Icelandic and Japanese preschoolers' attributions in social interactions involving a child's moral transgression and a teacher's expressed blame

Hiroe Terada

Supervisor
Sigrún Aðalbjarnardóttir, Professor, University of Iceland
Co-supervisor
Paul Harris, Professor, Harvard University

Doctoral committee
Sigrún Aðalbjarnardóttir, Professor, University of Iceland
Paul Harris, Professor, Harvard University
Steinunn Gestsdóttir, Professor, University of Iceland

Opponents
Ingrid Pramling Samuelsson, Professor, University of Gothenburg
Serena Lecce, Professor, University of Pavia

Dissertation submitted in partial fulfilment of a Ph.D.

Faculty of Education Studies
School of Education, University of Iceland
January, 2017

Icelandic and Japanese preschoolers' attributions in social interactions involving a child's moral transgression and a teacher's expressed blame

A thesis for a Ph.D.-degree in Education Studies

Preface

How social they are! When I started working as a preschool teacher for two and three year-old children, what surprised me the most was the frequency and diversity of social interactions that happened in the classroom. A few words and body movements seemed to be enough for them to socialize with their friends and teachers. As I witnessed young children's social interactions at preschool, I became curious about the thoughts behind their actions. What are they thinking when they engage in a social interaction? Probably not unlike any parent or teacher who spends time with young children, I began to speculate. Soon, I noticed that their thoughts (or rather my speculations about them to be exact) seemed to include their inferences about others' thoughts and feelings. This capacity to understand another's mind has been widely studied among children as perspective-taking (Selman, 1980), theory of mind (e.g., Wimmer & Perner, 1983), and emotion understanding (e.g., Brown & Dunn, 1996; Denham, Zoller, & Couchoud, 1994; Eisenberg, Fabes, & Spinrad, 2006; Fabes, Eisenberg, Nyman, & Michealieu, 1991; Harris, 1989; Pons & Harris, 2005; Pons, Harris, & de Rosnay, 2004; Pons, Lawson, Harris, & de Rosnay, 2003). The following two episodes, which I observed in my classroom, illustrate young children's ability to imagine others' mental states in their social interactions.

> One morning in the classroom, a two-year-old child, John, reaches for soy milk from the breakfast wagon and walks with it toward the table where his friend Thomas, who is allergic to regular milk, is sitting. It seems like John knows what Thomas needs for his breakfast. However, as soon as Thomas sees John with the soy milk, he bursts into tears and comes running toward John and grabs the soy milk from him. John, who appeared to be trying to be helpful, starts to cry very hard. Because it seems that Thomas wants to carry the soy milk by himself, I say to John, "Maybe he wants to do it by himself." The next morning, John comes toward the breakfast wagon. John reaches for the soy milk and walks with it, but he sees Thomas walking toward him. John looks into Thomas' eyes and asks him, "Self?" John hands the soy milk to Thomas. (personal communication, September 24, 2007)

One morning in the classroom, a two-year-old child, Anna, is eating oatmeal with her friends at the table. Although everything is peaceful (everyone is busy eating), Anna suddenly looks troubled and her face gradually changes to a crying face. Nobody was hurting her, and nobody was taking things from her. As her eyes are glued on the boy who is sitting across the table, something must have been happening with him. It turned out that the boy's pacifier (the pacifier had a string and it was clipped to the collar of his shirt) was diving into his bowl of oatmeal. Although Anna's face shows surprise and pain, this boy does not seem to notice his oatmeal-covered-pacifier nor Anna's reaction. (personal communication, July 25, 2011)

In the milk story, John *seems* to think about what Thomas wants on two occasions (first "soy milk," and then "to carry the soy milk himself"). With the oatmeal story, Anna *seems* to think about (or simply feel) what her friend might feel. Because I was fascinated by what young children *seem* to think about others' mental states, I decided that I wanted to investigate what young children *really* think about others' mental states when they engage in everyday social interactions in preschool. Because imagining others' mental states is something that adults also do during social interactions, I became more conscious of how I do this in my own everyday social interactions. As I observed my own capacity to speculate about others' mental states during social interactions, I noticed three complex aspects of this capacity--1) the actual mental states of others are sometimes inaccessible, 2) people sometimes perceive another's mind differently, and 3) thinking about others' mental states is sometimes accompanied by emotions. First, everyday social interactions contain many occasions in which I can never know whether I interpreted another's mental states correctly (e.g., I say hello to someone, and she does not answer and passes by. Did she not want to say hello to me or was she just unaware of my greeting?). Second, how we interpret others' mental states can vary between individuals in some situations. Although my friends and I shared a similar interpretation of a certain person's mental state on some occasions (e.g., During the coffee break, Colleague A looks sad, and we think that she was unhappy with her work), our interpretations were more varied on other occasions (e.g., One morning, Colleague B comes to work. She appears tired to my eyes, angry to Colleague C, and just as usual to Colleague D). Third, imagining others' mental states seems to trigger my own emotions. I sometimes feel some emotions when I imagine others' mental states, especially when they include strong feelings. Given these three aspects,

understanding what young children think about others' mental states during everyday social interactions at preschool looked more complicated than I initially thought. Besides, it is challenging to ask young children what they are thinking while they interact with others. Furthermore, unlike mathematical problems that often have one correct answer on which the majority of people can agree, it is often more difficult to find one correct answer to the question "what is in another's mind"--there is a strong likelihood of multiple answers.

I need to confess that the more I thought about this research topic, the more pessimistic I became about ever understanding young children's minds. Furthermore, raising my own children (I started this study as a single woman with no children) made me doubt more about understanding my children's minds completely. During the study, there were many times when I seriously doubted my ability to even write about this topic. How would I or anyone ever understand young children's minds when it is nearly impossible for me or anyone to put captions on what is really going on in others' minds during our own social interactions with adults? In a Japanese book, *Baka no Kabe* (*The Wall of Fools*), anatomist Takeshi Yoro (2003) argues that it is impossible for people to understand each other and a better mutual understanding can be attained by our surrendering the false perception that it is possible to understand others. Borrowing this attitude, I write this thesis while surrendering my initial hope that I would understand young children's minds. Although my study will not provide a complete picture of young children's minds, I hope it will provide people, especially people who spend lots of time with young children, with a better understanding of what might be going on in young children's minds as well as our limitation in knowing everything about their thoughts. I hope that young children will feel better as a result of adults' deeper understanding of or considerations on their thoughts.

Abstract

At preschool, children are socially active--they engage in various social interactions with their peers and teachers. Social interactions require people to understand others' minds (e.g., perspectives, ideas, emotional states, thoughts, intentions, beliefs), and this ability is often referred as a theory of mind or social cognition. Studies in the last few decades have revealed that young children are capable of understanding another's mind, and preschool aged children show progressively better understanding of another's thoughts and feelings (e.g., Fabes, Eisenberg, Nyman, & Michealieu, 1991; Harris, 1989; Pons, Harris, & de Rosnay, 2004; Selman, 1980; Wellman, Cross, & Watson, 2001). Though more evidence is available about young children's theory-of-mind ability, little is known about their theory-of-mind patterns and their own emotional and behavioral response patterns in social interactions. Moreover, how children's theory-of-mind patterns differ between different age groups, cultural groups, and social situations is not well understood.

The main purpose of this study is to gain better understanding of how children attribute another's mind in common social interactions at preschool. Given that children's conflicts are quite common and teachers often get involved in such situations at preschool, preschool children of two age groups (a younger group: 3;10 to 5 years, an older group: 5;1 to 6;5 years) from two countries, Iceland (N = 41) and Japan (N = 64), were interviewed and instructed to take the first-person perspective in four hypothetical situations. They were asked about three aspects of their social information processing in the hypothetical social situations--their inference about the teacher's feeling, the protagonist's emotional reaction, and his/her subsequent action. These four hypothetical social situations involved a protagonist, a crying friend, and a teacher, in which the protagonist either did (e.g., the child pushes the friend, and the friend falls down) or did not make a moral transgression (e.g., the friend was tripped by himself/herself and falls down), which was either followed by or not followed by the teacher expressing her blame toward the protagonist.

Using multivariate analysis of variance (MANOVAs), the results showed that Japanese children and children in the older age group attributed a more negative feeling to the teacher than did their counterparts in all the conditions including a situation where the child did not do anything wrong and the teacher did not express any blame. However, children in both age groups and countries differentiated the child's moral transgression from the no moral transgression by attributing similarly a more negative feeling to the teacher and the child. Although children expected the child to take a more passive

action choice (i.e., stopping what they were doing) when the child committed a moral transgression, his/her moral transgression had the least impact on their proposed action choice among the three studied aspects of children's social information processing.

One of the important findings of this study was that the presence or absence of the teacher's expressed blame did not appear to impact the three studied aspects of children's social information processing--how children's inference about the teacher's feeling, the child's emotional reaction, and his/her subsequent action--when s/he made a moral transgression. Further analysis of children's justifications for their expected child's feeling, using open-ended questions, suggested that children imagined teacher's criticism when the child committed a moral transgression irrespective to the presence of the teacher's blame. Moreover, a cultural difference was observed in how children from the two countries justified why they would feel as such if they were the protagonist. Japanese children were more elaborate, and often included their fear, compared to Icelandic children's justifications.

Another important finding was the complexity of the relationships between children's social information processing and factors such as children's age, cultural background, and given social context. How one factor (e.g., children's age, the child's moral transgression) impacts one aspect of children's social information processing (e.g., emotion attribution) can be different from how it impacts other aspects of the social information processing (e.g., emotional reaction, action). Moreover, given that the moral transgression appeared to have more impact on children's understanding of the teacher's mind and on their expected emotional reaction than on their expected action choice, teachers and parents may need to recognize that children's actions may not always reveal their emotional reactions or their interpretation of a teacher's or parent's mental states.

In this study, children were also asked to suggest how adults/teachers could avoid blaming an innocent child mistakenly. Children from both countries suggested that adults/teachers should be attentive (e.g., watch children well, remember, listen to children) and kind.

Findings of this study invite adults and caregivers/teachers to challenge our assumptions about how children think and feel, and be open in exploring each other's thoughts and feelings in social interactions. Fostering an open attitude to exchange each other's thoughts and feelings might be more important than ever in the world, which is becoming increasingly interconnected.

Key words: theory of mind; social information processing; preschool children; teacher-child interaction; cross-cultural study

Abstract in Icelandic

Hugmyndir íslenskra og japanskra leikskólabarna um hegðun barna og viðbrögð kennara: Félagslegar aðstæður í leikskólastarfi

Börn í leikskóla eru félagslega virk og taka þátt í margvíslegum samskiptum við önnur börn sem og kennara sína. Félagsleg samskipti krefjast hæfni til að skilja það sem býr í huga annarra, svo sem hver sjónarmið þeirra eru, hugmyndir, tilfinningar, ásetningur eða skoðanir. Þessi hæfni heyrir ýmist undir kenningar um félagsvitund (e. social cognition) eða hugarkenninguna (e. theory of mind). Rannsóknir á undanförnum áratugum hafa leitt í ljós að ung börn geta skilið hugsanir og tilfinningar annarra og að slíkur skilningur þroskist með börnum á leikskólaaldri (t.d. Fabes, Eisenberg, Nyman og Michealieu, 1991; Harris, 1989; Pons, Harris og de Rosnay, 2004; Selman, 1980; Wellman, Cross og Watson, 2001). Þrátt fyrir að töluvert sé til af rannsóknum á hæfni ungra barna til að skilja hugsun og tilfinningar annarra (e. theory-of-mind ability), er lítið vitað bæði um hvað einkennir hugsanir þeirra (e. theory-of-mind patterns) og hvað einkennir tilfinningaleg og hegðunarleg viðbrögð þeirra (e. emotional and behavioral response patterns) í félagslegum samskiptum. Jafnframt liggur takmörkuð vitneskja fyrir um skilning þeirra á hugsun og tilfinningum annarra í ýmsum félagslegum aðstæðum; svo og hvort aldur þeirra skipti þar máli og mismunandi menning.

Í þessu ljósi er megintilgangur þessarar rannsóknar að öðlast betri skilning á því hvernig leikskólabörn skilja hugsun og tilfinningar annarra við algengar félagslegar aðstæður í leikskóla. Viðtöl voru tekin við börnin og var viðfangsefni viðtalanna valið með tilliti til þess að árekstrar í samskiptum eru algengir meðal leikskólabarna og þess að kennarar eru oft hluti af slíkum samskiptum. Börnin voru úr tveimur aldurshópum (yngri hópur: 3;10 til 5 ára, eldri hópur: 5;1 til 6;5 ára) og frá tveimur löndum, Íslandi (N = 41) og Japan (N = 64).

Í viðtölunum voru börnin beðin um að skoða fjórar mismunandi „ímyndaðar aðstæður" (e. hypothetical situations) frá sjónarhóli fyrstu persónu. Í hverri þessara aðstæðna var aðalpersóna (barn), grátandi vinur og kennari þar sem aðalpersónan annaðhvort braut af sér (t.d. barnið ýtir vininum og vinurinn dettur; e. moral transgression) eða braut ekki af sér (t.d. vinurinn hrasaði um sjálfan sig og datt). Á eftir annað hvort áfelldist kennarinn aðalpersónuna eða áfelldist hana ekki. Börnin voru spurð um þrennt þegar þau unnu úr þessum

félagslegum upplýsingum (e. social information processing): Í fyrsta lagi voru þau spurð um tilfinningar kennarans, í öðru lagi um tilfinningaleg viðbrögð aðalpersónunnar (barnsins) og í þriðja lagi hvað aðalpersónan myndi gera í þessum aðstæðum.

Niðurstöður margbreytudreifigreiningar (e. MANOVA) benda til þess að japönsku börnin og börnin í eldri aldurshópunum eignuðu kennaranum neikvæðar tilfinningar í ríkari mæli en börnin í öðrum hópum. Þetta gilti í öllum aðstæðunum, þ.m.t. aðstæðum þar sem barnið gerði ekkert af sér og þar sem kennarinn áfelldist barnið ekki. Á hinn bóginn mátti sjá að börn í báðum aldurshópum og frá báðum löndum gerðu greinarmun á barni sem að braut af sér og því barni sem ekki braut af sér með því að eigna kennaranum og barninu neikvæðari tilfinningar. Þá fannst börnunum oftar að barnið ætti að hætta því sem það gerði þegar það braut af sér (e. passive action choice) en þegar það braut ekki af sér. Jafnframt kom fram minni munur á svörum barnanna þegar þau stungu upp á hvað barnið ætti að gera (e. action choice) í aðstæðunum tveimur (brot, ekki brot) en þegar þau voru spurð um tilfinningar kennarans og tilfinningaleg viðbrögð barnsins.

Eitt af því mikilvæga sem rannsóknin leiddi í ljós var, að þegar aðalpersónan (barnið) braut af sér virtist ekki skipta máli hvort kennarinn áfelldist það eða ekki um það hvernig börnin ályktuðu um: tilfinningar kennarans, tilfinningaleg viðbrögð barnsins eða viðbrögð þess hegðunarlega séð í kjölfarið. Frekari greining á röksemdum barnanna við opnum spurningum um hvernig barninu liði benti til þess að þau töldu kennarann áfellast/skamma barnið þegar það braut af sér hvort sem kennarinn hafði áfellst/skammað barnið eða ekki. Jafnframt mátti greina mun á því hvernig börnin í löndunum tveimur greindu frá hvernig þeim liði í sporum aðalpersónunnar. Japönsku börnin gáfu ítarlegri svör og nefndu meðal annars oftar að þau yrðu hrædd en íslensku börnin.

Fjallað er jafnframt í ritgerðinni um flókna samvirkni sem kom fram á milli hugmynda barnanna annars vegar um (a) tilfinningar kennarans, tilfinningaleg viðbrögð aðalpersónunnar og viðbrögð hennar hegðunarlega séð og (b) hins vegar um samskipti kennara og aðalpersónu í hinum mismunandi félagslegum aðstæðum, aldurs barnanna og menningarlegs bakgrunns þeirra.

Í ljósi þess að brot barnsins virtist hafa meiri áhrif á skilning barnanna á bæði hugsun kennarans og tilfinningalegum viðbrögðum barnsins frekar en á þeim athöfnum barnsins sem þau bjuggust við að sjá, benda til þess að kennarar og foreldrar gætu þurft að hafa í huga að hegðun barna gefur ekki alltaf til kynna tilfinningaleg viðbrögð þeirra eða hvernig þau túlka hugsun og tilfinningar kennara eða foreldra.

Börnin voru einnig beðin um að benda á hvernig fullorðnir/kennarar gætu komið í veg fyrir að áfellast eða skamma saklaust barn. Bæði japönsku og

íslensku börnin bentu á að fullorðnir/kennarar ættu að vera eftirtektarsamir (t.d. fylgjast vel með börnum, muna, hlusta á börn) og vera góðir.

Niðurstöður rannsóknarinnar gefa fullorðnum og umönnunar– aðilum/kennurum tilefni til að ögra viðteknum hugmyndum um hvernig börn hugsa og hvernig þeim líður og vera opnir í leit að skilningi á hvert annars hugsunum og tilfinningum í félagslegum samskiptum. Segja má að mikilvægara en nokkru sinni fyrr sé að stuðla að því að fólk deili hugsunum sínum og tilfinningum hvort með öðru í heimi sem verður stöðugt tengdari innbyrðis.

Lykilorð: hugarkenning, úrvinnsla félagslegra upplýsinga, leikskólabörn, samskipti barna og kennara, þvermenningarleg rannsókn

Acknowledgement

This work would not have existed without the children whom I came to know through my work and through this study. I would like to thank them for being so social, active, and open. Also, I would like to thank the parents of the participants, the teachers, and the preschool principals in Iceland and Japan for allowing me to carry out this study. Special thanks go to Prof. Kimiharu Sato at Hokkaido University, who kindly gave me helpful insights when I conducted the study in Japan, and Prof. Rudolf Cardinal at the University of Cambridge, who gave me helpful advice when I was doing the initial data analysis with R (https://www.r-project.org). This study was supported by a grant from the University of Iceland (Rannsóknasjóður Háskóla Íslands) which I sincerely appreciate as I was able to complete groundwork for this research with this fund.

My gratitude goes to committee members, and the School of Education at the University of Iceland. First, I would like to thank my supervisor, Prof. Sigrún Aðalbjarnardóttir, for giving me guidance, encouragement, and support for my study. Because of her patience and care, I could come to the end of this journey. Also, I would like to thank my co-supervisor, Prof. Paul Harris, who kindly gave me helpful hints based on his experience exploring young children's minds over many decades. My gratitude also goes to a committee member, Prof. Steinunn Gestsdóttir, who was generous sharing her time and expertise for this study.

