bullies' action is driven by power and a common negativism in the group. The victim of bullying will usually both be weaker than the average and showcases more fear than others. And the crowd, through the fictitious norms where each one believes the others accept the action, and through the habituation of the action will help to normalize the bullying. It is also expected that through such action the crowd can support the bullies. Roland's model also includes structural elements that can contribute to explain the way bullying happens. These are more stable elements concerning how well the family, class environment, teachers and the administration of the school works, as well as the community as a whole (Roland, 2014). In other words, bullying is a complex system where many different factors are involved.

The understanding of a more complex system has also been looked at by other researchers. The widely cited research on the group dynamics done by Salmivalli, Lagerspetz, Björkqvist, Österman, and Kaukiainen (1996) is one example. They looked at the whole group of pupils and defined different participant roles in a bullying situation, and it became more obvious that bullying not only concerns the bullies and the victims, but also the involvement of other pupils in different ways, like Roland stated.

In addition to this, the important aspects of aggressive behaviour have also been given a lot of attention when it comes to research on bullying. Generally speaking there are two types of aggressive behaviour which is separated by two main factors; the social event and the emotions involved (Roland & Idsoe, 2001). Aggression that is caused by some kind of frustration or aversive event is known as reactive aggression, and act out as a negative emotion, commonly understood as anger. Aggression that is used as an instrument to achieve an outcome and where positive emotions through hurting are presumed to be present in the aggressor is known as proactive aggression. Pleasure or stimulation rather than anger is perceived as the dominant emotion in proactive aggression (Roland, 2014; Roland & Idsoe, 2001). This last type of aggressiveness is often related to the bullies, especially for older children and youth. And children who experience such aggression directed to themselves daily in their lives, where they are physical and verbal abuse by their peers, are experience victimization, which is seen as a very dramatic form of bullying (Schwartz, Pettit, Dodge, & Bates, 2000).

## **Emotion Regulation**

Human development can roughly be divided into three categories; physical development, cognitive development and socio-emotional development (Glaser, 2018). Physical development concerns both internal and external biological changes, whereas cognitive development concerns mental processes that controls our ability to think, dream, analyse, learn and perceive. The socioemotional development concerns our personality, which means how we develop emotionally into unique individuals and social people, the development of identity and relationship with others (Glaser, 2018). These three categories are broad, but to understand the development of emotion regulation we also have to understand some of the other aspects.

Historically, it was not until the early 1950s that attention was paid to children's dependence on stable relationships with safe adults. Attention was, among other things, related to the separation due to hospitalization (NOU 2012: 5, 2012). Based on this background, John Bowlby wrote a report to the World Health Organization, "Maternal Care and Mental Health", where he claimed that it was necessary for the child's development to have a stable, continuous relationships with his mother, or a stable deputy for her (Bowlby & Ainsworth, 1951). In the next few decades Bowlby continued his work with this theory, which is now known as the attachment theory. In this theory John Bowlby underlines the importance of a good and secure childhood, especially during the early years of life. He describes the attachment behaviour as a form where the child develops closeness to another person, often the mother, that has a better understanding of the situation. Through this relation the child develops a behavioural system that will influence the development of internal structure, and later affect the interaction the child has with other surroundings (Bowlby, 1997, 2005).

The attachment theory is not only related to emotional regulation, but more generally connected to the child's early development. However, research within emotion regulation also looks at a secure attachment as a central part of the development, but that emotion regulation will continue to develop throughout childhood and adolescence (Drugli, 2018). In other words, the understanding is now that the development is a dynamic interaction between the individual and environment (Iarocci, Yager, & Elfers, 2007). It increases as the nervous system develops and when the child repeatedly has positive experiences with being supported in this process (Drugli, 2018).

The American psychologist Nancy Eisenberg is one of the most distinguished researchers in recent times in this field, and she and her colleague have in numerous studies looked at the relation between emotion regulation and social functioning (Eisenberg, 2000; Eisenberg et al., 1995; Eisenberg et al., 1997). In these studies, they have stated that the ability to regulate emotions is associated with good social functioning. Furthermore, many other researchers has been interested in how emotional regulation is developed and how it affects other factors in life, and the definition of emotion regulation has been considerable debated regarding the distinction between emotional reactivity and regulation (Rosen, Milich, & Monica, 2009). However, most models of emotion regulation now understand emotional experience as a result of both an interaction of reactivity and an emotion-provoking stimulus where the physiological, cognitive, and behavioural mechanisms is used to modify and adapt the initial emotional reaction to match the surroundings (Rosen et al., 2009). More precisely the emotion regulation can then be defined as the change associated with activated emotions, were the ability to monitor and control emotional experiences and expressions and adapt these expressions to different social situations is essential (Cole, Martin, & Dennis, 2004; Drugli, 2018).

Emotion regulation, as seen from this brief review, is associated with many aspects and there is no simple explanation for why someone is better regulated then others. But, in the attached article the relation of emotional regulation and victimization will be looked at, where the importance of guiding children towards good emotional regulation will be emphasized.

### **The Present Study**

In this part of the assignment a presentation and some discussions of the research that have not received as much space in the article will take place. A discussion of the advantages and disadvantages of longitudinal design, a description of structural equation modelling and a assessment of the reliability and validity of the research will therefore be looked at. In the end a summary of the main findings and a discussion around implications of this study will be presented.

### **Longitudinal Study**

Longitudinal research can be described as “a form of research in which you observe what naturally goes on in the world without directly interfering with it by measuring several variables at multiple time points.” (Field, 2013, p. 878). One big advantage of this research design is that one has the opportunity to investigate whether the temporal order of causes

effect, is the way it should be according to the hypothesis one wants to test. And also the ability to look deeper into more complex processes which is difficult to study through a cross-sectional study because the context must be viewed in a time perspective to actually understand them (Skog, 2004). Yet there are also some limitations with a longitudinal design. First, drop-outs will always be a disadvantage in all types of research, but in longitudinal studies, relatively few participants who chooses to withdraw can create major consequences due to the participants rate. Second, the measurement and the registration itself can influence the participants to change their habits and lifestyle, and then interfere with the result you get. And lastly, other phenomena can occur when studying a particular development over time, e.g. external changes, or other natural development processes of the individual, and this can also interfere with the result you get (Skog, 2004).

In the present study, it was necessary to do a longitudinal research on the reciprocity of emotional lability and victimization to actually find out the connection between the two elements. Some drop-out was present in this study, but not to the extent that the data was directly affected by it. In addition, there is reason to believe that measurement errors due to the interference of the participants will not be a problem in this research. This is because it is not children who have been directly asked, and therefore have not been affected by the measurement. However, it is more difficult to say something about how external changes, or other natural development processes of the individual has affected the result. This, because there is reason to believe that some changes both in the positive and in more negative direction have occurred in the children's development through these four years they have participated. Nevertheless, the research shows a clear connection, and as we shall see in the next section, the method of analysis used in the present study will help reduce measurement errors (Burkholder & Harlow, 2003), thereby strengthening our results.

### **Structural Equation Modeling**

Structural Equation Modeling (SEM) is a statistical technique that combines multiple regression and factor analysis procedures into a single method (Bentler, 1995). With this technique is it possible to analyse patterns of relations between observed indicators and their underlying latent factors, and also analysing relations among underlying latent factors through regression. Additionally, this technique makes it possible for researches to study a large number of independent, mediator, and dependent factors and examine both their direct and indirect hypothesized relations (Burkholder & Harlow, 2003). Further, Burkholder and Harlow (2003) also stated that this method is considered as an analysis of latent variables with

less biased in that measurement errors are removed, and also by using both methods (regression and factor analysis) in a single procedure the flexibility of modelling increases and gives this statistical technique an advantages for testing complex theoretical structures.