Having support from other students was very instrumental in completing this study. I would like to thank the doctoral students at the University of Iceland, especially Hrönn Pálmadóttir, Kolbrún Pálsdóttir, and Þóra Sæunn Úlfsdóttir, for giving me helpful insights and inspiration. Also, I am very grateful for my kind friend Julia Tang, a former classmate from the Master's program at Harvard Graduate School of Education, for her help in editing the final draft of my dissertation.

Finally, my gratitude goes to my friends and family (a list of names would go for a few pages). With their support, help and inspiration, I could come this far in this journey.

Table of Contents

List of Figures

List of Tables

INTRODUCTION

The goal of this study is to understand what children think (or are thinking) during their social interactions at preschool. Specifically, this study focuses on how young children infer others' thoughts and feelings during social interactions. Children's ability to understand others' thoughts, desires, and feelings has been of great interest to researchers as well as to practitioners in early childhood development. This ability to understand another's mind is often referred to as social cognition (e.g., Harris, 2006), theory of mind (e.g., Wimmer & Perner, 1983), perspective-taking (Selman, 1980), and emotion understanding (e.g., Brown & Dunn, 1996; Denham et al., 1994; Eisenberg et al., 2006; Harris, 1989; Pons & Harris, 2005; Pons et al., 2004; Pons et al., 2003). Among different terms, "social cognition" and "theory of mind" are often used as umbrella terms to describe a wide range of human abilities to understand others' states of mind (e.g., Harris, 2006; Hynes, Baird, & Grafton, 2006). A great deal of research suggests that young children are capable of understanding other minds. For example, babies show sympathetic responses to the crying of other babies (Dondi, Simion, & Caltran, 1999) and children as young as three years of age can take another's perspective (Masangkay et al., 1974). Studies using false-belief tasks (e.g., examining children's ability to separate their own belief from another's belief) have revealed that children in the preschool years develop their ability to understand another's belief (first-order, e.g., Wimmer & Perner, 1983), and children in the last year of the preschool year/early elementary school years acquire their ability to understand another's belief about someone else's beliefs (second-order, e.g., Perner & Wimmer, 1985) even when it is different from their own. On the other hand, there is plenty of evidence for development in children's understanding of other minds with age. As children get older, they get better at understanding others' perspectives (Selman, 1980), feelings (Fabes et al., 1991; Pons & Harris, 2005; Pons et al., 2004; Pons et al., 2003), and beliefs (Wellman, Cross, & Watson, 2001). Furthermore, a good understanding of other minds is related to positive behaviors. Children with good emotion understanding show more prosocial behaviors like helping and sharing (e.g., Dunn, 2004; Eisenberg, 2004; Slomkowski & Dunn, 1996; Watson, Nixon, Wilson, & Capage, 1999).

Because of the possible connection between children's understanding of other minds and children's positive social behaviors, educators have attempted

to encourage children to understand each other's perspectives and feelings (e.g., Hyson, 2004). In *Multiple Intelligences*, a popular book among educators at all levels, Howard Gardner (2006) calls this capacity *Interpersonal intelligence* and describes it as one of the key human intelligences:

> Interpersonal intelligence builds on a core capacity to notice distinctions among others--in particular, contrasts in their moods, temperaments, motivations, and intentions. In more advanced forms, this intelligence permits a skilled adult to read the intentions and desires of others, even when they have been hidden. This skill appears in a highly sophisticated form in religious or political leaders, salespersons, marketers, teachers, therapists, and parents. (p. 15)

Although it is often believed that a good understanding of other minds is related to positive outcomes such as prosocial behaviors (e.g., Dunn, 2004; Eisenberg, 2004; Slomkowski & Dunn, 1996; Watson et al.,1999), findings from some studies have suggested that it can also be related to children's antisocial behaviors (Sutton, Smith, & Swettenham, 1999) and their sensitivity to criticism (Cutting & Dunn, 2002).

Although this capacity to understand other minds can be associated with both positive and negative behaviors, it is an essential component of our everyday communication. Accumulated findings from individuals with autism, who have difficulties in social communication, illustrate how important this capacity is in carrying out everyday social interactions. Numerous studies (e.g., Baron-Cohen, Leslie, & Frith, 1985; Senju, 2012) have shown that individuals with autism do not do as well as their counterparts in anticipating others' states of mind accurately. In addition, they have a deficit in automatically detecting other people's facial expressions, a process that is carried out effortlessly by typical individuals (e.g., McIntosh, Reichmann-Decker, Winkielman, & Wilbarger, 2006).

Given that children's capacity to understand other minds is an essential component of their social communication, why is it important to understand this capacity in social interactions? A better understanding is important for two interrelated reasons. First, although there are numerous studies that have explored this ability among children, there is only a limited understanding of how young children infer others' mental states in the course of everyday social interactions. While there is some research on how certain kinds of social interaction (e.g., interactions between siblings) is related to growth in children's false-belief understanding and/or emotion understanding (e.g.,

Astington & Jenkins, 1995; Dunn, Brown, Slomkowski, Tesla, & Youngblade, 1991; Garfield, Peterson, & Perry, 2001; Hughes & Dunn, 1997; Perner, Ruffman, & Leekam, 1994; Youngblade & Dunn, 1995), there is little research on how children understand another's mind during social interactions. This study explores children's thoughts about another's mind by asking preschool children in hypothetical social situations that are familiar to them. Second, a better understanding of how children think about another's mind in social interactions could influence how parents and teachers teach and interact with young children. Olson and Bruner (1996) note that teaching is based on folk psychology, which consists of implicit theories about other minds:

> Not only are we steered in ordinary interaction by our folk psychology, but we are steered in the activity of helping children learn about the world by a body of assumptions that make up what we may call a folk pedagogy. Folk pedagogy is visible in many contexts: Watch any other, any teacher, even any baby-sitter with a child and you will be struck at how much of what they do is guided by notions of what children's minds are like and how one may help them learn, even though they may not be able to verbalize their pedagogical principles. Furthermore, . . . the differences between mothers, like those between teachers, arise from their different assumptions about the minds of these children. Their folk pedagogy, we shall argue, reflects their folk psychology. (p. 10)

Thus, gaining a better understanding of young children's minds could encourage parents and teachers to reexamine their assumptions. A new understanding of young children's minds could impact adults' interactions with young children. Previous studies have shown that teachers' beliefs, which can be broadly defined as "tacit, often unconsciously held attitudes teachers have with respect to education, schooling, teaching, learning, students, classrooms, and the academic material to be taught" (Einarsdottir, 2003, pp. 115-116), are linked to their classroom practice (Fang, 1996; Kagan, 1992; Munby, 1982; Pajares, 1992; Silvern & Isenberg, 1990; Spodek, 1987; Vartuli, 1999, see Einarsdottir, 2003 for review). Furthermore, studies have shown that adults' understanding of children's minds (e.g., as revealed by their empathy) is related to positive parent-child relationships (Kochanska, 1997) as well as students' learning (Cornelius-White, 2007). I hope that this study will influence teachers' existing assumptions (including my own) about young children's minds and improve their communication with young children in everyday

settings. I believe that young children would feel better and happier if adults made more effort to understand their minds. It is with that goal in mind that this study was created.

The structure of the paper

This thesis is divided in four parts. The first part introduces the theoretical framework on which the study is based and an overview of previous findings. The second part presents the research design and method of the present study. The third part presents the results of the study, and the fourth part consists of the discussion of the findings, which are placed in a theoretical context. More precisely, the first part, which consists of two chapters, discusses findings from previous studies on young children's understanding of others' minds and their social interactions at preschool in order to highlight three issues--1) the theoretical framework and approach of the study, 2) the kind of social interactions that are studied, and 3) the questions that can be answered (i.e., the research questions). The second part, the method section, describes how the studies in Iceland and Japan were organized, how individual interviews were carried out and what questions were asked in each early childhood educational institution. Ethical issues involving this study are also discussed. In the third part, the results of the studies, which emerged from the quantitative data based on children's answers to multiple choice questions as well as the categorical data based on children's answers to open-ended questions, are presented. In the fourth part, the results of the study are discussed as well as its strengths and limitations. Finally, implications of the study for educators and parents are discussed.

PART 1: THEORETICAL BACKGROUND

The goal of this section is to establish the theoretical framework for the study. In other words, an appropriate research approach and research questions are sought. The study's topic--young children's understanding of other minds during social interactions at preschool--consists of three major components: young children, the understanding of other minds, and social interactions at preschool. Thus, understanding this topic involves reviewing studies that examined any of the three subtopics. Two steps are taken in order to obtain a good understanding of these topics. First, theories and previous studies that examined children's understanding of other minds are reviewed (Chapter 1). In addition, Chapter 1 examines studies that explored children's understanding of other minds in relation to their moral reasoning. Second, in order to understand common social interactions at preschool and identify a specific kind of social interaction for this study (as it was impossible to study all possible social interactions), previous studies that explored social interactions at preschool are reviewed (Chapter 2). The research approach, hypotheses, and research question are presented at the end of Chapter 2.

1 Children's understanding of other minds

1.1 Introduction

Previous research suggests that young children are capable of knowing others' mental states from various social cues such as crying (e.g., Dondi et al., 1999) and facial expressions (Termine & Izard, 1988). This ability to attribute mental states (e.g., desires, goals, intentions, desires, and emotional states) to others is defined as a theory of mind (Premack & Woodruff, 1978). This ability is considered critical for carrying out everyday social interactions, and the term social cognition is also used to describe this ability (e.g., Harris, 2006). Topics such as perspective-taking, emotion understanding, empathy and sympathy also fall under the topic of theory of mind or social cognition, and they have caught the interest of researchers from a wide range of disciplines such as philosophy, primatology, psychology, anthropology, and neurology for the last few decades (Adams et al., 2010). In this thesis, the term "theory of mind" is used as an umbrella term to describe a wide range of human abilities to understand other minds. Recent findings from neurological studies that investigate the neural mechanism for theory of mind by using functional magnetic resonance imaging (fMRI), which measures brain activity by detecting changes in blood flow, have added new insights into the human capacity for understanding another's mind. In this chapter, theories and studies that explore this ability are reviewed. This chapter investigates three main topics: 1) the mechanism for understanding another's mind, 2) children's understanding of another's mind, and 3) universality and cultural specificity in understanding another's mind.

1.2 The mechanism for theory of mind

How do we understand others' mental states? There have been two different theoretical views of the mechanism for understanding another's mind. Advocates of the theory-theory (e.g., Gopnik & Wellman, 1992) insist that knowledge about others' mental states is learned in a similar way to the way that scientific knowledge is learned. Others have proposed a simulation theory, which claims that people understand another's mind by imagining how they would think/believe/desire/feel in a particular situation (e.g., Gallese & Goldman, 1998; Gordon, 1992). Although the debate between the two views has been mainly at a conceptual level (Harris, 2009), recent findings from neurological and experimental studies have provided empirical data. These findings strongly validate the simulation theory, yet do not exclude the theory-theory view.

1.2.1   **Theory of mind through simulation**

Studies on monkeys as well as humans have identified similar brain activity when participants observed certain goal-related actions and when participants actually engaged in goal-related actions themselves (Gallese & Goldman, 1998). By implication, person A observing another person B engaging in a certain action (e.g., reaching for a ball) is running a simulation of himself/herself reaching a ball. The neurological mechanism associated with our simulation is called the mirror neuron system located in the inferior frontal gyrus of our brain, and it is reported to be activated when we observe others' actions (Johnson-Frey, et al., 2003), imitate (Iacoboni et al., 1999), and understand others' intentions (Iacoboni, 2005) and emotions (Leslie, Johnson-Frey, & Grafton, 2004). In fact, several studies report that children and adults with autism spectrum disorders, characterized by deficits in understanding other minds, have a mirror neuron system that functions differently from those without the autism spectrum disorders when they are asked to engage in imitation and observation (Dapretto et al., 2006; Nishitani, Avikainen, & Hari, 2004; Oberman et al., 2005). The difficulties that individuals with autism face in social communication are likely to be caused by neurological dysfunction in the mirror neuron system.

   If the mirror neuron system makes our brain act similarly whether we are engaging in a certain action or just observing it, how do we distinguish between the self and the other? Numerous neurological studies have now investigated whether there are differences in brain activities when participants imagine the given situations from a first-person perspective (imagining oneself to be in a given situation) or a third-person perspective (imagining the other to be in a given situation). For example, Lamm, Batson, and Decety (2007) investigated differences in emotional reactions as well as brain activity between the first-person and third-person perspective. In terms of their emotional reactions, participants who imagined themselves to be in a painful situation (the first-person perspective) reported more personal distress than the other group of participants who imagined the feelings of the patient (the third-person perspective). On the other hand, the participants who took the third-person perspective reported more empathy than the participants who took the first-person perspective. Thus, in terms of brain activity, and despite the existence of the mirror neuron system, the study showed that the first-person perspective and the third-person perspective activated different brain areas. These results suggest that psychological responses may be different depending on whether one adopts the first-person perspective or the third-person perspective.

1.2.2 Theory of mind through simulation and accumulated knowledge

Do we understand another's mind through the first-person perspective or the third-person perspective? Findings from an interesting study conducted by Epley, Keysar, Van Boven, and Gilovich (2004) suggest that the understanding of other minds is more than a one step process. It involves first automatically running the first-person simulation, and then carrying out a somewhat effortful adjustment process by cognitively processing the given information. The study presented participants (adults) with either a positive or a negative scenario (e.g., Tom loved the show vs. Tom hated the show) before they heard Tom's telephone message, in which he recommends his friend to go watch the show. Participants were asked either in a hurried or unhurried way how a person not having any prior information would judge the telephone message. Under time pressure, the participants imagined the uninformed person to interpret the telephone message in a way that was very influenced by the prior information even though it would have been unknown to the uninformed person. However, when they were given enough time, their responses were less influenced by the prior information (the researchers also tested participants with or without financial reward for the correct answer, and found that participants were less influenced by the prior information when they were given the reward). Epley et al. (2004) concluded that perspective-taking (in their study, participants were asked to view a situation from the third-person perspective) happens first by anchoring oneself to the situation (e.g., how the world would look from one's own perspective) and then engaging in adjustment processes, in which people use their accumulated theories of others' mind (e.g., how the world would look to a person who has different knowledge or a different background). In other words, their finding suggests that both the simulation theory, as well as the theory-theory, are relevant when people understand others' minds.

1.3 Children's understanding of other minds

Previous studies of children's understanding of other minds can be divided into three areas. The first area is children's understanding of other people's visual perspective. The second area is children's conceptual understanding of other minds including others' knowledge, thoughts, desires, and so on. Finally, the third area concerns children's understanding of others' emotions.

The internal life of children did not receive much research attention until Jean Piaget (1896-1980), a pioneer in developmental psychology, started exploring young minds almost a century ago. Piaget was one of the first researchers who investigated young children's ability to understand another's

mind. The well-known three-mountain experiment (Piaget & Inhelder, 1967) examined children's understanding of another person's visual perspective by asking children from four to twelve years old how a scene (three differently shaped, colored mountains) would look from different viewpoints. The results suggested that children younger than seven years of age expected others sitting at the different viewpoints to have the same perspective as their own and had difficulties in taking others' perspectives (Piaget & Inhelder, 1967). Given this finding, the view that young children have difficulty in taking others' perspectives was prominent for a while. In the 1970's, researchers experimented with different research methods. Some used situations more familiar to young children while others used two-dimensional rather than three-dimensional objects. Their findings supported the view that young children have some ability to understand others' visual perspectives. For example, Masangkay et al. (1974) found that children as young as three years of age could adopt another's viewpoint. In the picture task, children were presented with a card showing a cat on one side and a dog on the other side and asked which animal the person sitting on the other side would see. Almost all the three-year-old participants could say what would be seen from the other side correctly. Perhaps it is no coincidence that the more it became evident that the old idea that young children are incapable of taking another's perspective was not true, the more researchers became interested in investigating young children's understanding of another's mind beyond their visual perspective in the 1980s.

Thus, around the 1980s, researchers have started to investigate children's ability to understand another's thought or belief. Wimmer and Perner (1983) created the now classic false-belief task to test whether young children could separate their own belief from another's belief. The study involves telling children a story in which the main character returns to the kitchen to find the chocolate, which he had placed in the cupboard. He does not know that his mother moved the chocolate to the kitchen drawer in his absence. In other words, the children in the study are given information (i.e., the mother moving the chocolate to the kitchen drawer) that the main character does not have. Children are asked where this character will look for the chocolate (Wimmer & Perner, 1983). What children were asked about in this false-belief test was their first-order understanding of false belief (e.g., predicting protagonist's mistaken belief). Children around four and five years of age pass this task by predicting that the main character would look in the kitchen cupboard. Another study by Perner and Wimmer (1985) investigated children's second-order understanding of false beliefs (e.g., predicting a protagonist's belief about another's mistaken belief) by presenting children a story about the two

characters who were independently informed about the transfer of the ice-cream van's unexpected transfer (neither of them did not know that the other one knew about the new location of the van), and examined whether children understood the character's belief about the other character's mistaken belief about where the ice-cream van would be. Children around six and seven years of age pass this task by predicting that the child would expect the other child to go to the van's original location for ice cream. Although by definition, theory of mind includes the human ability to understand various aspects of another's mind (e.g., emotional states, knowledge, thoughts), many studies define children's theory of mind as their ability to pass false-belief task/s (e.g., Milligan, Astington, & Dack, 2007; Mizokawa & Lecce, 2016; Peterson & Siegal, 1995).

Mental states include more processes than visual perspectives, or beliefs. Studies have explored children's ability to understand another's perspective, which is perceived to be shaped by their understanding/speculation about another's knowledge, thoughts, desires and feelings. Selman (1980) outlined five levels of perspective taking (age range about 3 to adult). The first four levels are as follows (pp. 37-40): At the first level, called "Undifferentiated and Egocentric Perspective Taking," children are unable to differentiate their views from other people's views. At the second level, called "Differentiated and Subjective Perspective Taking," children realize that other people can have different feelings and thoughts due to their circumstances and information available. And at the third level, called "Self-reflective/Second-person and Reciprocal Perspective Taking," children are not only aware that other people have other feelings and thoughts but are able to imagine how the other person sees their actions and intentions. In other words they "can step mentally outside" themselves "and take a self-reflective or second-person perspective on their own thoughts and actions on the realization that others can do so as well" (p. 38). At the fourth level the young adolescent can take a third-person perspective; the ability to "step outside not only one's own immediate perspective, but outside the self as a system" (p. 39). This means that the young adolescents can "see themselves as both actors and objects, simultaneously acting and reflecting upon the effects of action on themselves, reflecting upon the self in interaction with the self" (p. 39). In other words, they can for example view their social interactions with other people from an outside or third-person's perspective. Among his studies on perspective taking ability, Selman (1980) presented children from four age groups (four, six, eight, and ten years of age) with a story in which a girl who had promised her father not to climb trees previously and her friends saw a cat belonging to one of her friend caught in a tree. The girl was the only one who could climb trees well.

Then children were asked questions about the knowledge of the various characters about others' thoughts and feelings (e.g., whether the girl knew about feelings of the friend whose cat was caught in the tree or what the girl thinks about her father's response when he finds out about her climbing the tree). The findings showed that while most of the children at age four (80%) showed the first level of perspective taking ("Egocentric Perspective Taking") and most of the children at age six (90%) showed the second level of perspective taking ("Subjective Perspective Taking"), most children at age ten showed higher levels of perspective taking (Third level: 60%, Fourth level: 20%). The findings that children get better in taking others' perspectives as they get older has been obtained in many other studies (e.g., Fabes et al., 1991; Harris, 1989; Pons et al., 2004; Wellman et al., 2001). However, other studies have revealed that young children, who have been considered unable to take others' perspectives, are also capable of understanding another's mind (e.g., Dondi et al.,1999; Dunn & Munn, 1985; Masangkay et al., 1974). Different results reflect the use of different measures, different contexts, as well as the type of theory of mind (e.g., perceptual, conceptual, or emotional). In sum, research on children's perspective-taking ability has focused on children's progressive understanding of another's perspective as well as their ability to take a third-person point of view (e.g., how people in general would perceive a given situation).

While researchers on children's perspective-taking ability have focused on their understanding of another's perspective, which involves examining their understanding of another's thoughts and emotions in a given situation, other researchers have concentrated on exploring children's ability to understand another's emotion. A study by Dondi, Simion and Caltran (1999) illustrates young children's ability to understand others' emotions. They found that even 1-3-day-old newborn infants showed more sensitivity (facial responses as well as decreased sucking rate) to the cry of another new born infant than to their own cry. Young children's sensitivity to others' distress has been examined using various terms such as *empathy*, *sympathy*, *personal distress*. Eisenberg, Fabes and Spinrad (2006) identifies empathy as "an affective response that stems from the apprehension or comprehension of another's emotional state or condition, and which is identical or very similar to what the other person is feeling or would be expected to feel" (p. 647). They argue that sympathy, which "entails feeling sorrow or concern for another" (Eggum et al., 2011), and personal distress, which is "a self-focused, aversive emotional reaction to the vicarious experiencing of another's emotion" (Eisenberg et al.,2006, p. 647), may stem from *empathy*. Thus, being sensitive to others' distress entails apprehending or understanding others' minds.

Other research on children's emotion understanding supports the general view that children come to understand various aspects of the mind during the preschool years (e.g., visual perspective: Masangkay et al., 1974, first-order false belief: Wimmer & Perner, 1983, perspective-taking: Selman, 1980). Fabes, Eisenberg, Nyman, and Michealieu (1991) explored the emotion understanding of 3-6-year-old children in naturally occurring social interactions during free play at preschool. They interviewed young children (who were not involved in the events under study) right after they had witnessed emotionally charged events involving other children and asked them to identify the emotional reactions of the other child as well as their causes. They found that older children were more accurate in identifying others' emotions although 69% of 3-year-old children's appraisals of others' emotions corresponded with adults' appraisals (4-year-olds, 72%; 5-year-olds, 83%, Fabes et al., 1991). The same study found that children were more accurate in identifying positive emotional reactions than negative ones, although they were more accurate in explaining causes of negative emotions than those of positive emotions (Fabes et al., 1991). These studies show that understanding another's feelings involves other mental functions such as identifying the cause of an emotion in a given situation.

In fact, accumulated evidence on theory of mind has shown that children's understanding of another's desires or emotions is closely linked to their understanding of another's beliefs. Wellman (2014) acknowledges that an understanding false belief is not equivalent to having a theory of mind or *vice versa* because "beliefs (thoughts, ideas) function alongside other mental states" (p.71) such as desires and emotions. The intertwined nature of children's emotion understanding and their understanding of others' desires and beliefs is evident in the development of children's emotion understanding. Analysis of the accumulated findings on children's emotion understanding from multiple studies from different countries by Pons, Harris, and de Rosnay (2004) also suggested that children's progressive emotion understanding in three clusters, the first cluster mastered by five years of age--1.1) understanding of other's facial expressions of the basic emotions (happiness, sadness, fear, and anger), 1.2) external cause of people's emotion, 1.3) impact of memory on one's emotion--the second cluster mastered by six or seven years of age--2.1) understanding that people's different emotions come from different desires exhibited, 2.2) people can have different emotions from their different beliefs, 2.3) people's expressed emotions can be different from their actual emotions, and the third cluster mastered by seven or eight years of age--3) understanding that a person can have more than one emotion or contradictory emotions at the same time (Pons et al., 2004). In short, children's emotion understanding

appears to begin from the recognition of basic emotions, then later involves building a causal relationship between another's emotion and various factors, both external (e.g., A gets angry because B hits A) and internal (e.g., another's memory, desires, and beliefs) as well as recognizing that multiple factors in a given situation can cause multiple emotions. Although the result of the study by Dondi et al. (1999) revealing that 1-3-day-old infants showing some understanding of another's emotion does not seem to fit to the model of Pons et al. (2004), emerging studies of infants' ability to understand another's mind (e.g., infants between 13, 15, and 18 months showing an early understanding of false-beliefs, Onishi & Baillargeon, 2005; Scott & Baillargeon, 2009; Surian, Caldi, & Sperber, 2007) have suggested that there might be some embodied biological facilities that enable even infants to be sensitive to another's mind.

So far, I have reviewed studies that mainly examined children's theory of mind as their ability to understand another's mind. We ourselves are thinking/believing/feeling agents who reflect on our own mental states. Because it is intuitively plausible that we know our own mental states better than we know others' mental states, are children better at reflecting on their own mental states than reflecting on others' mental states? Findings from the existing studies have shown that children do not show an ability to reflect on their own mental states before showing an ability to understand another's mind (e.g., Happé, 2003; Hogrefe, Wimmer, & Perner, 1986; Lang & Perner, 2002). Moreover, findings from a study of schizophrenia have shown that some schizophrenia patients who could not reflect on their own mental states could nevertheless attribute mental states to the interviewer (Gambini, Barbieri, & Scarone, 2004), suggesting that reflecting on one's own mental states may be a more challenging psychological task than attributing mental states to others. Findings from the aforementioned neurological study on adults by Lamm et al. (2007) found that participants who were asked to take a first-person perspective reported more personal distress and less empathy than did participants who were asked to take a third-person perspective, and brain areas that were activated among participants were different depending on whether they took the first-person perspective or the third-person perspective. These findings imply that thinking about one's own mental states is different from thinking about another's mental states. There is emerging evidence showing infants' ability to distinguish "self" from "others" and suggesting a bi-directional framework for development in children's understanding of "self" and "other" (e.g., Meltzoff, 2007). More research needs to be done to understand the link between children's theory of their own mind, and their theory of others' minds.

By reviewing numerous studies on various aspects of children's theory of mind (e.g., children's ability to understand another's visual, conceptual viewpoints, false-beliefs, and emotional states), it is evident that young children are capable of understanding another's mind. However, most of the reviewed studies so far have examined children's theory-of-mind ability as competence (e.g., how they perform in the idealized conditions of a test). Questions remain about how children's theory-of-mind competence is related to the way that children use their theory-of-mind ability in the course of their social interactions.

Some researchers have examined theory-of-mind performance, or how children exhibit their understanding of another's mind in everyday social interactions. Dunn and Munn (1985) conducted observational studies examining second-born children (14 to 24 months) during family conflicts (with an older sibling or mother). One of their aims was to examine how children show their understanding of other minds. They identified children's understanding of others' feeling by examining "how they teased in conflicts, the effectiveness with which they supported another in conflicts in which they were not directly involved, and their behavior when carrying out forbidden actions or when attempting to enlist the aid of others" (Dunn & Munn, 1985, p. 489). They found that the children showed increased understanding of others' feeling (e.g., knowing how to get a certain emotional reaction or anticipating a certain emotional reaction) during their second year by showing more teasing (e.g., hiding a sibling's toy) and more supporting acts (e.g., helping a sibling to continue the prohibited act like bringing more candies) during the conflicts as well as seeking attention from their mothers when transgressions were made. These findings suggest not only how children show their understanding of another's mind but also how important everyday encounters might be for young children to experience various emotions as well as to learn about others' feelings. It has been hypothesized that children's ability to understand another's mind/competence is linked with children's interactions with family members (e.g., Astington & Jenkins, 1995; Dunn et al.,1991; Perner et al.,1994; Garfield et al.,2001), their social engagement with peers through play (e.g., Hughes & Dunn, 1997; Youngblade & Dunn, 1995), as well as their peer rejection/acceptance (Caputi, Lecce, Pagnin, & Banerjee, 2012).

Given some evidence showing infants' understanding of another's emotion (Dondi et al., 1999) and false-beliefs (Onishi & Baillargeon, 2005; Scott & Baillargeon, 2009; Surian et al., 2007), it is plausible to speculate that some embodied biological abilities to understand another's mind are reshaped by children's everyday experiences, and that children's experiences are altered by

their reshaped biological abilities, thus suggesting potential relationships between theory-of-mind competence and theory-of-mind performance.

Previous research on young children's understanding of other minds provides rich information about their ability to take another's perceptual, conceptual, and emotional perspective. Also, many of these studies have shown that children get better at understanding others' minds as they get older, though some recent studies have shown that children display some early signs of emotion understanding (Dondi et al., 1999) and false-belief understanding (Onishi & Baillargeon, 2005; Scott & Baillargeon, 2009; Surian et al., 2007). The studies have also shown that there are considerable individual differences among children in their understanding of other minds. For example, comparative studies between autistic and non-autistic children have shown that they differ in their ability to understand other minds (e.g., Leslie & Frith, 1988; Baron-Cohen, Spitz, & Cross, 1993). Studies with typically developing children suggest that individual differences can be explained by factors such as linguistic ability, secure relationships, and family discourse. Pons, Lawson, Harris and de Rosnay (2003) examined emotion understanding among children ranging from four to eleven years of age and found that individual differences were explained not only by children's age but also their language ability. A similar finding was observed in a meta-analysis of studies that explored the correlation between children's language ability and their ability to understand false-beliefs--suggesting that children's language ability is moderately and even strongly correlated to their false-belief understanding when age is controlled (Milligan et al., 2007)

Other studies (e.g., Dunn et al., 1991; Harris, 1994, 1999) have shown that family discourse (i.e., what happens in the family when talking about emotions) is an important factor predicting individual differences in children's emotion understanding. Children who had frequent conversations about emotions and their causes with their mothers at home had better emotion understanding (e.g., Dunn et al., 1991). Furthermore, Ontai and Thompson (2002) found that a mother's elaborative conversational style (i.e., a style that includes rich information and prompts children to remember what happened when talking about emotions) measured at age three predicted deeper emotion understanding for securely attached children at age five. However, better emotion understanding was associated with a pragmatic conversational style (i.e., with fewer details about what happened and simple "yes" or "no" question.) and a less secure attachment at age three. These findings suggest that different kinds of child- caregiver relationship and different kinds of conversational style may have a different impact at different ages.

Nonetheless, previous findings on children's false-belief understanding as well as their emotion understanding suggest that they are similar constructs in that they have a similar developmental course (e.g., Wellman, 2014), are correlated to children's language ability (Milligan et al., 2007; Pons et al., 2003), and are related to various social aspects of children's lives (e.g., school performance, conversations styles, parenting styles, friendship, pretend play, etc.) (e.g., Astington & Jenkins, 1995; Caputi et al., 2012; Garfield et al.,2001; Harris, 1994, 1999; Perner et al.,1994). Furthermore, findings have suggested that there is a link between children's false-belief understanding and their emotion understanding (Cutting & Dunn, 1999; Hughes & Dunn, 1998). However, caution needs to be exercised because a study by Hughes and Dunn (1998) found that although individual differences in false-belief understanding and emotion understanding were highly correlated (and both were correlated with children's age, language ability, and family background), results from their regression analysis exploring an effect of each of the factors on children's false-belief understanding or emotion understanding (affective perspective-taking) revealed that difference in children's family background (maternal education and occupation, and paternal occupation) was related to children's false-belief understanding more strongly than to their emotion understanding. Furthermore, the same analysis showed that children's false-belief understanding and emotion understanding were not related to each other when other factors (age, language, family background) were included in the regressions. In other words, it might be wrong to assume a causal relationship between children's false-belief understanding and their emotion understanding although individual differences in each of these two aspects of children's understanding appeared to be strongly correlated.

To sum up, previous studies on children's theory of mind are numerous, but they have provided a wide-ranging and complex overview of various aspects of children's theory of mind. Yet, previous studies have focused heavily on children's theory of mind, its development, and its relationships with social aspects of children's lives (e.g., school performance, conversations styles, parenting styles, friendship, pretend play, etc.). Still not well known is how a child uses their capacity to understand various aspects of another's mind in everyday social situations. Furthermore, given that children's understanding of their own mental states develops in close combination with their understanding of others' mental states (e.g., Meltzoff, 2007), it might be necessary to explore how children understand their own mental states as well as another's mental states in social situations.

1.4   Universal or culturally specific?

Understanding other minds is considered an important component of normal social living and this is what separates humans from other species (see Saxe & Baron-Cohen, 2006). From this perspective, theory of mind can be perceived as a universal ability that is shared by people across various cultures. The mono-cultural approach in psychology or developmental psychology, which assumes that findings from studies based on mostly Western or American samples can be applicable universally, has been increasingly criticized since the 1970s (e.g., Greetz, 1975; Sampson, 1988, 1989; Markus & Kitayama, 1991; Shweder & LeVine, 1984). How cultural factors might be related to people's cognition (e.g., Nisbett, Peng, Choi, & Norenzayan, 2001), emotion (e.g., Cole, Bruschi, & Tamang, 2002; Ekman & Friesen, 1971; Kitayama & Markus, 1990), motivation (e.g., Fordham & Ogbu, 1986; Ogbu, 1981), and behavior (e.g., Hofstede, 1986; Triandis, 1994) has been widely researched (see Cole, 2006; Markus & Kitayama, 1991 for review). In order to explore the universality versus cultural specificity of theory of mind, previous studies are reviewed below. Previous studies' findings are mixed--some findings confirm the universality of theory of mind while other findings suggest that theory of mind is culturally specific with regard to its function and development.

A meta-analysis of studies that investigated children's theory-of-mind ability in seven countries by Wellman et al. (2001) illustrates the universality of children's performance on false belief tasks as well as variation across different cultures in the age at which children exhibit this ability. Their cross-cultural analysis showed a consistent developmental pattern suggesting that older children perform better on false-belief tasks in all the seven countries (Australia, Austria, Canada, Korea, Japan, the United Kingdom, and the United States). However, if children at 44 months of age are compared, whereas 69% of Australian children could answer the false-belief question correctly, only 50% of American and 40% of Japanese children could do so. How can this variation be explained?   Studies comparing East Asians (e.g., Japanese, Chinese) and Westerners (e.g., Americans) have shown that people from different cultural backgrounds perceive social situations differently. For example, East Asians with a holistic approach focus more on relationships whereas Westerners with an analytic approach focus more on categorizing features of the object by detaching it from its context (Nisbett et al., 2001). Thus, Masuda and Nisbett (2001) found that East Asians paid more attention to the entire field while Americans paid more attention to the focal object in a given situation. Though this is only a speculation (verification of this speculation requires testing children's field of attention), Japanese children's

delay in passing the false belief task might be related to their paying more attention to the entire picture rather than focusing on the main character.

More recently, Wellman (2014) analyzed research on children's theory-of-mind ability comprehensively and categorized five different milestones in children's theory-of-mind development, as following--1) understanding of diverse desires (e.g., two people can have different desires about the same object), 2) understanding of diverse beliefs (two people can have different beliefs about the same object, which is unknown to the both parties), 3) Understanding of differences in knowledge-access (understanding that a person with no information about what is in the box can be ignorant about what children know as the true content of the box), 4) understanding about another's false-belief about a distinct container (understanding that people can have a mistaken-belief about what is inside the distinctive band-aid box container when the container contains something else), and 5) understanding of hidden emotion (understanding that people can express different emotions from what they are really feeling) (pp. 93-111), and suggested that they may happen in a different sequence for children from different sociocultural-linguistic experiences (e.g., children from the Eastern countries, deaf children with hearing parents). Although children ultimately develop a similar theory-of-mind ability, how children understand another's mind in a given situation can be different among children from different cultural backgrounds. Given that children's sociocultural-linguistic backgrounds are related to their theory-of-mind development, it is quite possible that the same factors may be related to how children understand another's mind in a given social interaction. There is some evidence in the previous research that affirms this possibility.

A study by Cole, Bruschi and Tamang (2002) examined how elementary school children interpret situations, respond emotionally, and justify revealing their emotions in Brahman, Tamang and the United States. Although the focus of the study was not on children's theory of mind, the results are relevant to children's inferences about another's feelings because they were asked to attribute feelings to the main character in various social situations. Brahman and Tamang children imagined that the main character would feel shame in difficult situations and were more likely to accept negative situations (e.g., staying quietly, moving away from the person who caused the emotion) than the U.S. children, who attributed more anger to the main character. This cultural difference can also be interpreted using the holistic and analytic distinction between East Asians and Westerners (though Brahman and Tamang are not located in East Asia geographically). Children in the U.S. might expect that the main character would feel anger because s/he was treated in a way that could be categorized as unjust (e.g., being scolded by the father for no

reasons). On the other hand, Brahman and Tamang children might predict the main character's feeling by focusing on the relationship between the main character and his/her father (the father is scolding the main character). Cultural differences in how children interpreted the main character's feelings might have stemmed from focusing on different elements of the given situation. Whatever the exact interpretation, the results suggest that how children interpret another's mind can be different for children from different cultural backgrounds.