In the present study we defined a cross-lagged model with auto-regressed repeated measures at ages 6, 8 and 10 in Mplus 8.1 (Muthén & Muthén, 1998-2017) in order to test for potential bi-directional effects of emotional lability and victimization. This is an application of SEM-analysis commonly used for longitudinal design, where information for each variable assessed at each time point is analysed (Burkholder & Harlow, 2003). In essence, cross-lagged analysis compares the relationship between variable X at time 1 and variables Y at time 2 with the relationship between variable Y at time 1 and X at time 2. This makes it possible to examine the stability and relationships between variables over time to better understand how variables influence each other over time (Allen, 2017).

Although this is a good statistical method for looking at relationships between latent variables over time, is it not perfect and things can go wrong, not only in the model evaluation, but in all phases of the process (Bentler, 1995). Thus, cautious trade-offs and choices made with regard to recommendations will be necessary for good results, and also a high degree of reliability and validity. In the next section, I will look more closely at the reliability and validity of this study.

### **Reliability and Validity**

Reliability is commonly defined as the degree to which an observed score variance reflect true score variance. There are different methods to estimate the reliability, like assessing different sides of the measurement, but the most common are internal consistency where Cronbach's alpha is commonly used. To be a satisfactory alpha, it should be between .70 - .95 (Furr, 2011), and I will now look more in to the two measurement used in the present study.

The Emotion Regulation Checklist (ERC) is a 24-item questionnaire designed to assess aspects of children's emotion expressions and their processes for regulating their emotions. It has two subscales; Emotion Regulation (ER) and Emotional lability/negativity (L/N), and the internal consistency of both subscales has been shown to be satisfactory (ER  $\alpha = .83$ ; L/N  $\alpha = .96$ ) and the two subscales are significantly correlated ( $r = -.50, p < .001$ ) (Shields & Cicchetti, 1997). In the present study we only used the L/N subscale which includes 16 items which assess the lack of flexibility, anger, dysregulation, and mood lability, where respondents rate each item on a 4-point scale rating from 1 (*never*) to 4 (*almost*

*always*). The internal structure of this construct was shown to be good at all measure points, the alpha in this study was .78 at age 6, .81 at age 8 and .81 at age 10. This is a bit lower than what Shields and Cicchetti (1997) got from their analysis, and the reason may be that they investigated children who were in a risk group, whereas this study include a population sample. This was something they emphasized as a limitation in their research, but as shown the alpha in this study is still satisfactory, and the internal construct is therefore still good.

The Teacher response schema which is an out spring from both Solberg and Olweus (2003) *The Olweus Bully Victim Questionnaire* (OBVQ) and Kyriakides, Kaloyirou, and Lindsay (2006) *Revised Olweus Bully/victim Questionnaire* is a schema with five formative indicators, which makes it possible to also study children at a younger age. The respondents used these indicators to evaluate each child (e.g. “He/she got physically bothered (*beaten, kicked, scratched, bitten, etc.*) by others in the last three months”) where they rate each variable on a 5-point scale from 1 (*never*) to 5 (*every day*). This type of respondent’s schema underlines the index category because the formative causes the value of the latent variable (Ringdal, 2013). On such a scale, a measure of the internal structure will not say much, and one must therefore use other methods to check the reliability. First, you can evaluate to what extent the examination is dependent on random day-to-day failures in the person. Second, you can evaluate to what extent the result is dependent on what specific questions are asked, and third, you can evaluate to what extent the result is dependent on who is responding to the questionnaire (Kleven, 2011b). The first evaluation will not cause major problems for this research, because it is a longitudinal design where the teacher who has responded to the questionnaire has known the child over a longer period and based on this given his evaluation of how often the child is being victimized. The second evaluation is also considered to be satisfactory because the statements made are very direct and unambiguous, which means that you get an answer to what exactly you are looking for. However, this measurement does not include cyberbullying, which it should have done considering of the time we are now living in and may therefore not give a complete picture of how the situation are for these children. Lastly, to what extent the result is dependent on who is responding to the questionnaire can be discussed. There should be several people, e.g. parents and the child himself, who together formed a picture of the situation in order to strengthen the reliability. But since the children being measured are so young in age is it possible to argue that the teachers who see them daily dose makes a good description of the situation, and thus enhances reliability.

“The concept of validity as it is used in quantitative research methodology is about the interference that are drawn within and from the research results.” (Kleven, 2008, p. 230). In



other words, is it about the approximated truth of an interference where it depends on coherence theory of truth as well as correspondence theory. According to Kleven (2008) the “Cook and Campbell’s validity system” is generally accepted within the quantitative tradition. It consists of four types of validity; construct validity, statistical conclusion validity, internal validity and external validity, and in the next paragraphs these four types of validity in the context of this study will be discussed.

Construct validity refers to the degree to which empirical evidence and theory confirm the interpretation of the test scores entailed by the proposed uses of a scale. That means it deals with the interpretation of the scale score, not the scale itself, where one looks at the degree of good to poor validity using empirical data and theory. The appropriateness, meaningfulness, and usefulness of scale score is contextually constrained, and one does not find any simple test that reflects the validity (Furr, 2011). Nevertheless, one often speaks of systematic measurement errors and random measurement errors when discussing construct validity (Kleven, 2008). Random measurement errors are about how good the scale is, as whether there is variable that not fit together, or that there are variables that overlap. This has been discussed under reliability. Systematic measurement errors on the other hand include construct underrepresentation and construct irrelevance (Kleven, 2008). The ERC has been validity checked by several researchers, where they all support the construct validity to be good (Molina et al., 2014; Reis et al., 2016; Shields & Cicchetti, 1997). I will therefore not go deeper in to that measurement but look more into the teacher response schema about victimization because it has not been checked by others. As mentioned under the reliability, elements like cyberbullying has not been included in the victimization measurement. This means that the measurement can be argued to be somewhat underrepresented since cyberbullying is rather common now a days. There is also a possibility that the measurement has some construct irrelevance even though it is hard to point out exactly what it should be. On the other hand, the validity check made on the original OBVQ-scale shows good correspondence between empirical data and theory (Kyriakides et al., 2006; Solberg & Olweus, 2003) and since this index is maid out from the OBVQ-scale, the correspondents with theoretical understanding of victimization is believed to be good. Therefore, the construct validity of the teacher response schema is believed to be satisfactory in order to give a picture of the situations but may require further developed.

The statistical conclusion validity concerns whether a tendency should be considered substantial enough to be worthy of an interpretation (Kleven, 2008). Commonly it is justified by both significant test and effect size. In this study all the result has relied on significance

tests, where the acceptance has been .05 or lower, and the statistical conclusion validity is therefore thought to be acceptable.

In the context of internal validity, evaluating the likelihood of, and if possible, ruling out alternative causal interpretations is the main goal. Covariance is a sufficient logical basis for prediction, however, covariance gives no basis for casual interpretations until alternative causal interpretations are eliminated or at least shown to be unlikely (Kleven, 2008, p. 227). In the present study, a causal interpretation between emotional lability and victimization is believed to be found in the context of our study. But how can we be so sure of this causal relationship? Firstly, the use of longitudinal design makes it possible to look at durations over time, which makes it easier to exclude pure coincidence at the time of measurement of our findings. Secondly, the statistical approach used in this study is recognized as a good statistical method for looking at relationships between latent variables over time. It is considered an analysis with less bias and more flexibility in modelling and therefore gives this statistical technique an advantages for testing complex theoretical structures (Burkholder & Harlow, 2003). But even though this method is good is it not perfect and rational process will also be necessary (Kleven, 2008). This is explained in greater detail in the attached article, thus the causal interpretation done in the present study is thought to be good.

Lastly, external validity refers to the validity of inference from context of the study to a wider context or to other context, and to secure a statistical generalization, probability sample is required (Kleven, 2008). In this study were all children born in 2003 and 2004, with their parents living in the city of Trondheim, Norway, invited to participate. A questionnaire was used to get access of emotional and behavioural problems of the child, were 2,477 participants were allocated to four strata according to their scores. This was to ensure that the entire diversity of children living in Trondheim where represented in the study. Based on these four strata, 1,250 participants were drawn to participate, and in the beginning of the study enrolment 997 participated at T1 (For more information about this recruiting process see Attachment 1; Steinsbekk and Wichstrøm 2018). This makes it go down like a stratified sample, which makes it a probability sample, and statistical generalization is possible (Kleven, 2011a). It is likely to believe that a generalization to all children in same age-group in Trondheim is possible, but is it possible to generalize further? In such matters, there will always be some threats to the generalization. This can be that the children in Trondheim are different from another city in Norway. Or it may be that these children behave differently because they have been involved in a research project for so long. These threats are hard to eliminate, but since this study also is supported in other research, and have a large population

sample, there is reason to argue that the result is generalizable to at least the whole of Norway.

## **Main Findings**

In the present study have we tried to establish the impact of emotional regulation and victimization by peers in a longitudinal perspective. The findings provided support for the hypothesis that emotional lability would be associated with increased vulnerability to being victimized two years later.

More precisely, cross-sectional analyses showed that children with high emotional lability were reported to be more victimized. Secondly, longitudinal analyses showed that emotional lability predicted increased vulnerability to being victimized two years later, both from age 6 to age 8, and from age 8 to age 10. Thirdly, when running cross-lagged analyses separately on genders, a reciprocal relationship of victimization on emotional lability was found among boys, but not among girls. However, the relative difference among boys and girls was not significant with regards to the effect of victimization on emotional lability, leaving some uncertainty regarding the interpretation of findings.

## **Implications**

**In a General Perspective.** There are several implications of the present study. Foremost, the study has demonstrated the powerful effect emotion lability has on an increased vulnerability to being victimized two years later, both from age 6 to age 8, and from age 8 to age 10. These findings are, to my knowledge, the first that shows this connection with a large population sample, in a longitudinal design over a 4-year period. Because we focused on a large, representative sample of children, based on reports by teachers, this work will give a description of these processes in a real-world context and contribute to the research that deals with victimization and emotional regulation.

Furthermore, the present study is also relevant to understand the important of good emotional development. In several papers, have poor emotion regulation showed to; affect the child's social competence (Eisenberg, Fabes, Guthrie, Reiser, & Diener, 2000; Eisenberg et al., 1995; Eisenberg et al., 1997), affect the establishing of good peer relations (Hay, Payne, & Chadwick, 2004) which is a protecting factor against bullying (Schwartz et al., 2000), and also affect future wellness (Crowley, Greenberg, & Jones, 2015). And now, in the present study, poor emotion regulation has showed to affect their vulnerability to be victimized. In other words, poor emotional regulation can both be a risk factor in the developing of social

competence, which makes them more vulnerable to victimization, and a risk factor for making the child an easy target for victimization, thus a double risk factor for being victimized if the child is emotional labile. The findings therefore emphasize that emotional lability does not appear to contribute positively to the child's development.

The result also indicates some gender differences, where boys are predicted a greater vulnerability to being victimized if one is emotional labile. Additionally, an effect of victimization on emotional lability was found among boys from age 8 to 10, but not to the extent that it was diverging significantly from that among girls, leaving some uncertainty regarding the interpretation of findings. However, this indicate that there may be gender differences, and that boys are particularly vulnerable, which should be taken into account.

**In a Special Education Perspective.** This study also provides relevance to the special education field. Firstly, a function within the special education is to work preventively (Befring, 2012), and the present study provides knowledge that is relevant to prevent children from being victimized. The adults around the child must work to ensure that the child is well and to facilitate his or her development from their point of view, hence work preventively against victimization.

Lastly, it is possible to think that the children in need for special education will be more vulnerable than children following regular education. These children will have difficulties in areas as learning, behavioural regulation, and social settings. Several will also probably have difficulties in more than one area. The idea that these children then function poorly academically, have low emotional regulation, are poorly social and, in addition, will experience being victimized, is terrible. This makes them not only double vulnerable as mention above, but preferably triple vulnerable. As a special educator, it will therefore be essential to work preventively to guide the child so that the development of emotional regulation goes in a positive direction.

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**Like Fuel to the Fire? Testing Reciprocity of Emotional Lability  
and Victimization at Ages 6, 8, and 10 – A Cohort Panel Study**

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## **Abstract**

Mastery of emotion regulation is essential for good social functioning, and hence it may be related to vulnerability to victimization. However, the potential reciprocal relationship between poor emotion regulation and victimization has been sparsely explored. In the present study, using teacher-reported data from a community sample of 795 Norwegian children at ages 6, 8 and 10, we tested the bi-directional relationship of emotion regulation and peer victimization. First, cross-sectional analyses showed that children with high emotional lability were reported to be more victimized. Second, longitudinal analyses showed that emotional lability predicted increased vulnerability to being victimized two years later, both from age 6 to age 8, and from age 8 to age 10. Third, when running cross-lagged analyses separately on genders, a reciprocal relationship was found among boys, but not among girls. However, the relative difference among boys and girls was not significant with regards to the effect of victimization on emotional lability, leaving some uncertainty regarding the interpretation of gender findings. Limitations and implications are discussed.

*Keywords:* emotional lability, emotion regulation, victimization, bullying, development

## **Introduction**

Many children face some sort of relational turmoil with their peers during periods of their development. However, for a subset of children, such problems are not the exception of their social life, but a constant threat in their everyday life, and may prolong for years throughout their childhood (Olweus, 1997). Victimization is often a stable and chronic phenomenon for children, not only being ignored or excluded by their peers, but also being physically and verbally abused by them (Schwartz, Pettit, Dodge, & Bates, 2000). In 2018, 6.1% of Norwegian pupils from 5<sup>th</sup> to 13<sup>th</sup> grade responded that they are being victimized two to three times a month, or more often (Wendelborg, 2019). A growing body of research on the detrimental effects of victimization shows that these children are at an increased risk of developing health problems, like anxiety, depression, psychosomatic disorders, suicidal thoughts and suicide attempts, in comparison to those who experience little or no victimization (Espelage & Swearer, 2003; Klomek, Marrocco, Kleinman, Schonfeld, & Gould, 2007). Thus, one important question is; who is at risk of being victimized? Finding an

answer to that question may be crucial in helping a substantial group of children at risk of long-term negative health consequences.

A wide range of factors have been suggested as precursors for victimization, both within the child and in their environment (Kochenderfer-Ladd, Ladd, & Kochel, 2009). For instance, it is known that emotion regulation plays a fundamental role in the development of good social behaviour, and that children who perform poorer on this regulation task will be at greater risk of developing behavioral problems (Eisenberg, Fabes, Guthrie, Reiser, & Diener, 2000). Furthermore, it is known that friendships are a moderating factor in the pathways to peer victimization (Schwartz et al., 2000), and that emotion regulation, among other aspects, plays an important part in establishing good peer relations (Hay, Payne, & Chadwick, 2004). Hence, it seems plausible that poor emotion regulation may disrupt early social interactions and put those children at greater risk for being victimized.

Relatively few researchers have specifically examined the interaction between poor emotion regulation as a potential risk factor for peer victimization, and to my knowledge, these studies have mainly been conducted on groups of children with additional challenges (e.g. children with ADHD, maltreated children). Furthermore, most of these studies are either cross-sectional (Fogleman, Slaughter, Rosen, Leaberry, & Walerius, 2018; Garner & Hinton, 2010; Shields & Cicchetti, 2001) or longitudinal studies with small sample sizes lasting maximum one year (Godleski, Kamper, Ostrov, Hart, & Blakely-Mcclure, 2014; Hanish et al., 2004; Rosen, Milich, & Harris, 2012). For instance, Fogleman et al. (2018) examined the extent to which emotion regulation was associated with peer victimization among children with ADHD. This study was cross-sectional, and they looked at 133 children with ADHD and 77 non-ADHD children who were age from 7 to 13 years old. For all children, the main findings were that the ability to regulate and cope with emotions play a significant role in the frequency of experience with peer victimization. Rosen et al. (2012) on the other hand did a longitudinal study with two measure points over 6 months, where 213, 9 to 13 years old children and their parents completed measures of dysregulated reactivity and victimization experiences. In this study they tested a theoretical model called “The victim schema model”, where they propose that experiencing victimization interacts with children’s social-cognitive and socioemotional processing through development of an easy accessible “victim schema.” (Rosen, Milich, & Monica, 2009). This “schema” guides the children’s affect, and then affects how they process cues, and respond behaviourally to threat. From their research they have found that there is a significant association between difficulties in emotion regulation and victimization, and also that children with greater emotion regulation difficulties were more

likely to experience frequent victimization (Rosen et al., 2012; Rosen et al., 2009). As we see in their study, and in all of the studies mentioned above, dysregulation increases a child's risk of being victimized by their peers, both in presence and over time. Nevertheless, these studies were limited through relatively small samples, and investigated only throughout a short time period, hence is a longitudinal study that extends over several years with a larger population sample needed to investigate how emotion regulation and victimization are interrelated throughout childhood.