In recent years, studies that have explored neurological functioning during various theory-of-mind tasks[1] have reported differences between people from different cultural backgrounds. De Greck et al. (2012) explored neurological activity when Chinese and German university students were asked to empathize with a picture of an angry person (the angry face of a person of Western origin was presented to German participants and the angry face of a person of Asian origin was presented to Chinese participants because previous studies have shown that people are better at identifying the emotions of people from a similar cultural background). The results revealed similarities as well as cultural differences in neurological activity between German and Chinese participants. Chinese students showed more neuronal activity in regions related to emotion regulation whereas German students showed enhanced neurological activity in regions associated with emotion understanding and perspective taking. These findings suggest that people from different cultures apparently engaging in the same activity (e.g., empathizing with an angry person) can have different patterns of neurological activity. In social relationships, these differences in neurological activity might prompt German and Chinese people to take different actions when they encounter an angry person. For example, Chinese people might focus on calming down their own feelings before they engage with an angry person whereas German participants might want to talk with an angry person to relieve the other's negative feelings.

Kobayashi, Glover, and Temple (2006) have explored whether people's neurological activity during false-belief tasks is influenced by linguistic and cultural factors by studying American-English-speaking adults (doing false-

---

[1] From now on, the term "theory-of-mind tasks" is used to include various tasks that are designed to measure people's understanding of others' various states of mind. It is not limited to classic false-belief tasks (e.g., Wimmer & Perner, 1983). In order to avoid confusion, the term "false-belief tasks" is used (also mentioned in describing children's theory of mind measured only by false-belief tasks) in describing this tasks often used to measure children's theory-of-mind ability.

belief tasks in English) and Japanese-bilingual adults, who have grown up in Japan (doing false-belief tasks in Japanese and English). Although they found similarities in participants' brain activities, some differences were also found between the American monolinguals and the Japanese bilinguals. When participants engaged in the false-belief tasks (performance on the false-belief tasks did not differ between two groups), Japanese-bilingual participants showed stronger brain activity in brain regions associated with imagining others' emotions compared to American-English-speaking participants who showed more brain activities in a region associated with processing different emotional faces as well as a region involved in integrating sensory stimulations and limbic inputs. The processing of facial expressions of emotion and imagining others' emotions are two quite different neural functions. Furthermore, Kobayashi et al. (2006) found differences in brain functioning between the participants who were doing the false-belief tasks in English (the American monolinguals, and the Japanese bilinguals) and the participants who were doing the same tasks in Japanese (the Japanese bilinguals). When doing the tasks in English, a brain region related to linguistic processing (e.g., syntax processing and verbal memory) was more activated. On the other hand, when doing the tasks in Japanese, a brain region associated with socio-emotional function and autobiographic memory was more activated. These results suggest that not only cultural backgrounds but also language differences may cause differences in the neurological activities when people think about other minds. The cultural and linguistic differences seen in the study also seem to fit into the holistic versus analytic distinction introduced by Nisbett et al. (2001). Processing different emotional faces and linguistic processing appear more analytic because they involve attributing a certain kind of emotion to a particular face or sorting words in order to understand a sentence. Imagining another's emotion in a given situation is a more holistic process because it involves interpreting one's emotion in relationship to other factors in the situation. Autobiographic memory entails more holistic social aspects (e.g., emotions, social interactions, or people in relationships) than verbal memory. It is possible that these holistic vs. analytic distinctions are embedded not only in the cultures, but also in the languages, which have been developed in different social systems. Han and Northoff (2008) speculate that Japanese-bilingual participants' stronger brain activity in a region associated with imagining others' emotions during false-belief tasks might be related to the greater emphasis on feeling others' emotions in the Japanese socialization process. Although teaching young children about feelings is common in other countries, it has been reported that Japanese preschool teachers put special emphasis on teaching young children "[*omoiyari*] (empathy), which requires

the ability to be aware of the universalized or awkwardly expressed feelings of others" (p. 46) by focusing on *sabishisa* (loneliness) rather than anger or embarrassment (Hayashi, Karasawa, & Tobin, 2009). Because being a part of the group is valued in Japanese society, it is important to be sensitive to others' feelings to avoid triggering feelings of loneliness or isolation in others (e.g., acting to exclude others) as well as oneself (e.g., acting in a way that makes others not want to play with you) (Hayashi et al., 2009).

When researchers explored possible neurological differences during false-belief tasks among elementary school children, differences were also found between the two cultural/linguistic groups (Kobayashi, Glover, & Temple, 2007). The study with adults used word-based false-belief tasks, but word-based as well as cartoon-based false-belief tasks were used with children (here too, performance on the false-belief tasks did not differ between the two groups). Although children's brain activity was different for word-based and cartoon-based tasks, the researchers also found differences between the two cultural and linguistic groups (unlike their earlier study, these Japanese bilinguals were balanced bilinguals acquiring both English and Japanese simultaneously). In the word-based task, brain regions associated with the self-other distinction were activated more strongly among American-English speaking children than among Japanese-bilingual children. In the cartoon-based task, a brain region that is considered to link sensory stimulation and limbic inputs was more active among Japanese-bilingual children than American-English speaking children, which is different from the result shown among adults. Also, there were slight differences in Japanese children's neurological activities depending on whether they heard the stories in English or in Japanese. These results show that there are some neurological differences when people from different cultural and linguistic backgrounds understand others' minds. Also, language itself appears to have some impact on how people understand another's mind (this result was consistently found in research on bilingual children and adults)[2]. Furthermore, these differences can vary depending on the research method (e.g., word-based vs. cartoon-based) as well as participants' age.

From a review of studies exploring cultural differences during various theory-of-mind tasks, two tentative conclusions can be drawn. First, people

---

[2] The notion that neurological activities were different for the Japanese bilingual participants depending on which language it was used for the test (both for bilingual adults and children) would not be so surprising if language was perceived not solely as a means for communication, but as something that has developed in relation to a particular social system and social relationship (e.g., Chomsky, 1984)

from different sociocultural-linguistic backgrounds may perceive others' mental states differently, even when they encounter what is ostensibly the same social situation. Not yet known is how young children from different sociocultural-linguistic backgrounds understand another's mind in a given social situation. Second, when people from different cultural/linguistic backgrounds attribute feelings and thoughts to others in a similar manner (e.g., empathizing with anger, attributing a false-belief), some elements of the neurological activity may still be different for different groups. Thus, we may combine these two propositions as follows: people from different cultural backgrounds might or might not differ in how they understand other minds in the same social situation, and even when they understand other minds similarly, some of the accompanying neurological activity may be different. It is plausible that different patterns of neurological activity when understanding other minds are related to differences in how people engage in social interactions. Examining a person's understanding of another's mind in relation to his/her social engagement with another might further our understanding of the possible relationship between sociocultural-linguistic factors and how we understand another's mind/how we interact with one another.

Because this study aims to examine how children understand another's mind in their everyday social interactions at preschool, it is necessary to examine children's understanding of another's mind in relation to their sociocultural-linguistic backgrounds. As the accumulated studies have suggested that how children with the Western sociocultural-linguistic backgrounds understand another's mind might be different from how children in the Eastern sociocultural-linguistic backgrounds understand another's mind (e.g., Cole et al., 2002; Kobayashi et al., 2007), this study will explore how children from Iceland, as one of the Western sociocultural-linguistic group, and Japan, as one of the Eastern sociocultural-linguistic group, understand another's mind in everyday social situations at preschool. While Iceland and Japan are quite modern countries, they are quite different in terms of their languages (e.g., different linguistic origins, different grammars), and social systems (e.g., a more hierarchical society in Japan than in Iceland).

1.5 Theoretical framework for the present study

Previous studies of young children's understanding of other minds have used different methods. Some researchers have used interview studies, such as asking children to predict where someone will look for the chocolate (Wimmer & Perner, 1983), or to think about other people's perspectives after climbing a tree to get a friend's cat (Selman, 1980). Other researchers investigate young children's theory of mind in more naturalistic social interactions by asking

children their thoughts during free play (e.g., Fabes et al., 1991) or by observing them with family members (e.g., Dunn & Munn, 1985). Different methods reflect different views of human action and development.

In the field of psychology or developmental psychology, studying human action and development in terms of the dynamics of individual psychological factors was once common (Fiske, 1992; Sampson, 1981). However, the theoretical approach that views people in connection with situational, contextual, political, interpersonal, or historical factors (e.g., Bronfenbrenner, 1979; Fiske, 1992; Gergen, 1985; Vygotsky, 1986, see Kirschner & Martin, 2010 for overview) has been integrated with the previously dominant view that focused on the individual. An integrated metaframework introduced by Overton (2006) suggests that action consists of two types--(1) *expressive-constitutive action* that exhibits "some fundamental organization or system" (Overton, 2006, p. 22), and (2) *instrumental-communicative action* that works "as a means to attaining some outcome" (p. 23). For example, crying can be perceived as an expression of sadness (*expressive-constitutive*), or pain as well as an instrument to get another's attention (*instrumental-communicative*). Thus, studying action in this way enables psychologists and developmental psychologists to understand action in relation to the individual psychological system (e.g., wanting to get help), the biological system (e.g., a faster heartbeat), as well as sociocultural and physical reality (e.g., how people react to children's cries in a given social situation or in a particular culture). As shown in Figure 1, this approach by Overton (2006) bridges person-centered (i.e., a certain cognitive function influencing a certain action), biologically-centered (i.e., a certain neurological function influencing a certain thinking/feeling or action) and socio-culturally-centered (i.e., certain sociocultural factors such as parents' educational level or culture influencing a certain thinking/feeling or action) approaches. In recent years, there has also been a growing interest in exploring children's (also adults') social-cognitive activities such as thinking, feeling, and understanding of other minds in person-environment interactions (e.g., Saarni, Campos, Camras, & Witherington, 2006).
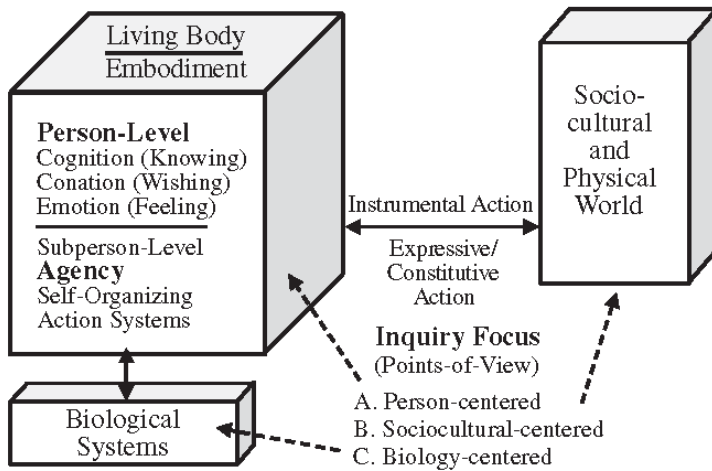
Figure 1. *Embodied action: A relational approach to inquiry (Overton, 2006, p. 49) Copyright © 2006 by John Wiley & Sons, Inc.*

What is children's theory of mind when it is put into this metaframework? Reviewing the previous studies on this topic has shown that theory of mind may be related to both expressive-constitutive as well as instrumental-communicative action. Because theory of mind is a human cognitive ability and its development is universal among children from different cultural backgrounds, it can be conceived as a basis for their action and as an index of children's cognitive system (*expressive-constitutive*). On the other hand, previous findings have shown that contextual factors (e.g., time or reward) may influence how people understand other minds (Epley et al., 2004). Furthermore, previous research has shown that there is cultural variation in children's theory of mind (Wellman et al., 2001) as well as in brain activities during theory-of-mind tasks (De Greck, Wang, Yang, & Wang, 2012; Kobayashi et al., 2007). Thus, theory of mind can also be understood as a basis for action that is a means to communicate with others in a contextually specific situation or in a specific culture (*instrumental-communicative*).

Although the numerous studies reviewed so far have explored theory of mind as an individual cognitive function or as a biological system (e.g., as neurological activity) and have reported its relationship with various sociocultural factors, few studies on this topic have investigated theory of mind in relation to action in the context of social interactions. For example, a typical false-belief task examining children's theory-of-mind ability (e.g., Wimmer & Perner, 1983) explores children's ability to understand the protagonist's belief about where the chocolate would be. Piaget's three-mountain experiment

25

(Piaget & Inhelder, 1967) examines whether children could take another's visual viewpoint. Although studies of children's theory of mind and its development have provided rich information, how this ability to understand another's mind is expressed (*expressive-constitutive*) or used (*instrumental-communicative*) to engage with others in social interactions is not well understood. Therefore, this study aims to explore children's understanding of another's mind when acting in the context of social interaction by interviewing children about what they would think about another's mind and how they would act and engage with the other in hypothetical social situations.

1.5.1 **Social information processing models**

Studying children's understanding of another's mind in the context of social interaction is challenging. While the observational method is ideal for capturing naturalistic social interactions, what is going on in children's minds is opaque and observers must often rely on an educated guess when speculating about children's thoughts and feelings. For example, the study by Dunn and Munn (1985) assumed that young children observed during family conflicts showed understanding of another's feelings when they showed certain behaviors (e.g., teasing, supporting). However, the authors did not ask children whether they knew what their sibling or mother were feeling. Even if children were interviewed about what mental states they might attribute immediately after a particular social interaction such as fighting and sharing (e.g., Fabes et al., 1991), slight contextual differences in the observed social situations (e.g., where it happened, when it happened, or whether it was a fight over toys or food) might influence children's responses. A possible alternative research approach is to use social information processing models (Crick & Dodge, 1994; Dodge & Murphy, 1984; Rubin & Krasnor, 1986). This approach uses an experimental approach, and aims to explore how children might interact with the other in a given social situation (most of the time using hypothetical stories) while exploring children's online (real time) mental processing (e.g., their interpretation of other's goals and intentions) as well as latent mental factors (e.g., memory, understanding of rules). This research approach interprets action as containing both expressive (e.g., expression of children's interpretive styles) and instrumental functions to link the individual with his/her environment (e.g., ways of communicating with others) (Overton, 2006). In social information processing models, the analyses rely less on researchers' assumptions about children's thoughts because children are asked to talk about what they would be thinking in a given situation. Furthermore, unlike the observational method, researchers need be less concerned with contextual differences involving individual cases.

In research using the social information processing approach, the main goal has often been to examine how children's socially incompetent behaviors (often rated by teachers, parents, or/and peers) can be understood in terms of their distinctive social information processing patterns. In Crick and Dodge's social information processing model (1994), the most recent model with six online mental processes revolving around the latent data base (e.g., social knowledge, memory) have been identified: (1) encoding of cues (e.g., seeing body language, or tone of the voice), (2) interpretation of cues (e.g., attributing intentions and goals to the other), (3) clarification of goals (e.g., clarifying one's goals), (4) response access or construction (e.g., thinking about how to respond), (5) response decision (e.g., deciding on one's response), and (6) behavior enactment (e.g., taking action). Although there has been criticism that the emotional aspects of social interaction were missing from these models (Lemerise & Arsenio, 2000), Dodge and Rabiner (2004) argued that emotion was considered as the driving force for the cognitive and behavioral aspects of action in social information processing models. Nevertheless, an integrated social information processing model that Lemerise and Arsenio (2000) developed from Crick and Dodge's model appears more comprehensive because it describes the emotional aspects (e.g., emotionality, emotion recognition, and emotion production) of social information processing in a given social interaction (see Figure 2).
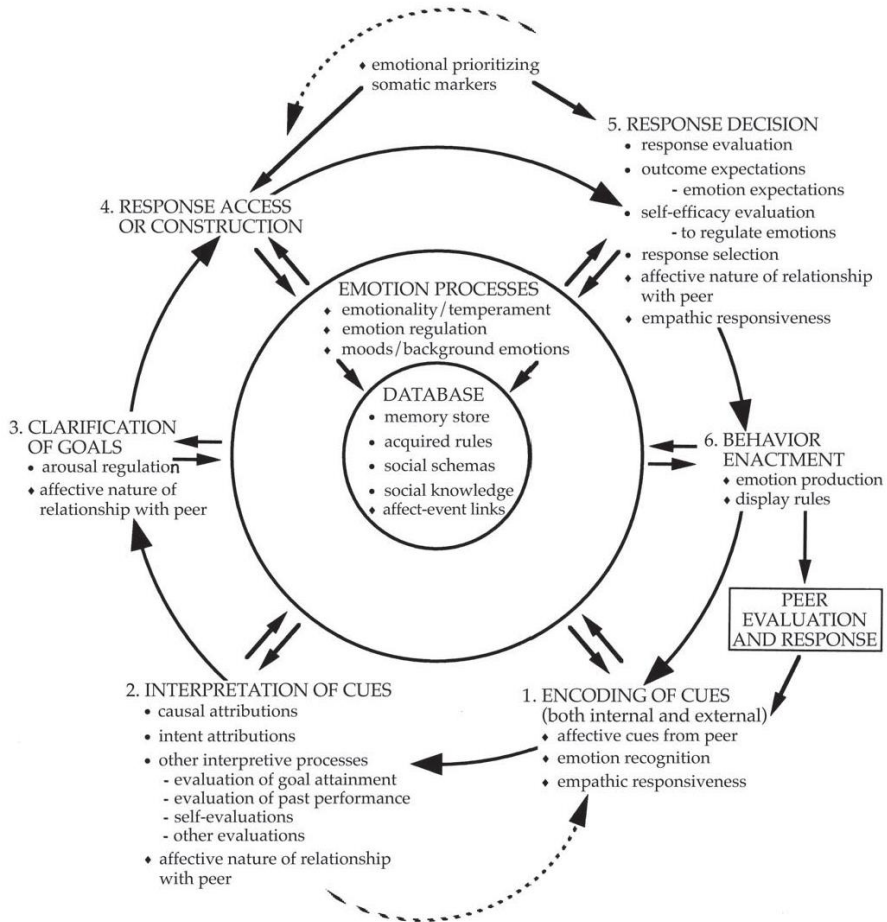
Figure 2. *An integrated model of emotion processes and cognition in social information processing developed by Lemerise and Arsenio (2000, p. 113), copyright © 2000 by the Society for Research in Child Development, Inc., modified from Crick and Dodge's model (1994, p. 76), copyright © 1994 by the American Psychological Association.*

How can children's theory of mind be understood in the social information-processing model shown in Figure 2? Understanding another's mind is similar to the encoding of affective cues and to the interpreting of cues (e.g., intent, goals) in the model. These processes are a part of the underlying psychological processes that take place founded on children's database, which consists of the stored memory, learned rules, and other social knowledge. On the one hand, this model captures the online and rapidly evolving nature of theory of mind. It is similar to the simulation approach (e.g., Goldman, 1992; Gordon, 1992), which argues that people understand other minds by imagining how

they would think in a given situation. On the other hand, this model places the latent knowledge or database in relationship to other online psychological processes. Thus, this model also captures the theory-theory approach (e.g., Gopnik & Wellman, 1992, 1994), which argues that people think about other minds using their accumulated knowledge of other minds. While the main goal of most studies using this social information processing approach is to find relationships between children's competent or incompetent social behaviors and their processes of understanding another's mind (e.g., intention, goal), this model can be used to understand how children understand another's mind in various kinds of social interactions. Therefore, in this study, the social information processing model is used to understand children's theory of mind in the course of their social interactions.