## **Victimization**

Many definitions of bullying have been proposed through the last decades, and they all include negative actions that are repeated over time (Roland, 2014). In the present study, we operate with Olweus's definition: "A student is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other students." (Olweus, 1997, p. 496). Bullying can thus be seen as a distinctive interaction where the bullies demonstrate power by creating a feeling of powerlessness in the victim, and where it is a symbol of belonging by excluding another that stimulates the action (Roland, 2014). These types of behaviours refer to verbal and physical actions such as threatening, taunting, spreading rumours, pushing and kicking, and excluding (Arseneault, Bowes, & Shakoor, 2010).

Furthermore, it is normal to divide the aggressive behaviour in two different types; reactive aggression and proactive aggression, when discussing bullying (Roland, 2014). Reactive aggression is caused by some kind of frustration or aversive event, and act out as a negative emotion, commonly understood as anger. Proactive aggression is an aggression used as an instrument to achieve an outcome and where positive emotions through hurting are presumed to be present in the aggressor (Roland & Idsoe, 2001). Research suggest that younger children (5<sup>th</sup> grade) are equally related to both proactive and reactive aggressiveness among the bullies and the victim, whereas older pupils (8<sup>th</sup> grade) have a stronger relationship between proactive aggressiveness and bullying others (Roland & Idsoe, 2001).

Importantly, it has become clear that there are two different types of victims; the pure-victim, and the bully-victim (Olweus & Breivik, 2014). The pure victim is usually more anxious and insecure, lonely, have low self-esteem and may often react by crying (at least in the lower grades) and withdrawing when attacked by others. The bully-victim is characterized by a combination of anxious and aggressive reaction patterns, where they also show low self-

esteem, are depressive and have a feeling of being disliked by their peers, but also show elevated levels of dominant, aggressive and antisocial behaviour (Olweus & Breivik, 2014). Additionally, as mentioned in the introduction, both factors related to child's behavior and environmental factors are linked to an increased vulnerability for victimization, but there is also evidence suggesting some gender differences (Kochenderfer-Ladd et al., 2009). First, findings show that boys are more victimized than girls (Pellegrini & Long, 2002). Furthermore, the socialization process is argued to be somewhat gender-divided, where girls generally tend to be more concerned about belonging to a group and boys being more concerned about the activity and having status in a group. Thorough that, Kochenderfer-Ladd et al. (2009) found that girls valued physical appearance and social skill the most, whereas boys valued athletic ability and toughness the most. How children are victimized will therefore also show some gender-differences. Both genders may use threatening and taunting as tools for bullying, but girls tend to use more indirect forms like exclusion, and boys more direct forms, like physical harassment (Carbone-Lopez, Esbensen, & Brick, 2010; Putallaz et al., 2007; Roland, 2014). This does not mean that all boys and girls will identify themselves in these groups, as a matter of fact, more recent studies have indicated a number of different findings when it comes to gender differences (Hong & Espelage, 2012; Kochenderfer-Ladd et al., 2009). It is also important to clarify that most of the victims are pure-victims, and that only 10-20% of the total victim group are bully-victims, where in that group the boys are over-represented (Olweus & Breivik, 2014).

### **Emotion Regulation**

Emotions are an expression of basic mechanisms of life regulation (Damasio, 2004), where one has the capacity to regulate other processes and to be regulated (Cole, Martin, & Dennis, 2004). The definition of emotion regulation has been considerably debated regarding the distinction between emotional reactivity and regulation, but most models of emotion regulation view emotional experience as a result of both an interaction of reactivity and an emotion-provoking stimulus where the physiological, cognitive, and behavioural mechanisms are used to modify and adapt the initial emotional reaction to match the surroundings (Rosen et al., 2009). More precisely, emotion regulation can be defined as the change associated with activated emotions, where the ability to monitor and control emotional experiences and expressions and adapt these expressions to different social situations are essential (Cole et al., 2004; Drugli, 2018).

Evidently, to what extent children are able to master this regulation differ, and poor emotional regulation affects other dimensions, especially social development. For example, Eisenberg and her colleagues have studied the relationship between children's social functioning and their emotion regulation abilities in various papers. Their research has involved 77-147 children from 4-10 years, with a longitudinal design lasting from 2 to 4 years, focusing on children's emotionality, self-regulation and social functioning (Eisenberg et al., 2000; Eisenberg et al., 1995; Eisenberg et al., 1997). Crowley, Greenberg, and Jones (2015) have looked at the relationship between kindergarten, social competence and future wellness. Between 1991 and 2000 they measured 753 children in kindergarten for social-emotional skills and continued with the same measure a few times during the participant's childhood. In 2010, 19 years later the final measure was conducted. In this line of research, the primary finding is that good emotion regulation is positively correlated with good social functioning, in addition to future wellness.

For those who fail to regulate emotions equally well, difficulties with the process of how fast emotions are expressed after exposure to the emotion-eliciting event, how long they last and how slowly they dissipate, will often occur (Eisenberg & Spinrad, 2004; Garner & Hinton, 2010). They may also be lacking flexibility, show more anger and mood swings, which indicate that the child displays a higher degree of emotional lability (Shields & Cicchetti, 1997).

It is well known that the development of emotion regulation is central in the first years of living (Drugli, 2018), and a secure attachment is seen as a good foundation for further development (Bowlby, 1997). Secure attachment will help the child develop a good internal structure and later affect interaction the child has with other surroundings (Bowlby, 1997, 2005). Evidence also indicates that the development of self-regulation, which include controlling, directing and planning one's cognition, emotions and behaviours, is shaped by attachment security early in life (Kochanska, Philibert, & Barry, 2009), but it is not only a secure attachment that will decide if the child develops good social function. Research show some plasticity in these developments, where evidence indicates parenting style (Belsky & Beaver, 2011) and also friendship (Stenseng, Belsky, Skalicka, & Wichstrøm, 2015) as a factor. This means that the development of self-regulation will continue during kindergarten and during school, which was also something Shields and Cicchetti (1997) discovered from their research. They saw that emotion regulation continues to play a key role in adaption to social life during middle childhood, and that it also become more complex and integrated

during this year. These last pieces of evidence can lead us towards the need-to-belong theory from Baumeister and Leary (1995).

This theory proposes that we all have at least a minimum certain need of regular, satisfying social interactions, and that this interaction is considered essential to a well-functioning life. It is a fundamental human motivation, and it drives people to take part in meaningful and supportive relationships. (Baumeister & Leary, 1995). Baumeister and Leary (1995) emphasise that the need of belongingness affects cognitive progress, emotional patterns, behavioural responses, health and well-being, and that it will affect these aspects badly if a person does not experience belongingness. Research on this area displays that social exclusion, which indicates few or no satisfactory interactions among peers, may badly influence self-regulation (Stenseng et al., 2015). This makes the development of emotion regulation complex, and as Shields and Cicchetti (1997) stated, will it probably also become more complex during childhood.

Last but not least, a point on gender differences must be mentioned. Evidence revealed some differences, where boys are less self-regulated than girls (Piotrowski, Lapierre, & Linebarger, 2013; Størksen, Ellingsen, Wanless, & McClelland, 2014). Reasons for this are not clear, but Størksen et al. (2014) have presented some thoughts; firstly, parents and teachers treat boys different than girls. Secondly, executive functions in the brain, related to self-regulation, mature later among boys biologically (Størksen et al., 2014).

To summarize, emotion regulation is affected by many aspects, where a dynamic interaction between the individual and environment is essential (Iarocci, Yager, & Elfers, 2007), hence there is no simple explanation to why someone is better regulated than others.

## **The Present Study**

The primary purpose of this study was to investigate the cross-sectional and bi-directional relationships of emotion regulation and victimization in early school years. Using a three-wave longitudinal design, including a large sample population with children followed from age 6 to 10 years, we primarily aimed to examine the concurrent effect of emotional lability as a risk factor of being victimized by other peers two years later. In addition, we wanted to examine whether to be victimized leads to even lower emotion regulation, preceding an increased likelihood for being victimized later. Due to differences in development of emotional regulation for boys and girls, and also gender difference in victimization, this study also takes into account gender differences.



Based on previous research the primary hypotheses of the study were as follows: (1) Emotional lability at age 6 would predict increased vulnerability for victimization from age 6 to age 8 and with the same pattern from age 8 to age 10. (2) Victimization at age 6 would predict increased emotional lability from age 6 to age 8, and the same from age 8 to age 10.

## Method

### Participants and Procedure

The first wave of the Trondheim Early Secure Study was conducted in 2007 and 2008 (T1,  $M_{\text{age}} = 4.55$ ; 50.6% boys) and included participants from two birth cohorts of children (born in 2003 or 2004) whose parents lived in Trondheim, Norway. Of the 1,250 Norwegian speaking children who were recruited to participate in the study, 997 were tested at the time of study enrolment. 81% of the children were accompanied by their mothers to the clinic, more than 99% of the children were of Western ethnic origin (e.g., Europe, United States), and 86% of their parents lived together. More details about the procedure and recruitment are presented elsewhere (Steinsbekk & Wichstrøm, 2018). Drop-out rate did not vary by emotional, behavioural functioning, or social problems of the child (as measured using the Strengths and Difficulty Questionnaire; Goodman 1997) ( $\chi^2 = 5.70$ ,  $df=3$ ,  $p=.13$ ) or gender ( $\chi^2 = 0.23$ ,  $df=1$ ,  $p=.63$ ). A total of 795 (50.5% boys) children participated in the follow-up assessment (T2,  $M_{\text{age}} = 6.72$ ) 2 years later resulting in a longitudinal participation rate of 79.7%, and it is from this assessment the present study will collect data from. At the second follow-up (T3,  $M_{\text{age}} = 8.8$ ), 699 (48.7% boys) children participated, which corresponded to a participant rate of 87.9%, and at the third follow-up (T4,  $M_{\text{age}} = 10.7$ ), 702 (51.3% boys) children participated which corresponded to a participant rate of 88.3%. Teachers provided information on emotion regulation and victimization, and the data was collected by means of questionnaire. The questionnaires were sent to primary schools at T2 (age 6), T3 (age 8) and T4 (age 10), and the response rate by teachers were 92.2% at T2, 85.8% at T3 and 82.3% at T4. The teachers had known the child on an average of 6 months at T2 and  $2\frac{1}{2}$  years at T3 and 4 years at T4. The project has been approved, for each wave of data collection, by the Regional Committee for Research Ethics, Mid-Norway ([www.etikkom.no](http://www.etikkom.no); REK 4.2008.2632).

## Measures

**Victimization.** The Olweus Bully Victim Questionnaire (OBVQ) is a self-report questionnaire and it contains 36 main questions, where some have sub-questions, on various aspects of bully- and victim problems and are normally used for children approximately 10 to 16 years (Solberg & Olweus, 2003). From this questionnaire the Revised Olweus Bully/victim Questionnaire have been made, comprising two separate scales; one for being victimized and one for bullying others (Kyriakides, Kaloyirou, & Lindsay, 2006). Based on this, the present study has made a teacher response schema with five formative indicators which create a picture of who is being bullied in the class. Because it is a teacher-reported schema, it is possible to apply it on younger children, which was needed for this study and the reason it was made. The respondents used these five formative indicators to evaluate each child:

- “He/she got physically bothered (*beaten, kicked, scratched, bitten, etc.*) by others in the last three months”
- “He/she got verbally bothered (*laughed at, nicknamed, teased, etc.*) by others in the last three months”
- “He/she was excluded from other children in the last three months”
- “He/she was ignored by other children in the last three months”
- “His/her belongings were hidden or destroyed in the last three months”

The respondents rate each variable on a 5-point scale from 1 (*never*) through 2 (*rear*), 3 (*1-3 times a month*) and 4 (*1-4 times a week*) to 5 (*every day*). This type of respondent’s schema underlines the index category because the formative causes the value of the latent variable (Ringdal, 2013) and has therefore no direct form to evaluate the reliability (for more detail, see discussion under Reliability and Validity above).

**Emotional Lability.** The Emotion Regulation Checklist (ERC) is a 24-item questionnaire designed to assess aspects of children’s emotion expressions and their processes for regulating their emotions. It is applicable across a wide age range, and therefore makes it an effective tool for longitudinal research (Shields & Cicchetti, 1997). The ERC have two subscales; Emotion Regulation (ER) and Emotional lability/negativity (L/N). In this study we only used the L/N subscale that includes 16 items which assesses the lack of flexibility, anger, dysregulation, and mood lability (e.g., “Exhibits wide mood swings, child’s emotional states difficult to anticipate because he/she moves quickly from positive to negative mood”, “Is easily frustrated” and “Responds angrily to limit-setting by adults”). The respondents rate

items on a 4-point scale rating from 1 (never) through 2 (sometimes) and 3 (often) to 4 (almost always). The internal structure of this construct was showed to be good at all measuring points, the Cronbach's alpha was .78 at T2, .81 at T3 and .81 at T4.

## Result

Descriptive analyses from SPSS 25 are presented first, including mean-level differences between times of measurement, as well as bivariate correlations. Then, through conducting structural equation modelling (SEM) in Mplus 8.1 (Muthén & Muthén, 1998-2017), we determine stability over time and cross-lagged effects of emotional lability and victimization from age 6 to age 10, through age 8. These analyses are first conducted on the total sample, and then separately on each of the gender's samples, in order to determine potential gender differences.

### Descriptive Statistics

First, when comparing mean values of the scales over time points, paired samples t-tests showed that levels of victimization in the sample decreased substantially from age 8 ( $M = 6.85$ ) to age 10 ( $M = 6.58$ ;  $t = 2.65$ ,  $p < .01$ ), and from age 6 ( $M = 7.04$ ) to age 10 ( $t = 3.29$ ,  $p < .001$ ). There was no difference in victimization at age 6 from age 8 ( $t = 1.37$ ,  $p = .17$ ). Emotional lability decreased significantly from age 6 ( $M = 1.43$ ) to age 8 ( $M = 1.37$ ;  $t = 4.08$ ,  $p < .001$ ), but increased significantly from age 8 to age 10 ( $M = 1.42$ ;  $t = 3.16$ ,  $p < .01$ ). However, it did not change significantly from age 6 to age 10 ( $t = 3.16$ ,  $p < .01$ ).

Pearson correlations were computed to analyse bivariate associations between study variables. Table 1 display means, standard deviations and zero-order correlations. Foremost, emotional lability was positively related to victimization at all measuring points. The correlations between victimization and gender indicate no big differences between boys and girls, however the relations between emotional lability and gender indicate a higher correlation among boys.