Studies that have used the social information processing approach are reviewed here to illustrate the empirical findings. Dodge and Price (1994) conducted an interview study with a large number of young elementary school students (6-9 years of age) in order to examine the relationship between children's behavioral competence (rated by both teachers and peers) and children's step-by-step social information processing patterns. They used video-taped hypothetical stories containing two different kinds of social situational factors: a social contextual factor (i.e., peer-group-entry: the protagonist is rejected by the peer group; peer-provocation: the protagonist is provoked by a peer; authority-directive: the protagonist is being ordered to engage in an unpleasant behavior) and the other's social cue factor (hostile, non-hostile, and ambiguous intentions). Children were asked how they would encode and interpret social cues, how they would generate and evaluate behavioral responses (e.g., what they would say or do). They were also asked for their evaluation of how each possible response (categorized as competent, aggressive, inept, self-centered) might fulfill relational (e.g., being liked by others) and instrumental goals (e.g., avoiding punishment), and they were asked to enact actions (i.e., to role-play the competent behavioral response).

The results showed that children's ability to correctly understand others' hostile and non-hostile intentions was modestly associated with children's behavioral competence in most of the social contexts, and children's bias to understand others' ambiguous social cues as containing hostile intentions had a close-to-significant correlation with children's behavioral incompetence. In short, this research showed that children who showed socially incompetent behaviors were more likely to misunderstand intentions than children who showed more socially competent behaviors.

Relatively little research has been done on how social information processing patterns are related to behaviors among younger children.

Exceptions to this are the studies by Schultz et al. (2010) and by Weigel (2008). In order to examine the link between social information processing patterns and behavior among younger children, Schultz et al. (2010) studied how preschool children's (3-5 years of age) social information processing patterns (i.e., how they predicted the protagonist's next actions, and how they evaluated the protagonist's different responses) were related to their adaptive and disruptive behaviors (based on teacher's reports and observations). They used a DVD containing short videos that portrayed situations that elicited a certain emotion from the protagonist as well as situations where the protagonist was provoked by ambiguous intentions. Their findings showed how children's predictions concerning the protagonist's next actions were related to how they interpreted the victim's feeling. Children who expected the protagonist to show more aggressive responses tended to attribute more anger to the victim. On the other hand, children who expected the protagonist to show more competent responses tended to attribute more sadness to the victim. Furthermore, children rated as more socially competent were more likely to attribute sad feelings to the victims and considered aggressive responses as wrong (Schultz et al., 2010). Also, children who were rated as more disruptive were more likely to suggest physically aggressive responses in provocative situations.

Weigel (2008) also examined whether preschool teachers' ratings of children's aggression were related to children's social information processing styles (measured by children's evaluations of aggression and anticipated responses). Using 10 stories that portrayed social conflicts involving relational aggression (e.g., saying, "everyone can come to my house except for such and such") and physical aggression (e.g., hitting friends), Weigel (2008) found that children perceived physical aggression to be meaner than relational aggression, with girls rating physical aggression a little bit meaner than boys. However, Weigel (2008) did not find a significant relationship between teacher ratings of aggression and children's evaluations of aggression or their anticipated responses in the stories. Furthermore, children who were highly rated as physically aggressive by their teachers tended to think that using physical aggression is a less successful strategy in solving conflicts, which was contrary to the pattern that has been identified for disruptive children (Schultz et al., 2010) and for older aggressive children (Perry, Perry, & Rasmussen, 1986).

Previous studies have found that some of the individual differences in social information processing can be explained by children's early experiences. Factors such as early interpersonal experiences (McFadyen-Ketchum, Bates, Dodge, & Pettit, 1996) and parental practices (Nelson & Coyne, 2009) partially

explain individual differences in how children interpret social cues and behave in later years. These findings suggest that children's latent knowledge, such as their memory for past incidents or early interactions with their parents, is related to their social information processing.

Studies using the social information processing approach have demonstrated that how children interpret another's mind (emotions, intentions or goals) is related to their subsequent action choice as well as their social competence (e.g., rated by teacher, e.g., Weigel, 2008 or observers, e.g., Schultz et al., 2010). A study conducted by Adalbjarnardóttir (1993) indicated that students aged 8 and 11 who showed better perspective-taking ability in classroom conflict situations with teachers and peers (hypothetical dilemmas; social information processing approach) also showed more perspective-taking ability in real life classroom situations with teachers and peers. Moreover, those students who showed more improvement in their perspective-taking ability (hypothetical dilemmas) over the school year also improved more in perspective taking ability in real life classroom situations with their teachers and peers. This finding suggests that improvement in their thoughts was related to progress in their actions.

Although prior research on social information processing focused on examining the possible relationships between children's social competence/incompetence and their social information processing, the existing evidence supports the broader view that how children understand another's mind can be related to what action they take in the context of social interactions with others. Thus, the social information processing approach can be used to examine possible links between children's theory of mind and their action.

Furthermore, although previous findings suggest some cultural differences in how people understand other minds, little is known about how young children from different cultural backgrounds understand other minds during social interactions. Given that Overton's metaframework (Overton, 2006) highlights the way that sociocultural factors, such as social situations and cultural background, can influence individual actions and psychological processes in social interactions, this study explores young children's theory of mind in various social interactions in two different cultures. Nisbett et al. (2001) writes that: "psychologists who choose not to do cross-cultural psychology may have chosen to be ethnographers instead" (p. 307). Thus, it is important to understand children's theory of mind in social interactions in multiple cultures.

1.6 Summary

Findings examining the mechanism by which we understand other minds support the view that we do so by rapidly imagining how we would feel and think if we were put in the same situation, and then effortfully considering how others would think and feel in that situation. The findings on children's understanding of other minds had made it clear that young children are capable of understanding the thoughts and feelings of others. Although there is plenty of evidence on young children's ability to understand another's mind, how they understand another's mind and engage in various social situations is not fully understood. A review of studies examining how people from different cultural backgrounds understand another's mind suggests that there are some cultural differences in people's theory of mind.

Adopting the metaframework of Overton (2006), which emphasizes individual, biological, as well as sociocultural factors in the understanding of a person's action in a given social environment, this study aims to study young children's understanding of another's mind in relation to the actions that children engage in the context of social interaction. Given that previous studies using the social information processing approach (which includes the understanding of another's mind) have found links between children's theory-of-mind patterns and their action choice in hypothetical social situations and general social behavior, this study uses the social information processing model (Crick & Dodge, 1994; Lemerise & Arsenio, 2000) as a research approach. In order to identify common patterns of social interaction in preschools, previous studies examining such interactions are reviewed in the next chapter. It should be noted that these earlier studies are biased in terms of the cultures studied. Most studies have been based in the United States. Nevertheless, an effort has been made to review studies that examined cultural differences in children's social interactions in preschools.

2 Social interactions at preschool

2.1 Introduction

An infinite number of actions take place in the myriad of social interactions in a preschool. Because it is impossible to empirically examine all the possible actions in all social situations, it is necessary to decide what kind of social situation to study. As discussed in the previous chapter, using the Overton's metaframework (2006), this study aims to explore children's understanding of another's mind in social interaction in more than one culture by using the social information processing model (Crick & Dodge, 1994; Lemerise & Arsenio, 2000). Hypothetical social situations for this present study need to be identified. In this chapter, studies that have examined young children's social interactions at preschool are reviewed in order to identify common social situations at preschools. Furthermore, studies that have investigated young children's understanding of other minds during social interactions are reviewed. Although most of those studies are within the area of moral development, they are very relevant to this study's topic because they asked young children to imagine how the victim or victimizer felt/would have felt in real/hypothetical social situations in which the child or protagonist transgressed (e.g., a moral transgression such as hurting others, a conventional transgression such as not displaying table manners). Subsequently, social situations that can recur across different cultural and age groups are identified. The present study's aim, hypotheses, and research question are presented at the end of this chapter.

Social interactions in preschool include peer interactions as well as teacher-child interactions. Harper and McCluskey (2003) videotaped a series of preschoolers' behaviors (at 3 and 4 year of age) during free play at university-run preschool classrooms that integrated children with disabilities and typically developing children for a period of 4 months. Although their research goal was to examine whether adults inhibit peer interactions within each group of children (and their in-depth analysis confirmed that this was the case), their data offer an overview of young children's behaviors in preschool. Calculating the proportion of each child's behaviors from their data (Harper & McCluskey, 2003, p. 170), on average approximately 35% of recorded episodes involved solitary episodes (no social interaction or engagement with others), 7% involved onlooker episodes (no involvement, but observing ongoing interactions), 35% were peer interaction episodes, and 23% were teacher-child

interaction episodes for the typically developing children (for children with disabilities: 37% percent, 6% percent, 11%, 45%, respectively). Given that peer and teacher-child interactions are two major social interactions at preschool, studies that illustrate each type of interaction are reviewed.

2.2 Peer interactions

What kind of peer-interactions do children engage in at preschool? Not surprisingly, the findings show that peer interactions consist of positive as well as negative interactions. McGrew (1972) conducted an ethological study of the social interaction of young children (aged 3 to 5 years of age) at nursery school in Great Britain. Among all the identifiable peer interactions that he recorded, almost 78% involved agonistic (e.g., aggressive, fearful, and defensive behaviors that lead interactions to end with injury or separation) and quasiagonistic (similar to agnostic behaviors, but they do not end separation or injury) social interactions, and 22% involved non-agonistic social interactions (McGrew, 1972). He reports that the majority of children's peer interactions involved only two children--81% in agonistic and quasiagonistic interactions, and 91% in non-agonistic interactions (McGrew, 1972, p. 114). A study by Farver, Kim, and Lee (1995), which is more recent as well as cross-cultural (Korean-Americans at Korean-based preschool vs. Anglo-Americans at more typical preschools), reports that a higher proportion of preschool children's (3 to 5 years of age) interactions[3] was non-agonistic (identified as "Cooperative--responding positively to peer's initiation/invitation" 68%, Korean-American and 39%, Anglo-American; "Negative--ignoring or rejecting an initiation/invitation" 30%, K.A. and 52%, A.A.; "Aggressive--physically hurting the initiator" 2%, K.A. and 9%, A.A. [p. 195]). In addition, the quality of peer-interaction seems to differ among different cultural groups (See Tobin, Hsueh, & Karasawa, 2009, for cultural differences in children's and teacher's behaviors) and children's social interaction appears to change as they grow older. A study of young children's social interactions (Howes, Rubin, Ross, & French, 1988) found that the proportion of children's complementary, reciprocal and cooperative behaviors almost doubled from the late toddler period (2-3 years of age) to the preschool period (4-6 years of age). Although fairly little is known about how the proportion of children's negative peer-interactions changes over time during the early years (Tremblay, 2000), a longitudinal study of elementary school children showed that there was a

---

[3] Their study explored preschool children's responses to a peer attempting to invite other/s to play or activity.

decrease in the frequency of physical aggression with age (Cairns, Cairns, Neckerman, Ferguson, & Gariépy, 1989).

Three things emerge from previous findings on children's peer-interactions at preschool. First, children's peer-interactions are mixed with both positive interactions (e.g., joint play) as well as negative interactions (e.g., fighting, peer rejection). Second, the proportion of negative peer-interactions (e.g., physical aggression, peer rejection) seems to differ among different cultural groups. Third, toddlers seem to grow up to have less negative, and more positive peer-interactions by their last years in preschool.

2.3   Teacher-Child interactions

What kind of social interactions occur between young children and teachers? Teacher-child interactions seem to be much different from peer interactions. Harper and McCluskey (2003) found that almost half of children's overall teacher-child interaction episodes were initiated by the teacher, and about 40% were initiated by children, on average.

With respect to teacher-initiated teacher-child interactions, Kemple, David and Hysmith (1997) observed 25 preschool and kindergarten teachers and examined the frequency as well as the quality of their involvement in peer-interactions. They report that the most frequently observed interventions by teachers were restrictive interventions (Stating rules and commands: 16%; Punishment: 2%; and Disruption: 11%) (Kemple et al., 1997). On the other hand, 17% of the teachers' interventions were aimed at encouraging communication between children (Kemple et al., 1997). The high frequency of teacher's restrictive interventions might be associated with the fact that a substantial proportion of children's peer-interactions is negative or conflict-oriented. At the same time, their results demonstrate that teachers interact with children in a way that is either restrictive or facilitative (e.g., participating in children's activity, praising, commenting/suggesting/questioning) (Kemple et al., 1997).

With respect to child-initiated teacher-child interactions, an observational study by Pramling Samuelsson and Johansson (2009) observed different age groups (i.e., toddler group, sibling groups, preschool class, primary school class) in Sweden to explore why young children involved teachers in their play and learning. They concluded that children sought guidance (e.g., seeking help, reporting rule-breaking, getting information), acknowledgement (e.g., wanting the teacher to see what the child was doing), and participation in their play from the teacher. Some consistent features seem to exist among studies that focused on teacher-initiated and child-initiated teacher-child interactions. It seems that not only teachers but also children engage in interaction when a

rule-breaking happens. In addition, while teachers encourage children to communicate with one another, children also seem to seek communication with the teacher by wanting their help, acknowledgement, and involvement in their play.

Other findings have suggested that how children interact with their teachers is different for different groups. With respect to age changes in children's teacher-child interactions, Howes and Smith (1995) report that younger children (1-2 years of age) experience more positive teacher-child interactions (e.g., more positive facial expression, usage of words in directing children) than older children (3-5 years of age).

Furthermore, the quality of teacher-child interactions appears to be different between different cultural groups. In their cross-cultural study of Korean-American and Anglo-American preschoolers, Farver et al. (1995) report that Anglo-American children initiated and joined their teachers' activity more often, and Anglo-American teachers initiated and joined children's activity more often. Observing preschoolers and teachers in China, Japan, and the United States, Tobin et al. (2009) indicate that teacher-child interactions are different between cultures. For example, the fact that Japanese teachers did not intervene during children's physical conflict in the video recorded episode surprised preschool teachers in China and the United States, who would have intervened in a similar situation (Tobin et al., 2009). Cultural differences in teacher-child interactions are likely to be related to culturally different values. In a comparative study of preschool teachers in the United States, Colombia, El Salvador, and Taiwan, Killen, Ardila-Rey, Barakkatz and Wang (2000) reported that preschool teachers in all the countries shared similar views on how to resolve children's conflicts as well as on children's freedom to choose (e.g., activity, food). However, Taiwanese preschool teachers were different from the teachers in the other countries in preferring non-intervention in children's conflicts over toys. Killen and Sueyoshi (1995) also found that both Japanese preschool children and their mothers preferred teacher-directed nonintervention over punishment during children's conflicts at preschool (Killen & Sueyoshi, 1995). Reviewing studies that examined preschool children's social relationships in various countries, Chen and French (2008) indicate that what is normal or what is socially appropriate behavior can differ between cultures. They suggest that social, economic and cultural changes can influence socialization goals and practices. Therefore, it is not surprising that cultural differences in teacher-child social interaction at preschool have been reported in various studies. Findings from the previous studies on the teacher-child interactions at preschool suggest that many of the interactions, which can be initiated by the teacher or children, are aimed at solving some kind of rule-

breaking as well as to enhance communication among children or between children and teachers. Therefore, just like peer-interactions at preschool, child-teacher interactions can happen in negative (e.g., rule-breaking situations) as well as positive social situations (e.g., play). Furthermore, just as the peer-interactions, teacher-child interactions can be different among different age groups and cultural groups. Specially, teacher's intervention in children's conflicts can differ among different countries.

To summarize, existing research on the quality of social interactions in preschool suggests that social interactions at preschool appear to consist of two interrelated components, peer-interaction and teacher-child interaction, and in each type of social-interaction, positive, negative, and neutral types of interaction exist. Furthermore, findings from previous studies suggest the possibility of cultural as well as developmental differences in the quality as well as frequency of social interactions in which young children are involved in preschool.

2.4 Conflicts at preschool

Reviewing the previous studies on children's social interactions at preschools suggests that children's conflicts as well as teachers' involvement in children's conflicts (even when teachers do not intervene, they are involved in the sense that they observe and support children's resolution of conflicts) are not unusual at preschools. When Fabes et al. (1991) observed young children's spontaneous emotional reactions at preschool, they found that emotional reactions caused by social interactions tend to be more negative than positive and the highest proportion of the observed negative emotional reactions occurred in social situation that involved material interactions (48 percent) such as something being taken away. One of the reasons why the most frequent teacher-child interaction was restrictive intervention, as reported by Kemple et al. (1997), might be because such conflicts happen frequently between young children at preschool. Chen, Fein, Killen and Tam (2001) conducted 400 observations of 400 preschool children (two to four years old) in 25 classrooms during their free-play time and 322 of 400 observations contained a conflict situation. They observed more conflicts over resources (e.g., toys, etc.) with younger children and more conflicts over play and ideas with older children. Also, older children showed more ability to resolve conflicts. Although social relationships as well as conflict resolution strategies can be different between cultures (Killen et al., 2000; Killen & Sueyoshi, 1995), conflicts also appear to be fairly common at preschools in many countries (e.g., Tobin et al., 2009).

2.5   Young children's sensitivity to moral transgressions

Given that children's conflicts are common at preschools in many cultures, this study explores young children's theory-of-mind patterns during these conflict situations, using hypothetical situations. Because this study is a cross-cultural study, a key question is: how do children from different cultural backgrounds understand another's mind during conflict situations at preschool? In order to gain an understanding of children's thoughts and engagement during conflict situations, previous studies of children's sensitivity to transgressions are reviewed below. In most preschool conflicts, a trigger consists of one party transgressing (e.g., breaking a rule such as taking a doll from a friend or saying what one should not say to friends, or excluding a friend).

   Children's sensitivity to transgression has been studied in research that has examined moral development "in terms of affect, cognition, emotions, behavior, or neuroscience, as well as its applications for education or clinical setting" (Killen & Smetana, 2006, p. xi). Only findings directly related to the present study are presented below and major theories and studies in moral development are outlined. Studies that explored: 1) how young children judge various transgressions, and 2) how young children respond as victims/victimizers/bystander in real or hypothetical social situations that involve transgressions are reviewed. Finally, studies that explored children's theory of mind in relation to, or as a part of, children's moral development are reviewed because children's theory of mind and their moral development are often treated as interrelated (Keller & Edelstein, 1991; Kohlberg, 1984; Selman, 1980; Turiel, 1983; Harris, 2006). Special emphasis is placed on studies that examined young children's sensitivity to moral transgressions (e.g., hurting others or taking someone's toy) rather than conventional transgressions (e.g., not following rules such as table manners) because moral transgressions are more universal, unlike conventional transgressions which can be culturally specific (Hollos, Leis, & Turiel, 1986; Killen, McGlothlin, & Lee-Kim, 2002; Nisan, 1987; Smetana, 1995; Song, Smetana, & Kim, 1987; Turiel & Wainryb, 1998; Yau & Smetana, 2003). The goal of the present study was to examine how children from different cultural backgrounds understand other minds in a given social situation. The given social situation needs to appear similar to children from different backgrounds.