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Table 1

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### Structural Equation Modeling

In order to test for potential bi-directional effects of emotional lability and victimization, we defined a cross-lagged model with auto-regressed repeated measures at ages 6, 8 and 10 in Mplus 8.1 (Muthén & Muthén, 1998-2017). All structural analyses were

performed using the maximum likelihood estimator (MLR). Missing values were treated according to the full information maximum likelihood procedure (FIML). Judgment of model fit was made according to the recommendations of Hu and Bentler (1999; Marsh, Wen & Hau, 2004). Values above or close to .95 on the comparative fit index (CFI) and the Tucker-Lewis index (TLI) are normally regarded as indicators of good model fit. Furthermore, values of the root mean squared error of approximation (RMSEA) and the standardized root mean squared residual (SRMR) are recommended to be lower than .06 and .08, respectively.

The cross-lagged model was first tested on the total sample (see Figure 1). The model had good fit with the data:  $\chi^2(2, N = 846) = 6.22, p < .001$ , CFI = .99, TLI = .94, RMSEA = .050, SRMR = .021. The stability of victimization (V) was moderate from age 6 to age 8 ( $\beta = .26, p < .001$ ), and from age 8 to age 10 ( $\beta = .23, p < .001$ ). The stability of emotional lability (EL) was higher: (EL, age 6  $\rightarrow$  EL, age 8:  $\beta = .46, p < .001$ ; EL, age 8  $\rightarrow$  EL, age 10:  $\beta = .47, p < .001$ ). Cross-sectional correlations showed that V was positively correlated with EL at age 6 ( $r = .43, p < .001$ ), age 8 ( $r = .36, p < .001$ ), and at age 10 ( $r = .29, p < .001$ ).

Introductorily, we proposed that victimization and emotional lability may affect each other over time in a bi-directional relationship. Results from the cross-lagged analyses partly supported this. First, in the total sample, EL at age 6 predicted an increase in V from age 6 to age 8, and also, EL at age 8 predicted an increase in V from age 8 to age 10. However, no significant cross-lagged effects from victimization to emotional lability was observed in the total sample. Then, in order to detect any gender specific effects in the model, analyses were run for boys and girls separately. Results showed that, for girls, results were similar as in the total sample: EL predicted an increase in V over time, but no effects were found from V to EL (see Figure 2). For boys, on the other hand, results were corresponding to those among girls, but an additional effect from V at age 8 towards an increase in EL from age 8 to 10 was also found (see Figure 3). However, the Satorra-Bentler chi-square test (Satorra & Bentler, 2001) showed that this effect was not significantly different for boys and girls: ( $\Delta\chi^2 = 2.81, p = .09$ ). In other words, a bi-directional relationship of V and EL was found among boys, but not to the extent that it was diverging significantly from that among girls, leaving some uncertainty around the conclusions of the current results. However, what seems to be clear, is that higher emotional lability predicts more vulnerability for victimization through primary school years.

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Figure 1, 2 and 3

## **Discussion**

In the present study we investigated the potential bi-directional dynamics of emotional lability and victimization in a 3-wave cross-lagged panel design, ranging from age 6, through age 8, and to age 10. Our main hypothesis was that emotional lability would predict increased vulnerability to being victimized two years later, and also that being victimized predicts later increased emotional lability. In addition, we wanted to look at gender differences. The result showed that, in the total sample, greater emotional lability predicted higher vulnerability for being victimized through primary school years, however, significant cross-lagged effects from victimization to emotional lability were not observed. Furthermore, when testing the model on girls and boys separately, we found that emotional lability led to increased victimization strongest among boys, and also that a bi-directional relationship of victimization and emotion lability was evident among boys at age 8 to 10, but not to the extent that it was diverging significantly from that among girls.

The effect of dysregulation as a risk for being victimized has been shown in previous research (Fogleman et al., 2018; Garner & Hinton, 2010; Godleski et al., 2014; Hanish et al., 2004; Rosen et al., 2012; Shields & Cicchetti, 2001) and it seems the present study has given the effect greater credibility, more emotional lability predicts greater vulnerability for victimization through primary school years.

### **The Interplay of Child and Peer Factors**

To understand why these children are more vulnerable for victimization we have to look deeper into what we already know about emotion regulating and victimization. Children that display a higher degree of emotional lability may lack flexibility, as well as show more anger and mood swings (Shields & Cicchetti, 1997). They will have difficulties processing their emotions immediately following the exposure to the emotion-eliciting event, both in how long they last and how slowly they dissipate (Eisenberg & Spinrad, 2004; Garner & Hinton, 2010). This can make these children easier targets for bullies, because, as Roland (2014) stated, bullying can be seen as a distinctive interaction where the bullies demonstrate power by creating a feeling of weakness in the victim. As the victim has difficulties controlling emotions, the bully easily demonstrates power by managing to control his one feeling and by that make the victim feel powerless. This types of aggressive behaviour will be defined as proactive aggressiveness and it is also the type of behavior most commonly observed among bullies (Roland & Idsoe, 2001). Proactive aggressiveness is used as an instrument to achieve a particular outcome where the aggressor experience positive emotions

by hurting others. When the victim's emotions are displayed quickly, and also more explicit and long-lasting than normal, the bully demonstrates more power and achieve a more satisfying outcome.

Furthermore, previous research has also shown that poor emotion regulation will affect the child's social competence, where they will be in greater risk of behavioural problems (Eisenberg et al., 2000; Eisenberg et al., 1995; Eisenberg et al., 1997), and that it also may affect future wellness of the child (Crowley et al., 2015). If we combine these findings with our findings in the present study, it is possible to think that social competence also can be a factor related to why these children are victimized. As Schwartz et al. (2000) stated, friendship is a protecting factor against bullying, and if the social competence is affected by poor emotion regulating, the establishing of good peer relations may then be defected (Hay et al., 2004). So, as already stated earlier in the article; can this disrupt their early social interactions and put them at greater risk for being victimized by peers? The answer to the question may be yes. Poor emotion regulation will, after findings from this study, affect their vulnerability to be victimized, and poor emotion regulation has also been shown to make it more difficult to manage social interactions. In other words, poorly emotional regulation can both be a risk factor when it comes to developing social competence, which again makes them more vulnerable to victimization, and a risk factor for making the child an easy target for victimization, thus a double risk factor for being victimized if the child is emotional labile.

Furthermore, we wanted to see whether there was a bi-directional relationship of victimization and emotion lability, mostly because of findings related the need-to-belong theory from Baumeister and Leary (1995). Researchers have concluded that social exclusion, which indicates few or no satisfactory interactions among peers, may badly influence the development of self-regulation in childhood (Stenseng et al., 2015). In other words, self-regulation, which includes controlling, directing and planning one's cognition, emotions and behaviours may be affected by social exclusion, and again we can see an interplay of several factors. Low emotional regulation affects social competence which then affects access to friendships. Furthermore, minimum access to friendships will have a negative impact on emotional regulation, and thus weaken the protection factor that friendships have against bullying. And then, if being victimized led to even lower emotional regulation a cascade effect could be found. This was also something Rosen et al. (2009) predicted in "The victim schema model". Being victimized would affect the child's ability to regulate themselves in a good way. But, in the present study, no significant cross-lagged effects from victimization to

emotional lability was observed in the total sample. But, in order to detect any gender specific effects in the model, analyses were run for boys and girls separately. Results showed that, for girls, results were similar as in the total sample. For boys, on the other hand, results were corresponding to those among girls, but an additional effect from victimization at age 8 towards an increase in emotional lability from age 8 to 10 was found. So, it turns out that this cascade effect is possible to find among boys, but we must not forget that these findings showed that this effect was not significantly different for boys and girls, leaving some uncertainty regarding the conclusions of the current results. Nevertheless, there are some interesting factors around these findings, and gender differences will therefore be looked at in the next paragraph.

### **Gender Differences**

First, our result shows that the effect of an increased vulnerability for victimization was higher for boys than girls, furthermore this increase may also entail that they become even more emotional labile after being victimized than what girls do. But why do we find this difference?

Research on self-regulation have discovered some gender differences, where boys are less self-regulated than girls (Piotrowski et al., 2013; Størksen et al., 2014), and from other research there has also been found that boys tend to be more victimized than girls (Pellegrini & Long, 2002). Our study shows a higher effect among boys with an increased vulnerability to victimization if they are less regulated. So, the fact that boys are less self-regulated than girls can make them more vulnerable to being victimized, and it may well explain some of the reasons why it in our study shows higher numbers for boys than girls. Further we see that Olweus and Breivik (2014) are discussing two types of victims; the pure-victim, and the bully-victim. In both of these types, loneliness, low self-esteem and feeling disliked by peers is normal, but the bully-victim also show elevated levels of dominant, aggressive and antisocial behaviour. The statistics presented here shows that in the total victim group 80-90% are pure-victim, and only 10-20% are bully-victims, but in that group the boys are over-represented. This means that more of the bully-victims will be boys and as research suggests boys also tend to use more direct forms when bullying (Carbone-Lopez et al., 2010; Putallaz et al., 2007; Roland, 2014). Thus, it is also possible to believe that both the direct form of victimization and the victim-type makes the connection between emotional lability and victimization higher for boys than it is for girls. This because the bully-victim will probably be more unstable in the sense that he or she more easily get frustrated, aggressive and show

more explicit emotions, which enables the bully to gain a satisfactory feeling of power through harassing the victim. And because boys tend to use more direct forms of bullying will the effect of being more emotional labile give the bully a greater benefit because this form of bullying is more about exposing the victim to a negative act that makes him angry or causes him to start crying.

The stability of victimization and emotional lability throughout the four years shows also some differences between boys and girls. In the next paragraph will stability therefore be looked at briefly.

### **Stability in Victimization and Emotional Lability**

In the total sample, the stability of emotional lability is almost twice as large compared to the stability of victimization. This means that those children who are emotional labile when they are 6 years old will probably also be emotional labile when they are 10 years old. In comparison, the stability in victimization shows that a replacement in who is being victimized exists to a larger extent. An understanding of this may be that emotional lability is more connected to the child's personality and the way the child has lived in its early years (Bowlby, 1997; Drugli, 2018) and therefore more stable than the reason for why someone is being victimized.

If we look into gender differences, the stability in victimizations is somewhat higher for girls than boys. This may indicate that who is being victimized shifts more among boys than girls. This may be an explanation for the findings which reveal that boys report more victimization than girls (Pellegrini & Long, 2002). Lastly, for boys, the stability of emotional lability is somewhat higher than girls. The reason for this can be explained through previous findings that boys are less self-regulated than girls (Piotrowski et al., 2013; Størksen et al., 2014).

### **Limitations and Future Research**

Several limitations must be acknowledged for the present study. First, main variables were teacher reported at all time points, which may lead to shared method variance (Podsakoff, MacKenzie, & Podsakoff, 2012). In order to obtain better data, different sources, such as parents- and self-report, should be used so that the uncertainty surrounding; how emotional labile the child is, or how the severity of the child being victimized, is not present. Nevertheless, we believe that this study indicates a strong connection between emotional



lability and victimization, even though it is possible to discuss sources of error in teacher reporting.

Secondly, the victimization measurement can be discussed because it measures whether the teacher believes that the child is being bullied, not if the child is actually bullied. Also, the measurement does not include cyberbullying, which it should, considering our present time. On the other hand, it is believed that it would have been more important to include cyberbullying with an older age group. Therefore, is it possible to believe that the victimization measurement does create an image of how the situation is among young children.

Lastly, there will always be some challenges when working with longitudinal studies. For the present study, the fact that most of the children have changed teachers throughout the four-year period, have caused some uncertainties regarding the teacher reported measurement. In addition, it is possible to believe that some long-lasting victimized children have tried to change schools, and therefore been measured differently from one school to another children. These sources of error have not had any focus in this study, nor do we believe that there will be a significant difference if they had been taken into account.

In future research, there is need for a mix method assessment for both victimization and emotional lability, together with a better measurement for victimization, so that investigation of a bi-directional relationship can be seen even clearer.

## **Implications and Conclusions**

Why children have difficulties in their emotion regulation is probably a combination of many factors, both within themselves and the environment. A secure attachment in the first years of living (Bowlby, 1997), and also further need of regular, satisfying social interactions (Stenseng et al., 2015) is a known factor that will affect the development. But these are just some of the relevant factors. In this study the focus on why these children have difficulties in their emotion regulating have not been a priority, but rather what happened when they did not manage to regulate their emotions. Foremost, the study has demonstrated the powerful effect emotion lability has on an increased vulnerability to being victimized two years later, both from age 6 to age 8, and from age 8 to age 10. These findings are, to my knowledge, the first that shows this connection with a large population sample, in a longitudinal design over a 4-year period. Because we focused on a large, representative sample of children, based on reports by teachers, this work will give a description of these processes in a real-world context, and contribute to the research that deals with victimization and emotional regulation.

Furthermore, the present study is also relevant to understand the importance of satisfying emotional development. In several papers, poor emotion regulation has affected the child's social competence (Eisenberg et al., 2000; Eisenberg et al., 1995; Eisenberg et al., 1997), the establishing of good peer relations (Hay et al., 2004), and future wellness (Crowley et al., 2015). And now, in the present study, poorly emotion regulation has showed to affect their vulnerability to be victimized. The findings therefore emphasize that emotional lability does not appear to contribute positively to the child's development.

The result also indicates some gender differences, where boys predict a greater vulnerability to being victimized if one is emotional labile. Additionally, an effect of victimization on emotional lability was found among boys from age 8 to 10. This finding were not to such an extent that it was diverging significantly from that among girls, leaving some uncertainty around the conclusions of the current results. Nevertheless, this indicates that there may be gender differences, and that boys are particularly vulnerable, which should be taken into account.

In conclusion, the findings presented in the present study provide valuable additions to the literature regarding the hypothesis that emotional lability would be associated with increased vulnerability to being victimized two years later. But importantly, these children should not be responsible for their own victimization, and also not be blamed for it. It is, as adults, our responsibility to always seek to ensure that all children are well and to facilitate the child's development from his or her point of view. This study will therefore become a contribution to the research that deals with victimization and emotional regulation and helps to emphasize that emotional lability does not appear to contribute positively to a chi

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**Table**

**Table 1.** Means, standard deviations, and zero-order correlations between study variables

	M	SD	1	2	3	4	5	6	7
1. Gender <sup>1</sup>	1.49	0.50	1						
2. Victimization, 6 years	7.08	2.13	-.08*	1					
3. Emotional lability, 6 years	1.45	0.32	-.17**	.47**	1				
4. Victimization, 8 years	6.90	2.15	-.01	.35**	.33**	1			
5. Emotional lability, 8 years	1.38	0.32	-.16**	.31**	.51**	.49**	1		
6. Victimization, 10 years	6.59	2.08	-.04	.22**	.33**	.36**	.36**	1	
7. Emotional lability, 10 years	1.41	0.34	-.13**	.21**	.40**	.31**	.55**	.45**	1

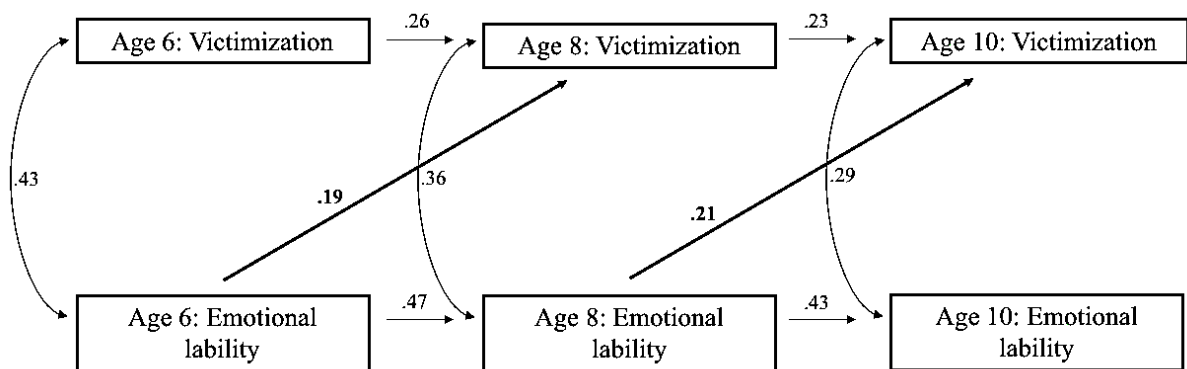
*Note.* n=795 (6 years), 699 (8 years) and 702 (10 years)