2.5.1   Theories in Moral Development

Killen and Smetana (2006) point out that the diversity of theories of moral development stems from differences in early researchers' approach to its study. Psychoanalysis was pioneered by Sigmund Freud (1962/1923), who observed parent-child relationships and considered moral development as the

internalization of parents' values. Cognitive-developmental theory was first introduced by Piaget (1965/1932), who examined children's peer interactions and explored how children learn to understand what is right and wrong. This approach was further advanced by Kohlberg (1984), who conducted research on children's development in moral cognition and developed a six-stage theory of moral judgment. Learning theory was developed by Skinner (1938) and other behaviorist researchers who studied how certain reinforcements could promote children's acquisition of moral values. These different approaches have become more integrated and other approaches such as evolutionary, comparative, and sociocultural approaches have emerged in recent years (Killen & Smetana, 2006). However, there are still many unresolved debates among researchers such as the cultural relativity of morality or the relative importance of cognition and emotions in moral development (Killen & Smetana, 2006). More recently, Haidt (2001) introduced a new approach suggesting that moral judgment is more of an intuitive process driven by social and cultural influences than by rational processes of moral reasoning and empathy. In a recent book, Gibbs (2013) integrated the often conflicting theories of Kohlberg (with his emphasis on cognition), of Hoffman (with his emphasis on emotion, e.g., 1982, 2001), and of Haidt (with his emphasis on intuition).

2.5.2   Early Morality

Piaget and Kohlberg conceived of children's moral development as going beyond the mere indoctrination of what are perceived as morally good actions by adults and one's society. Piaget (1965/1932) observed children and studied how their concept of "justice" changed as they grow older. He suggests that there are three periods in the development of the sense of justice. In the first period, lasting up to age seven or eight, children's sense of justice is dependent on adult authority. Kohlberg sets out six stages of the development of moral judgment, and he also identifies the first stage, "*the Punishment and Obedience Orientation*," as being tied to punishment and power (e.g., reward, exchange of favors) (Duska & Whelan, 1977, pp. 44-46).

   The moral development theories of Piaget (1932/1965) and Kohlberg (1984) propose that young children's morality is closely tied to adult authority rather to an understanding of justice or rights. They gradually acquire a more advanced understanding of these concepts as they get older. The two theories imply that children develop their understanding of various normative issues in a similar manner as they get older. But are all normative issues the same? This question was asked by Nucci and Turiel (1978; Turiel, 1978, 1983) who introduced a social-cognitive domain theory proposing that children's

understanding of morality develops differently with respect to different moral issues and contexts. More specifically, they proposed that children differentiate the moral (e.g., concerning other's rights and welfare), social-conventional (e.g., cultural norms like table manners) (Nucci & Turiel, 1978; Turiel, 1978), and personal domains (e.g., personal preferences, privacy) (Nucci, 1996, 2001). Furthermore, as many social situations overlap several domains (e.g., it is not allowed to leave the classroom without the teacher's permission [social-conventional], but then the door was open and everyone else went outside [a moral issue as it concerns fairness] and you were the last one in the class. Would it be ok to leave the class?), researchers have explored how children make judgments in these situations (e.g., Helwig, 1995; Killen, 1990; Smetana, Killen, & Turiel, 1991). Their studies suggest that although children are capable of distinguishing among different types of normative issue, they prioritize one domain over another based on the nature of context in a given social situation.

In contrast to the claim by Piaget (1932/1965) and Kohlberg (1984) that young children's morality is subordinate to adult authority, Smetana (1981), one of the researchers working in social-cognitive domain theory, studied how preschool children between three and four years of age evaluate moral and conventional transgressions in hypothetical social interactions. She found that children as young as three years of age regarded moral transgressions as more serious than conventional transgressions. Most importantly, the majority of the children (65-80%) in the study thought that it would even be wrong to perform a moral transgression in the absence of rules while a smaller proportion of children (23-51%) thought that it would be wrong to perform a social-conventional transgression in the absence of rules. Another study by Smetana (1985) also revealed differences between preschool children's reasoning about moral transgressions and social-conventional transgressions. Children argued that moral transgressions are bad because of their impact on others' welfare (e.g., harming others) while they reasoned that social-conventional transgressions are bad because they create disorder (Smetana, 1985).

Findings from a study conducted by Vaish, Missana, and Tomasello (2011) that investigated how three-year old children responded as a third-party to moral transgressions (the child in the study was a bystander, not involved as either victim or victimizer) also suggest that young children's early morality is not simply dependent on adult authority. They presented one group of children with a harm story involving two puppets, one of which destroys the other puppet's picture or clay sculpture while it left the room; the other group of children received a control story involving the same two puppets, one of

which destroys a picture or clay sculpture, but not the one belonging to the other puppet (Vaish et al., 2011). They found that more children protested at the puppet's destructive behavior and produced more thoughtful and helpful actions (e.g., stroking, letting the puppet draw on the child's paper) toward the victim (the other puppet) in the harm condition than in the control condition (Vaish et al., 2011). Although children in the study were not involved as a victim or victimizer in the transgressions, their protest at the puppet's moral transgression as well as their kind actions toward the victim are likely to be related to their understanding of justice (e.g., what is fair, or that it is wrong to destroy someone else's belonging) and to their understanding of the victim's feeling rather than to adults' rules and avoidance of adult punishment.

Most of the studies investigating children's moral development in the social-cognitive domain theory have used hypothetical social situations rather than actual events (Turiel, 2008). Although children's judgments about hypothetical transgressions tended to be more uniform and explicit than children's judgments about actual transgressions (Turiel, 2002), Turiel (2008) found that elementary school children made similar distinctions between moral and social-conventional moral transgressions whether the situation was hypothetical or actual. Furthermore, moral transgressions appear to be equally negative for different cultural groups while the types of social-conventional transgressions as well as the perceived seriousness of social-conventional transgressions vary across different cultural groups (Hollos et al., 1986; Killen et al., 2002; Nisan, 1987; Smetana, 1995; Song et al., 1987; Turiel & Wainryb, 1998; Yau & Smetana, 2003).

In sum, findings from studies on early moral judgment cast doubt on the earlier view of young children's morality as being subordinate to adult rules or adult authority. In situations that involve moral transgressions, young children treat moral transgressions as quite serious and consider them to be wrong independent of rules. Also, young children protested at moral transgressions and showed kindness to the victim when they were bystanders to moral transgressions. Furthermore, studies have shown that children from different cultures treat moral transgressions as more serious than social-conventional transgressions, and children make similar distinctions whether they were asked about actual or hypothetical situations.

2.5.3 Children's theory of mind and moral development

This review of studies on young children's moral judgment has made it clear that young children are capable of distinguishing moral transgressions from social-conventional transgressions. Previous research presents a mixed picture of children's understanding of other minds and moral development. Some

studies have shown that children with more social understanding (measured by emotion understanding and/or false-belief tasks) show more positive communication, for example, longer conversation, more dramatic play, better social skills, more moral sensitivity, more prosocial behaviors like sharing and helping with friends than their peers with less social understanding (Dunn, 2004; Eisenberg, 2004, Slomkowsky & Dunn, 1996; Watson et al., 1999). In addition, children who exhibit more empathy and sympathy show less anti-social and more positive social behaviors (Eisenberg & Mussen, 1989; Hoffman, 1982, Saarni, 1990). However, other studies (Yarrow & Waxler, 1976; Zahn-Waxler, Radke-Yarrow, & Brady-Smith, 1977) suggest no relation between children's social understanding and their exhibition of prosocial behaviors (e.g., sharing, helping) in experimental and natural situations. Indeed, it has been suggested that some bullies have a good theory of mind (Sutton et al., 1999).

2.5.4 Children's emotional responses as victimizers in moral transgressions

How do children imagine what a victimizer feels about his or her moral transgression? The findings reviewed above have shown that young children evaluate moral transgressions as wrong independent of adult rules (Smetana, 1981) and children as bystanders recognize moral transgressions and show sympathy for the victim (Vaish et al., 2011). Thus, it is plausible to expect that young children will feel negative when they commit a moral transgression. However, various studies have suggested that young children do not necessarily have negative feelings when they have engaged in a moral transgression.

Young children expect the victimizer (i.e., someone causing some negative consequences to the victim) to feel happy after a moral transgression (e.g., pushing someone from the swing) that successfully fulfills their personal goals (e.g., wanting to ride on the swing). Nunner-Winkler and Sodian (1988) reported that while most four-year-old children expected the protagonist to feel happy when they engaged in a transgression (some of them being in the moral domain) while fulfilling his/her personal goals, almost all eight-year-old children expected the protagonist to have negative feelings. Also, Arsenio and Kramer (1992) found that almost all four- and six-year-old children and most eight-year-olds expected the protagonist who committed a moral transgression to feel happy. When Nunner-Winkler and Sodian checked whether young children were able to judge moral transgressions as bad, they were capable of recognizing moral transgressions (Nunner-Winkler & Sodian, 1988). In fact, studies have shown that children (Arsenio & Kramer, 1992) as well as adults (Lagattuta, 2005) all tended to expect the victimizer/transgressor

(the protagonist) to feel happy when the victimizer/transgressor obtained what s/he wanted. It should be noted that the transgressions in Lagatutta's study were conventional rather than moral transgressions. What seemed to differ between younger children and older children/adults was that older children (seven- and eight-year-old children) and adults were more likely than younger children (four-, five- and six-year-old children) to attribute mixed feelings (i.e., positive and negative feelings) to the victimizer/transgressor (Arsenio & Kramer, 1992; Lagatutta, 2005). Furthermore, older children (seven-year-old children) and adults tended to give more rule-oriented explanations (e.g., Because s/he is breaking a rule) and future-oriented explanations (e.g., possible negative consequences for the self and for others) for the transgressor's feelings (Lagattuta, 2005).

However, caution is needed because some studies did not find the happy-victimizer pattern with respect to what children expected the protagonist/self to feel in moral transgression situations. This might be due to different interview methods or different social dynamics. A cross-cultural study conducted by Keller, Lourenço, Malti, and Saalbach (2003) found that although younger children (five-, and six-year old) were more likely to attribute happy feelings to the protagonist who committed a moral transgression (e.g., breaking a promise, or stealing) as compared to older children (eight-, and nine-year old) replicating the findings discussed earlier, the happy-victimizer pattern for moral transgressions was less likely to be observed when children were asked to imagine their own feelings as the victimizer compared to when they were asked to imagine the protagonist's feelings in both Portuguese and German children. Furthermore, even when children expected the protagonist to feel happy about the moral transgressions, the majority of them, even those who attributed happy feelings to the victimizer, in both cultures and age groups evaluated the protagonist as a bad person (Keller et al., 2003). Their study did not explicitly state the victimizer's personal goals (e.g., wanting to eat the chocolate) as in the study by Nunner-Winkler and Sodian (1988). However, these findings cast doubt on the claim that young children attribute feelings to a victimizer in terms of his or her fulfillment of personal goals.

The study by Keller et al. (2003) invited children to imagine how they would feel if they were the protagonist, yet these questions were posed only at a certain point in the interviews. In order to understand how children would feel as the victimizer in moral transgressions, it seems important to ask children to take the first person perspective during the interviews.

Studies examining children's emotional response in moral transgression situations (Smith, Chen, & Harris, 2010; Smith & Harris, 2012) have found that the happy-victimizer pattern is less evident in transgression situations in which

the victimizer apologizes as compared to transgression situations without the apology. Interestingly, this tendency was observed whether children were asked to take the first-person perspective or the third-person perspective. It is plausible that children's happy-victimizer tendency is less pronounced when children are presented with moral transgression situations in which the victimizer signals his or her regret.

2.5.5 Peer and teacher-child interactions involving children's transgressions at preschool

What kinds of peer and teacher-child interactions happen when children's transgressions occur at preschool? Previous studies have shown that children and teachers respond differently to moral and social-conventional transgressions in the context of actual social interactions (Killen & Smetana, 1999; Nucci & Nucci, 1982; Smetana, 1984). Smetana (1984) observed how young children ranging from one to three years of age and their caregivers in daycare centers responded to moral and social-conventional transgressions. She found that while young children responded to moral transgressions, they did not show any response when social-conventional transgressions took place. Furthermore, the most common responses by children to moral transgressions were emotional expressions (e.g., crying, or making a sad face) for both the younger group (13-27 months) and the older group (18-40). Children in the older group were more likely to verbally express their pain or loss than children in the younger group. In contrast to young children's lack of responsiveness to social-conventional transgressions, caregivers observed in the same study responded to both types of transgressions, giving more commands in the context of social-conventional transgressions than moral transgressions. Findings from a similar study also showed that preschool teachers made direct statements in the context of most moral (86%) and social-conventional (83%) transgressions, but the most frequent responses of caregivers to social-conventional transgressions were commands (about 67%) such as "Stop it!" whereas in moral transgressions they used more intrinsic statements (51%) (e.g., talking about fairness or focusing on the feelings of the victim) than commands (27%) (Killen & Smetana, 1999).

Several observational studies have shown that preschool children show reconciliation behaviors after a conflict (Japanese preschoolers: Fujisawa, Kutsukake, & Hasegawa, 2005; American preschoolers: Verbeek & de Waal, 2001). The observation study by Fujisawa et al. (2005) of Japanese preschool children revealed that children used both explicit (e.g., apologizing) and implicit attempts (e.g., touching) to reconcile after incidents involving aggression, which can be perceived as a moral transgression because it inflicts

some harm on the other. A study by Verbeek and de Waal (2001) showed that contextual factors such as the location of the conflicts as well as the interaction between the opponents before their conflict affected children's peacemaking after a conflict. Furthermore, both studies showed that friendship affected whether children resolved their conflicts. Children tend to resolve conflicts with friends than non-friends (Fujisawa et al., 2005; Verbeek & de Waal, 2001). Although we have a good understanding of how young children reconcile after a conflict from the observation studies based in different cultures (see above), little is known about what they are thinking and feelings in these dynamic social situations.

Would peer and teacher-child interactions in transgression situations be similar across different schools and different cultures? Teachers with conflict resolution training showed different reconciliation behaviors compared to teachers without such training (Vestal & Jones, 2004). The same study showed that children with teachers trained in conflict resolution also showed a more prosocial approach in solving interpersonal problems. Therefore, caution should be exercised in assuming that the way in which children and teachers react in transgression situations is similar across all preschool teachers and all children. A cross cultural study by Killen et al. (2000) explored preschool teachers' views on how to resolve children's conflicts in different countries. They found many similarities in how teachers would resolve moral and social-conventional transgressions. Also, observation studies that have examined preschool children's reconciliation behaviors in the United States (Verbeek & de Waal, 2001) and in Japan (Fujisawa et al., 2005) have found similar findings. However, cultural differences in how teachers deal with children's conflict over toys have been reported in several studies, indicating that teachers in some countries prefer to intervene less (this does not mean that they never intervene in such conflicts) (Taiwan compared to the U.S., Colombia, El Salvador: Killen et al., 2000; Japan compared to the U.S. and China: Tobin et al., 2009). Also, even within the same culture, teachers' approach to resolving children's conflict can change over time (e.g., A Japanese teacher noting that she would intervene in a children's fight earlier than the teacher shown in a video recorded about twenty years ago[4]. Tobin et al., 2009, p. 109).

---

[4] This change might be related to changes in parents' attitude toward the role of the teachers in children's conflicts in Japan. These days, it is not that uncommon for teachers to phone the parents immediately after their children get injured (e.g., a scratch) by other children in their conflicts. It is possible that this teacher felt that she would need to intervene more in the children's conflict to protect children on behalf of their parents and avoid causing conflicts with their parents.

This review of studies that have examined peer and teacher-child interactions involving children's transgressions has revealed a mixed picture. There seems to be a universal pattern in the way that young children respond to other children's moral transgressions and to their own as well as in the ways that teachers respond to children's moral and social-conventional transgressions. However, peer interactions and teacher-child interactions in these situations also seem to be associated with teachers' experiences (e.g., a particular type of training), and also with children's experience (e.g., seeing teachers solve children's problems in a certain way). In addition, cultural factors (e.g., culturally different views), type of relationship (e.g., friends vs. non-friends) and contextual factors (e.g., location or preconflict interaction) seem to play a role in influencing peer and child-teacher interactions following transgressions.

2.5.6   Children's responses to teacher's interventions

While previous studies have reported that teachers are often present (Tobin et al., 2009) or involved (e.g., Killen & Smetana, 1999; Smetana, 1984) in children's moral transgressions, existing studies of children's moral transgressions tend to study situations that involve only children. Not so much is known about how young children respond to moral transgressions in which both children and a teacher are present. Furthermore, although studies on children's moral development have provided rich information about how young children evaluate transgressions (e.g., reasoning that moral transgressions are wrong independent of authority), feel in such situations (e.g., imagining the victimizer to feel happy despite his or her moral transgression) and respond (e.g., showing distress facially and/or verbally as a victim, or showing reconciliation behaviors as a victimizer), we still do not know how young children think, feel, and react when they commit a moral transgression against their friends in the presence of the teacher. Therefore, as the type of social interaction to be studied, this study focuses on conflict situations that involve a child's moral transgression against his or her peer and a teacher's intervention. It explores children's understanding of another's mind or social information processing within this social interaction. In order to obtain a good understanding of children's social interactions with teachers, studies that have investigated how children respond to teacher's interventions are reviewed next.

Stipek, Recchia, McClintic and Lewis (1992) explored how young children (1-5 years of age) behave when they succeed or fail at achievement-related tasks

(e.g., completing a puzzle). Their findings showed that by the age of two children anticipate different adult reactions depending on their prior actions. Children showed more positive emotion (e.g., smiling, clapping) and sought positive adult reactions (e.g., looking up, or calling for attention) when they succeeded, but they tried to avoid negative adult reactions (e.g., looking away, hunching the back) and showed more negative emotion such as pouting or frowning (only for children older than 36 months) when they failed in the tasks.

Adalbjarnardóttir and Selman (1989) investigated how children propose to respond to teacher's criticism in situations that involve academically-oriented tasks and class behavior. More precisely they investigated how children propose to solve social situations involving criticism from a peer or teacher concerning both academic tasks and classroom behaviors in which children believed that they did well. In an individual interview setting, Icelandic elementary school children (6-12 years of age) were asked how they would process social information in hypothetical social situations by defining the problem, suggesting an appropriate solution, giving reasons for the solution, and reflecting on the emotional states of the protagonist and the other party (peer or teacher) after the proposed action was taken. Their two main findings concerned the development with age of children's cooperative problem solving approach, and differences in children's proposed behavioral responses for the child-child and teacher-child interactions: Children proposed more assertive communication styles with the peer, and more submissive communication styles with the teacher.

While the two studies reviewed above demonstrated children's sensitivity to teachers' criticism, a study by Cutting and Dunn (2002) found a possible connection between children's theory of mind and their sensitivity to teacher's criticism. They measured children's theory of mind by testing children's false-belief task performance and emotion understanding at two points; the first at four years of age when the children were in preschool and then at five years of age when they were in primary school. At five years of age, children were presented with two puppet stories and were asked to imagine themselves as the puppet (these tasks were adopted from Heyman, Dweck & Cain, 1992). In the no criticism story, the puppet works hard to write numbers or draws a picture of a family with some mistakes (skipping a number or missing a part of the body) and shows the product proudly to the puppet teacher. In the criticism story, after the puppet shows the product to the teacher, the teacher criticizes the product, e.g., "The number 2 is missing. That's not what I call writing numbers the right way. I'm disappointed in you," (Cutting & Dunn, 2002, p. 852). Children were asked how they would feel, how they would rate

the product, and how they would respond to the student puppet if they were the teacher. Overall, children expected themselves to feel more negative, rated the product more negatively and imagined that they would show more negative response to the teacher if they were in the criticism story as compared to the no criticism story (Cutting & Dunn, 2002). Furthermore, the researchers found that children who had better social cognition at four years of age as well as at five years of age rated the product more negatively in the criticism story (the correlation was modest)[5]. These findings suggest that young children's ability to understand another's mind is related to the degree to which a teacher's criticism affects their feelings as well as their evaluation of their work. Even in the no criticism story, in which the teacher did not make any criticism, children with better social cognition at four years of age expected to feel more negative (also the same was true for children with better understanding of mixed emotions at five years of age). They also evaluated the product more negatively and imagined a more negative response from the teacher (all the correlations were modest). These finding indicate that the level of children's social understanding can have positive (e.g., engagement in prosocial behaviors) as well as negative consequences (e.g., detrimental influence on self-concepts and self-esteem).

To sum up, previous findings investigating children's responses to a teacher's intervention show that children are sensitive to criticism given by adults and teachers. Furthermore, the study by Cutting and Dunn (2002) suggests that some children are prone to imagine teacher's criticism even when teachers express no such cues. Moral transgressions are different from social situations (e.g., a mistake in a school task) examined in the earlier studies reviewed here. Given that children consider moral transgressions to be wrong independent of adult authority (e.g., Nucci & Turiel, 1978; Smetana, 1981; Turiel, 1978), it is quite plausible that children show sensitivity to teacher's criticism whether it is shown or not when they commit the moral transgression. On the other hand, it is also plausible that young children might

---

[5] Findings from more recent studies on children's sensitivity to other's criticism in other countries (Italy: Lecce, Caputi, & Hughes, 2011; Lecce, Caputi, & Pagnin, 2014, Japan: Mizokawa, 2013, 2015, Italy and Japan: Mizokawa & Lecce, 2016) also suggest a similar trend. However, findings from Mizokawa and Lecce (2016) found different relationships between children's theory of mind ability and their motivation after teacher's criticism. While children's higher theory-of-mind ability (second-order) predicted higher motivation after the teacher's criticism, children in Japan showed fairly high motivation after the teacher's criticism irrespective to their theory-of-mind ability (second-order).

not show so much sensitivity to a teacher's criticism in the context of a moral transgression because the findings from the previous studies have shown that children expect the victimizer to feel happy after such transgressions (Arsenio & Kramer, 1992; Keller et al., 2003; Nunner-Winkler & Sodian, 1988). How young children respond to an intervention as compared to a non-intervention by a teacher in the context of moral transgressions is not well known. Furthermore, given that children's theory of mind is related to their sensitivity to teacher's criticism in school tasks even in the absence of overt teacher criticism (Cutting & Dunn, 2002), young children's understanding of another's mind may be associated with their sensitivity to teacher's criticism even when the teacher does not intervene in a moral transgression. Therefore, the present study will examine whether children's understanding of the teacher's mental state or their social information processing varies in the presence and in the absence of a teacher's criticism of a moral transgression.

2.6 Present study

The main aim of the present study is to explore how young children understand another's mind in the course of their social interactions at preschool. This study uses Overton's metaframework, which aims to study the individual psychological system (e.g., understanding of another's mind), the biological system and the sociocultural world via the actions that are taken in the context of social interaction (Overton, 2006). In this metaframework, studying young children's understanding of another's mind (the individual psychological system) involves an examination of children's action in the context of social interactions (hypothetical social interactions in this study) together with an understanding of the potential influence of sociocultural factors on theory of mind and action. In order to contribute to cross-cultural research on young children's theory of mind in social interaction, this study will be conducted in more than one culture.

Existing research on theory of mind has provided evidence for both cultural similarities as well as differences in how people understand another's mind (e.g., De Greck et al., 2012; Wellman et al., 2001). In addition, given that, as children get older, they improve at perspective taking (Selman, 1980), false-belief task performance (e.g., Wellman et al., 2001), and emotion understanding (e.g., Fabes et al., 1991; Pons et al., 2004), this study examines children from two age groups. In order to examine young children's understanding of the other's mind in social interactions, this study uses the social information processing approach that explores children's online attributions as well as their subsequent interaction (action) in different hypothetical social situations (situational factors). Although not directly

examined in this study, this study uses existing findings from neurological studies to consider how they might be related to children's theory of mind in the context of social interaction (biological system).

Conflicts are quite common among preschool children (Chen et al., 2001), and among them moral transgressions such as taking someone's toy happen frequently (Smetana, 1984). Accordingly, teachers as well as children are often confronted with moral transgressions (Killen & Smetana, 1999). Therefore, this study focuses on young children's moral transgressions at preschool. There are two additional reasons for focusing on moral transgressions. First, because moral transgressions often involve both peer and teacher-child interactions, they provide an ideal window for exploring young children's action in the context of social interactions. Second, although peer and teacher-child interactions in preschool can vary between cultures because of differences in what is culturally appropriate behavior (Chen & French, 2008), young children's moral transgressions are common at preschools in different cultures (Tobin et al., 2009). Also, findings have shown that children from different cultures make similar judgments about moral transgressions (Hollos et al., 1986; Killen et al., 2002; Nisan, 1987; Smetana, 1995; Song et al., 1987; Turiel & Wainryb, 1998; Yau & Smetana, 2003). Although the relationship between young children's theory of mind and their social competence has been examined in various studies (Dunn, 2004; Eisenberg, 2004; Eisenberg & Mussen, 1989; Hoffman, 1982, Saarni, 1990; Slomkowsky & Dunn, 1996; Sutton et al., 1999; Watson et al., 1999; Yarrow & Waxler, 1978; Zahn-Waxler et al., 1977), not so much known is how young children understand other minds and engage with others when they commit a moral transgression. The present study can bring new insight on this issue.

A review of studies that have examined peer and teacher-child interactions involving moral transgressions revealed that teachers become involved or are often present when children commit moral transgressions at preschool (e.g., Killen & Smetana, 1999). Also, reconciliation behaviors with peers following moral transgressions have been reported in several studies (Japanese preschoolers: Fujisawa et al., 2005; American preschoolers: Verbeek & de Waal, 2001). However, not so much is known about young children's responses to teachers when they commit a moral transgression against peers. Therefore, the focus of this study will be young children's understanding of the teacher's mind and their social engagement with the teacher following a moral transgression.

In addition, few studies have explored how young children respond to teachers' involvement when they commit moral transgressions. Reviewing previous studies that examined children's responses to teacher's interventions

in various situations (Adalbjarnardóttir & Selman, 1989; Cutting & Dunn, 2002; Stipek et al., 1992) suggest that children show sensitivity to adults' and teachers' criticism. Therefore, in order to examine children's sensitivity to teachers' interventions in moral transgression situations, hypothetical situations in this study contain teacher's criticism.

Furthermore, hypothetical situations that did not contain teacher's criticism are also used in the present study for three reasons. First, some children show sensitivity to potential criticism even when adults or teachers do not actually criticize them (Cutting & Dunn, 2002; Stipek et al., 1992). Second, teacher interventions in moral transgressions may differ between cultures. Studies have shown that less teacher intervention is preferred by Taiwanese and Japanese teachers (Taiwan compared to the U.S., Colombia, El Salvador: Killen et al., 2000; Japan compared to the U.S. and China: Tobin et al., 2009). Thus, how children would respond when teachers do not get involved in children's moral transgressions is explored as well. Finally, although studies on moral development suggest that young children are capable of judging moral transgressions to be wrong independent of adult authority (e.g., Nucci & Turiel, 1978; Smetana, 1981; Turiel, 1978), whether a teacher's intervention makes any difference to how young children respond to moral transgression situations is not well understood. Research on this issue will provide some insight for parents and early childhood educators. Furthermore, previous findings on young children's moral reasoning have produced a mixed picture. On the one hand, young children are able to reason about a moral transgression independent of adult authority (e.g., Nucci & Turiel, 1978; Smetana, 1981; Turiel, 1978). On the other hand, findings have shown that children attribute a happy feeling to the victimizer in moral transgression situations (especially when asked to take the third person perspective) (Arsenio & Kramer, 1992; Nunner-Winkler & Sodian, 1988). By exploring how young children would feel, think about the teacher's feelings, and engage with the teacher may shed some light on this seeming contradiction.
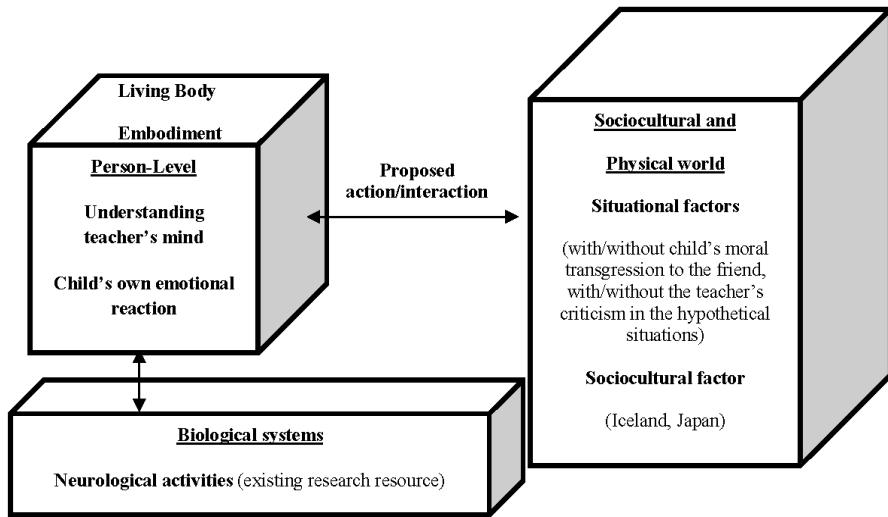
Figure 3. *The present study's theoretical framework based on the Overton's metaframework (2006)*

The present's theoretical framework, which was adjusted from Overton's metaframework shown in Figure 1, is shown in Figure 3. In short, this study explores children's social information processing (e.g., emotional response, interpretation of another's mind, proposed social interaction) in hypothetical social situations that involve moral transgressions with or without teacher's criticism among two different cultural groups; Icelandic children and Japanese children.

In this study, preschool children from two age groups in Iceland and Japan were interviewed individually and were asked to take the first-person perspective (imagining the protagonist's perspective as if the protagonist were the self) in four hypothetical stories involving three characters: the child protagonist, a peer, and a teacher. Children were asked three questions reflecting this study's three main measures: (a) *their interpretation of the teacher's emotion (referred as Teacher measure)*, (b) *the emotional response that they themselves would have (Self measure)*, and (c) *their choice of action (Action measure, i.e., what they would do next)*. The four situations differed in terms of the presence or absence of a moral transgression by the child protagonist (e.g., pushing, taking an object, breaking the other's work) and the presence or absence of criticism by the teacher (i.e., explicit statement of the teacher's blame of the protagonist). Accordingly, the four hypothetical situations used for this study were: 1) Transgression No Blame, 2)

Transgression Blame, 3) No Transgression No Blame, and 4) No Transgression Blame stories.

The main goal of this study is to explore how children feel, imagine another's mental state and interact in specific social situations at preschool. Furthermore, in order to elicit children's ideas about what teachers could do to avoid criticizing children mistakenly, children are asked to suggest how to help teachers avoid making unjustified criticism.

2.7 Hypotheses and a research question

Five hypotheses for each of the three main study measures (*Teacher*, *Self*, *Action*), and one research question are set out below for this study. It is assumed that the impact of the story types (the child's transgression and the teacher's blame), age group and country group differences will be similar for the three study measures, although the magnitude of the impact of story type and of group (whether age or country) might vary among the three measures.

2.7.1 Hypotheses for *Teacher* measure: How children expect teacher's feelings

2.7.1.1 Child's transgression

Enough evidence exists that young children perceive moral transgressions to be serious transgressions and they protest at such transgressions when they occur (e.g., Dunn & Munn, 1987; Smetana, 1981). At the same time, children often attribute positive feelings to the victimizer especially when asked to take a third person perspective (Arsenio & Kramer, 1992; Nunner-Winkler & Sodian, 1988). This tendency is less marked when children are asked to take a first person perspective toward the end of the interview (Keller et al., 2003). Because the present study asks children to take a first person perspective:

> 1.1. It is expected that children will attribute more negative feeling in hypothetical social situations that involve a moral transgression by the protagonist as compared to situations that do not involve any moral transgression.

2.7.1.2 Teacher's blame

Previous studies suggest that children are sensitive to a teacher's criticism (e.g., Adalbjarnardóttir & Selman, 1989; Cutting & Dunn, 2002; Stipek et al., 1992) and young children expect to experience more negative feelings when the teacher criticizes them (Cutting & Dunn, 2002). Therefore,

1.2. It is expected that children will attribute more negative feelings to the teacher in hypothetical social situations that present the teacher expressing blame toward a child as compared to the other situations that do not present the teacher expressing blame.

2.7.1.3 Age

Both younger and older children recognize moral transgressions to be wrong. However, as children get older they get better at perspective taking (Selman, 1980), at theory-of-mind tasks (e.g., Wellman et al., 2001), and at emotion understanding (e.g., Fabes et al., 1991; Pons et al., 2004).

1.3. It is expected that older children will show more sensitivity than younger children by expecting more negative feelings on the part of the teacher in hypothetical social situations that involve either a child's moral transgression or the expression of a teacher's blame.[6]

2.7.1.4 Country

Although children from different cultural backgrounds may interpret another's feelings differently (e.g., Cole et al., 2002), various studies have shown that children's judgments about moral transgressions are similar across cultures (Hollos et al., 1986; Killen et al., 2002; Nisan, 1987; Smetana, 1995; Song et al., 1987; Turiel & Wainryb, 1998; Yau & Smetana, 2003). Therefore,

1.4. It is expected that children in Iceland and Japan will show a similar sensitivity to hypothetical social situations involving children's moral transgressions. In other words, it is expected that children from both countries will be similar in the extent to which they attribute negative feelings to the teacher in hypothetical social situations that involve a child's moral transgression.

Regarding children's responses to the teacher's negative message (blame), a study by Cole et al. (2002) reports that as compared to U.S. children,

---

[6] 3rd to 5th hypotheses do not concern overall age group or country group differences on each of the three measures. Rather, they explore whether the impact of the child's transgression or the teacher's blame on each measure will be similar/different between the two age groups or the two country groups.

Brahman and Tamang children expected a protagonist in difficult situations where the protagonist gets blamed by another person to have different emotional and social responses. Furthermore, the study by Hayashi et al. (2009) shows that Japanese preschool teachers place a special emphasis on fostering empathy among young children. Therefore, it is likely that, as compared to Icelandic children, Japanese children will expect stronger emotions in situations in which the teacher criticizes (expresses blame) the child. Therefore,

1.5. It is expected that Japanese children will show more sensitivity than Icelandic children by attributing more negative feelings to the teacher in hypothetical social situations that involve a teacher expressing blame.

2.7.2   Hypotheses for *Self* measure: How children expect themselves to feel

There are also five hypotheses for the *Self* measure. As for the *Teacher* measure, it is expected that the feelings that children attribute to themselves (as protagonist) will be impacted by the child's transgression and the teacher's blame. Also, it is expected that compared to children in the younger age group, children in the older age group will expect to feel more negative in the transgression or the blame stories than in the no transgression or the no blame stories. These hypotheses are almost identical to the hypotheses for *Teacher* measure.

2.1. It is expected that children will attribute more negative feelings to themselves in hypothetical social situations that involve a child's moral transgression as compared to situations that do not involve any moral transgression.

2.2. It is expected that children will attribute more negative feelings to themselves in hypothetical social situations that include a teacher expressing her blame toward a child as compared to situations that do not include a teacher's blame.

2.3. It is expected that older children will show more sensitivity than younger children by attributing more negative feelings to themselves in hypothetical social situations that involve a child's moral transgression or a teacher's blame of a child.

2.4. It is expected that children in both countries will show a similar sensitivity to hypothetical social situations involving children's

moral transgressions. In other words, it is expected that children from Iceland and Japan will be similar in the extent to which they attribute negative feelings to themselves in hypothetical social situations that involve a child's moral transgression.

2.5. It is expected that Japanese children will show more sensitivity than Icelandic children by attributing more negative feelings to the teacher in hypothetical social situations that involve a teacher expressing blame.

2.7.3   Hypothesis for *Action* measure: How children choose to act

There are also five hypotheses for *Action* measure, which are almost identical to the hypotheses for *Teacher* and *Self* measures.

3.1. It is expected that children will anticipate making a more passive action choice in hypothetical social situations that involve children's moral transgression as compared to situations that do not involve any moral transgression.

3.2. It is expected that children will anticipate making a more passive action choice in hypothetical social situations that include a teacher expressing her blame to a child as compared to the other situations that do not include a teacher's blame.

3.3. It is expected that older children show more sensitivity than younger children by anticipating that they will make a more passive action choice in hypothetical social situations that involve a child's moral transgression or a teacher's blame of a child.