<sup>1</sup> Boys=1, Girls=2

\*significant at the .05 level. \*\* significant at the .01 level

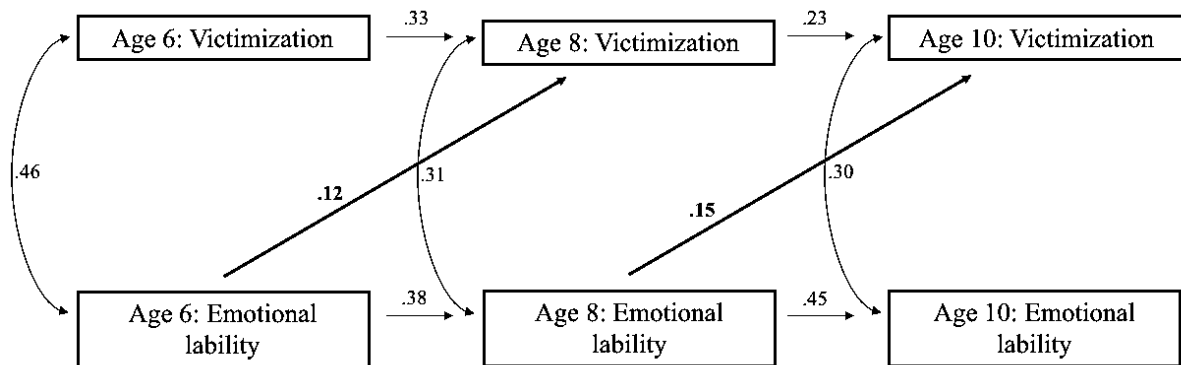


## Figures



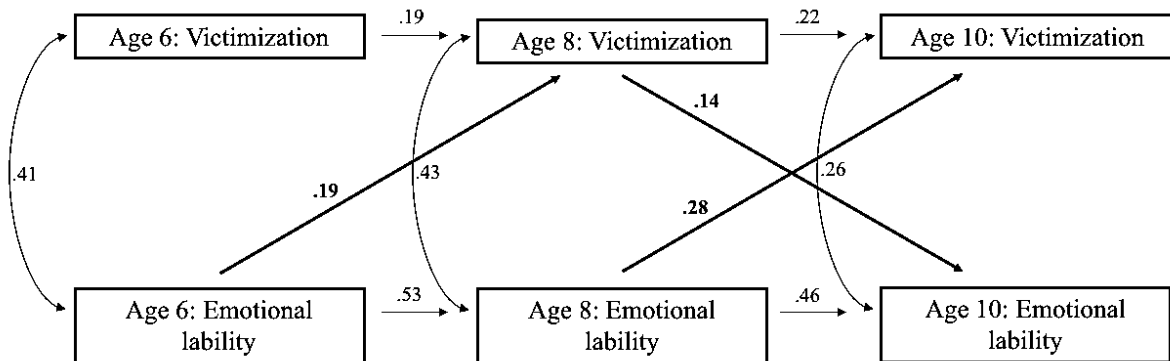
**Figure 1.** Structural equation model for the longitudinal cross-lagged effects in the total sample.

*Note.* All displayed values are significant at .05 level.



**Figure 2.** Structural equation model for the longitudinal cross-lagged effects for girls.

*Note.* All displayed values are significant at .05 level.

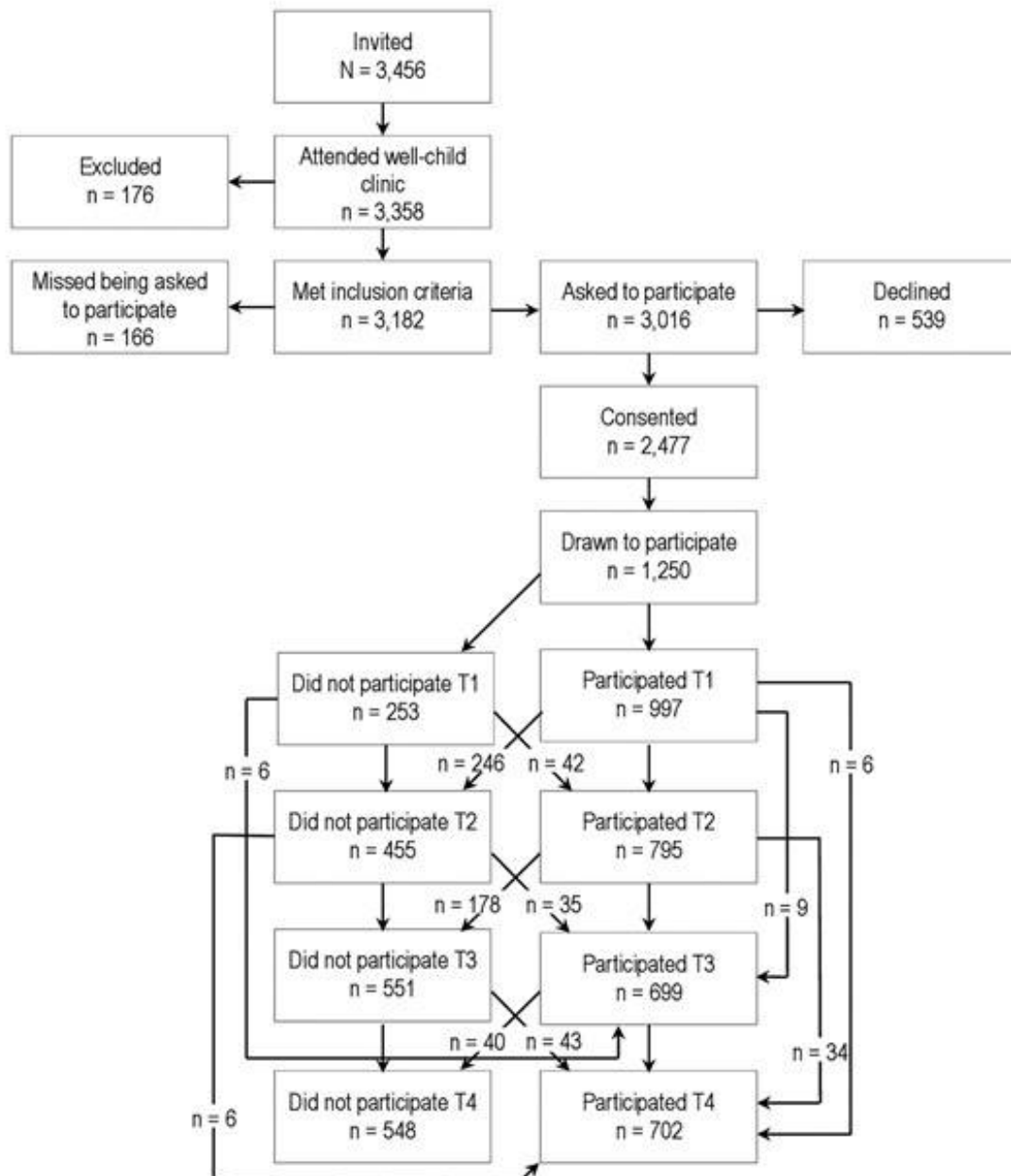


**Figure 3.** Structural equation model for the longitudinal cross-lagged effects for boys.

*Note.* All displayed values are significant at .05 level.

## Attachment 1.

### Procedure and flow of participants



(Steinsbekk & Wichstrøm, 2018, p. 1401b)