3.4. It is expected that children in both countries will show a similar sensitivity to hypothetical social situations involving children's moral transgressions. In other words, it is expected that children from Iceland and Japan will be similar in the extent to which they anticipate making a passive action choice in hypothetical social situations that involve a child's moral transgression.

3.5. It is expected that Japanese children will show more sensitivity than Icelandic children by anticipating that they will make a

more passive action choice in hypothetical social situations that
involve a teacher expressing blame.

2.7.4   A research question

Article 12 in the Convention on the Rights of the Child (1990) states that
"children have the right to say what they think should happen and have their
opinions taken into account" and encourages adults to listen to children's
opinions and involve them in decision making. More researchers in early
childhood studies involve children as active participants in recent years
(Christensen & Prout, 2002). One of the hypothetical stories in the present
study describes a child being blamed even though s/he did not do anything
wrong. A goal of this study is to consult young children about how teachers can
avoid such mistakes. Thus, the research question is what kind of
recommendations do children make to ensure that teachers stop criticizing
children by mistake in preschool.

2.7.5   Background information about early childhood education
centers in the two countries

Early childhood education institutions in Iceland and Japan are different in
their organization. In Iceland, it is common for both parents to work. Historical
data in the past three decades shows that the ratio of females aged 15 to 64 in
employment has been high in Iceland. In Iceland, about 74% of females and
85% of males were employed in 1991, and 80% of females and 84% of males
were employed in 2014 (Organization for Economic Co-operation and
Development, OECD.*Stat*.). It is also common for parents to put their children
in a local preschool (called leikskóli, which literally means playschool) whether
both parents work or not. Most preschools in Iceland take care of children
from 18 months to about six years of age. All preschools follow the guidelines
of the ministry of education and culture, and they are usually run by a local
municipality. There are some privately run preschools but most of them are
chartered schools, which are financially supported by the local municipality.

   Compared to Iceland, the proportion of females in employment is much
lower in Japan, although it has been increasing in recent decades. In 1991, 56%
of females and 81% of males were employed in 1991, and 63% of females and
81% of males were employed in 2014 (Organization for Economic Co-operation
and Development, OECD.*Stat*.). There are two distinct types of early childhood
education: preschool or *hoikuen,* meaning childcare garden, and kindergarten
or *youchien*, meaning toddlers' garden. When both parents work or the only
parent (single parent) works, they often put their children in a preschool that is
regulated by the ministry of health, labor and welfare. Some preschools are

run by the municipality and others are run by private companies. Japanese children whose mothers stay home often go to a kindergarten, which is regulated by the ministry of education and culture. The opening hours of Japanese preschools are often much longer than those of Japanese kindergartens. Most kindergartens take care of children from three to six years of age (3 nen hoiku, meaning child care for three years). Until recently, however, it was more common for kindergartens to take care of children from four to six years of age (2 nen hoiku, meaning child care for two years).

In recent years, the need for preschools has become urgent in Japan because of economic necessity or/and women's choice to continue their work. Since 2006, the Japanese government has tried to combine the preschool and kindergarten entities into Kodomo-en (literally meaning children's garden) under the umbrella of the ministry of education and culture, which resembles Icelandic preschools. Although the number of Kodomo-en is increasing, there were 1943 Kodomo-en in 2015 (Ministry of Education, Culture, Sports, Science and Technology, *e-Stat*), and this number is much smaller than the number of *hoikuen* (22992 in 2014, Ministry of Health, Labour, Welfare, *e-Stat*.) or *youchien* (11674 in 2015) (Ministry of Education, Culture, Sports, Science and Technology, *e-Stat*).

PART 2: RESEARCH DESIGN AND METHODS

As previously outlined, in order to explore young children's understanding of a teacher's mental states in social interactions involving moral transgressions as well as the teacher's criticism/blame, this study uses the social information processing approach (Crick & Dodge, 1994; Lemerise & Arsenio, 2000). It uses the interview method in which children are asked to give their responses to hypothetical social situations. Although observational studies have important virtues, it is difficult to capture children's internal thoughts or emotions using such methods, obliging researchers to rely on assumptions and educated guesses with regard to what might be going on in children's minds. Prior research has shown that children's reasoning about moral transgressions does not differ for real and hypothetical social situations (Turiel, 2008). Therefore, using the interview method regarding hypothetical social situations might bring new insights into what children think, feel, and do in similar situations at preschool.

The purpose of Part 2 is to provide detailed information about the present study. First, the participants in the study are described. Subsequently, the materials for the interview study as well as how they were created are described in detail. Then, the interview procedure is explained in the same sequence as the actual interview. Also, how each child's responses to the closed and open-ended questions during the interview were measured and analyzed is explained. Finally, ethical issues are discussed.

3   Method

3.1   Participants

The participants in the study were children in Iceland (N=56) and Japan (N=71) from two age groups (younger group, age range from 3;1 to 5; older group, age range from 5;1 to 6;5). Although children as young as three can understand other's perceptual point-of-view (Masangkay, et al., 1974), many studies suggest that children around four, five and six years of age show progressively better understanding of another's thoughts and feelings (e.g., Fabes et al., 1991; Harris, 1989; Pons et al., 2004; Selman, 1980; Wellman et al., 2001). Therefore, the age of five appeared to be a cut-off point to divide participants into the two age groups. Four children (Iceland: N=3, Japan: N=1) did not complete all the stories of the interview and were excluded from the analysis. Also, six Icelandic children and two Japanese children whose answer/s to the verification question, asked at the end of each hypothetical story, was/were inaccurate, were not included in the analysis. Furthermore, in order to balance the proportion of participants in each age group between Iceland and Japan, six of the youngest Icelandic participants ranging from 3;6 to 3;9 years of age and four of the oldest Japanese participants at 6;6 years of age were excluded from the analysis using the random choice option in Microsoft Excel. Thus, the final data set was composed of children in Iceland (N=41) and in Japan (N=64) drawn from two age groups.

3.2   Procedure

In Iceland, I informed the Data Protection Authority (Persónuvernd) about the purpose and the method of the study in May, 2010. Subsequently, permission for the study was obtained from the municipality and the head of the preschool. In Japan, I contacted a professor in early development to check whether the study and its procedure were sensible for young children in Japan, and he gave his approval. In addition, permission for the study was obtained from the municipality, and from the principles of the schools where the study was conducted. In both countries, permission for the study was also obtained from the teachers in the schools.

Both in Iceland and Japan, parents of the participants were informed about the study and asked for their consent. Upon obtaining consent from the education office of each municipality as well as from staff members of each school, consent forms were delivered to the parents of all age-eligible children

in each school. The consent form explained that the goal of the study was to understand how children perceive commonly occurring social interactions in preschool. The interview procedure was also described briefly, and parents were informed that children would be able to decide whether or not to participate in the interview. In Iceland, because the great majority of the children at the preschool had started their early childcare when they were around 18 months old, the Icelandic participant's childcare history was gathered from the preschool. In contrast, the age at which participants had started their childcare was expected to be more varied in Japan. Therefore, the parents in Japan were asked to write down how old (in months) their child was when s/he started his/her first childcare.

All the children in Iceland were from a chartered preschool, which is financially supported by the municipality. This preschool is located in the greater area of Reykjavík, in which I have been working as a full time/part-time staff member since 2005. The preschool was chosen in order to minimize children's unfamiliarity with me during the interviews, given my non-Icelandic appearance and non-native skills in the Icelandic language. Because it was difficult to recruit enough children in one preschool in Japan, 39 children (36 for the present data analysis) from a public *hoikuen* (preschool) and 32 children (28 for the present data analysis) from a privately run *youchien* (kindergarten) participated in the study. The *hoikuen* was located in Sapporo, and the *youchien* was located in Kitahiroshima, but very close to the city limit of Sapporo (more than 80% of students came from Sapporo).

All three schools were play-based rather than academically-focused. However, the teacher-child ratio (ratio of students to total teaching staff) was different between the Icelandic preschool (1:6, but the ratio was higher for this study's participants' classes because of their age, 1:8) and the Japanese preschool (1:14[7], but the ratio was higher for this study's participants' classes 1:16) or the Japanese kindergarten (1:16), reflecting the 2013 data of the Organization for Economic Co-operation and Development, Iceland, 1:5 and Japan 1:15 (Organization for Economic Co-operation and Development, OECD.*Stat*.). The study was conducted in the early summer of 2010 in Iceland and in the fall of 2010 in Japan.

---

[7] The teacher-child ratio was lower in the Japanese preschool than the Japanese kindergarten in this study, but it is mostly due to the Japanese preschool having more younger children compared to the Japanese kindergarten.

3.3   Preparation of materials

A short warm-up story (the first picture showing the protagonist playing with a peer, and the second picture showing the teacher approaching), four main stories (each story involving an unpleasant event prompting some interaction between child and teacher), and a debriefing story (the picture showing the protagonist, a peer, and a teacher playing happily together) were created and made into a slide show using Microsoft PowerPoint. All the stories used for the interview contained familiar activities (e.g., snack time, playing with blocks or balls) at preschool in both countries. All the stories were translated into Icelandic (with help from native Icelandic speakers and a children's speech therapist) and into Japanese.

The short warm-up story presented children with a neutral hypothetical situation in which the protagonist and his/her friend were playing together and the teacher was coming toward them. Children were asked why the teacher was coming toward the child (protagonist). The aim of this warm-up story was to invite children to practice being the protagonist in a hypothetical situation as well as to explore whether the depiction of the teacher coming toward the protagonist, which was present in all the four main stories, would hint at anything overly positive or negative. Children's responses to this warm-up story were used to provide a baseline for children's interpretation of the teacher's approach when the hypothetical situation did not include any blame or transgression.

The four main stories involved three characters: the child protagonist, a peer, and a teacher (see Appendix 2). The stories were written in a narrative form, and the protagonist was referred to as "you" because children were asked to imagine themselves as the child protagonist (i.e., to adopt the first-person perspective). Four base stories (Block [the protagonist is walking by a peer who is building a castle], Tricycle [the protagonist is playing outside and wants to ride a tricycle], Ball [the protagonist is standing in line to get a ball], Biscuit [the protagonist is enjoying his/her own biscuit]) were adapted to the four kinds of context: (1) *transgression – no blame,* (2) *transgression – blame,* (3) *no transgression – no blame,* (4) *no transgression – blame* (see Appendix 1).

In the two *transgression* stories, the protagonist was shown deliberately committing a moral transgression by causing physical or psychological harm to a peer (pushing, taking an object, breaking the other's work). In the transgression stories, children's intention or personal goal (i.e., wanting to destroy the castle, wanting to eat more) was stated clearly. The two *no transgression* stories were told so as to clarify that the peer, not the protagonist, was the cause of his or her situation (e.g., tripping over, not seeing his/her own cookie). In two *blame* stories, the teacher's criticism of the

protagonist's action was stated. In the *no blame* stories, the teacher's criticism was not expressed.

In *transgression – no blame* stories, the child protagonist deliberately causes harm to a peer, but gets no criticism from the teacher. In *transgression – blame* stories, after the protagonist's moral transgression, the teacher's criticism of the protagonist's action is stated ("She/the teacher thinks that it's your fault."). In *no transgression – no blame* stories, the protagonist does not do anything wrong toward a peer, but happens to be next to a crying peer (who has hurt him- or herself by accident, or who has forgotten where his/her possession is), and gets no criticism from the teacher. Finally, in *no transgression – blame* stories, the protagonist does not commit any moral transgression, but a teacher approaches and her criticism of the protagonist is stated.

In order to ensure that children's responses would not be based on incidental aspects of each particular narrative, two features--(1) a teacher walking toward the protagonist, and (2) a crying peer--remained constant across all the stories. All the stories were adapted to each gender (e.g., different hairstyles for the male and female protagonists). The protagonist and the peer were portrayed in the same gender as the participant. Pictures were then drawn in black ink on paper and scanned into the computer to provide an accompaniment to each story. Five adults (3 Icelandic and 2 Japanese) were shown the initial scripts in their native language, and parts that were not clear were modified. Then, four preschool children (2 Icelandic, 2 Japanese-Icelandic) and one elementary school child (1 German-Icelandic) were shown the initial version of the stories in Icelandic and in Japanese, and sentences or slides that were not clear to them were modified.

All together, 64 versions of the stories were created (4 story types [2 child-child transgression factor × 2 teacher-child blame factor] × 4 base stories [Block, Tricycle, Ball, Biscuit, see Appendix 2] × 2 genders × 2 languages). Because each child would receive four story types each differing in their base story type, a folder containing the four stories was created. In order to minimize the effect of the base story on children's responses, 4 folders containing a different set of the four stories were made, and children in each age group were randomly allocated to one of the four folders (see Appendix 1).

Given that children's language ability has been found to be important for understanding others' emotions (Pons, Lawson, Harris, & de Rosnay, 2003), the stories used for the interview were shown as slide shows on a laptop computer and the dolls shown in Figure 4. The dolls were intended to help children to imagine the situation better. The doll representing the protagonist (boy and girl depending on the interviewee's gender) wore the same striped jacket as

the one worn by the protagonist in the stories on the computer. Furthermore, the hair color of the dolls was green (no child in either country had green hair) so that no child's hair matched the doll's hair color in both countries. In this way, children in both countries needed to make a comparable effort to relate to the protagonist. In order to encourage children to imagine the feelings of each character, no mouth was shown on any of the dolls. All the pictures were drawn with black ink using a brush, and all the characters were drawn with simple features to make it easy for children from both cultural backgrounds to relate to them.

Figure 4. *Dolls used for the interview*

Each story consisted of three hand-drawn pictures. The first picture (still) represented the situation before the occurrence (or non-occurrence) of any transgression (e.g., the protagonist bicycling). The second picture (still) represented what happened during and after the occurrence (or non-occurrence) of any transgression (e.g., the protagonist taking/not taking the bicycle). The third picture (still) showed the back of the protagonist (no face was shown) and the teacher facing the protagonist. Since children were asked to imagine the feelings of the teacher and the protagonist, the teacher's mouth was not shown on the third picture.

The narrative was recorded by a native Icelandic speaker and by a Japanese speaker (myself). The narrators read each story as if they were reading a children's book to preschoolers. All three slides of each story were accompanied by narration. Three test slides, each containing a set of multiple choices were created and presented after the third story picture (see Appendix

3). The first and second test slides each depicted three different facial expressions, and the third slide depicted three different action choices accompanied by narration.

The debriefing story at the end depicted a happy situation (the protagonist, his/her friend, and the teacher playing happily, and the teacher apologizing for blaming the protagonist by mistake) in order to assure children that no negativity existed between the teacher, the protagonist, and his/her friend. Furthermore, pictures and scripts were written and narrated for "becoming" (prompting children to become the character on the screen) and "separating from" (introducing the protagonist's real name and affirming that children are different from the protagonist) the protagonist. At the beginning of the interview, the interviewer asked children to become the main character (the protagonist). After they heard the warm-up story, they saw the same picture and heard the narrator say, "Imagine that you are this girl/boy. In some stories, s/he does something naughty. I guess you don't do anything naughty like that in your preschool, but just pretend." When children finished answering questions for all the four stories and had heard the debriefing story, they were asked to separate from the main character. They were presented with the picture of the protagonist on the computer and the narrator said, "Now, you can stop imagining that you are this girl/boy. Her/his name is Stella/Thomas. In some stories, Stella/Thomas did something naughty to her/his friend. Are you the same as Stella/Thomas? Not at all! I know you are such a good girl/boy."

In addition to the four stories, the warm-up and debriefing stories, and the slides prompting becoming and separating from the protagonist, an interface page was created showing the first picture from each of the four stories. Each story was designed to begin automatically once this first picture was clicked. Also, four cards containing identical pictures of a flower on one side and the first picture of each of the four stories on the other side were made for children to choose stories in a random order to minimize the effect of the story order.

3.3.1   Procedure of the interview

Prior to interviewing the children, the interviewer (i.e., myself) worked as an assistant for 10 hours (in Iceland)/ 35-40 hours (in Japan) for one week. More hours were spent in each of Japanese schools in order to be familiar to the children as well as the school staff. Shorter hours were spent in Iceland because I had been working there as a full-time/part-time staff member since 2005 and was familiar to all the children and staff members. Once the interviews started, I continued to volunteer when I was not interviewing children in both countries.

Children were interviewed individually during school hours (mostly in free-play time) in the spare room in each school (a teacher's work room in the Icelandic preschool, an extra class/storage room in the Japanese preschool, a traditional Japanese room in the adjacent craft cottage of the Japanese kindergarten). Each interview took between 30-50 minutes: about 5-10 minutes for the greeting/explaining phase, 20-30 minutes for the interview phase, and 5-10 minutes for the debriefing phase. For each interview, the interviewer asked the child if s/he would come help the interviewer with her study with the computer. To ensure that the child would not feel anxious about leaving the classroom, the interviewer first informed the teacher/s that the child would be helping out with the study, and then walked to the interview room with the child. To make sure that children felt comfortable in the room, two cushions were laid on the floor facing the laptop computer, and the child was asked to choose one of the cushions to sit or lie on. The interviewer then sat next to the child lying down on the floor. The procedure of the interview was described briefly and children were told that there were no wrong answers. In order to assure children that they were not tested for their performance in the interview, the interviewer told children that she was interviewing children to learn what they felt and thought because she believed all the children were geniuses. Toward the end of this greeting/explaining phase, children were asked whether they would like to participate and if so, they were asked if it would be alright to audiotape the interview with a small microphone attached to the computer. Upon receiving their agreement (the interviewer and the child played with the microphone briefly), children were informed that it would be alright for them to ask the interviewer to stop during the interview if they did not want to continue. In each interview, the child's responses to the multiple-choice questions were recorded on the data sheet with a pen. Children's responses to the open ended questions were retrieved from the audio file of the child's interview.

At the end of the interview, children saw the protagonist playing happily with the friend and the teacher at the computer (debriefing story) and heard the narrator asking children to stop pretending to be the protagonist. Then the interviewer asked the final question about what advice children would give to teachers and adults to help them not to blame children mistakenly. Finally, the interviewer thanked the child and wrote "thank you" and the name of the child on a thank you card. The child was invited to color in the card (almost all the children did some coloring), and then the interviewer walked back to the classroom with the child (also suggesting that children put the thank you card on their cabinet or bag) and informed the teacher about the great help the child had given to the interviewer. The interviewer made sure that the child

smoothly returned to his or her play activities. If there was still enough time for more interviews, the interviewer asked the next child to come for the interview.

3.4   Measures

One of the most important features of the social information processing approach is the investigation of children's real-time or online information processing by asking children to imagine themselves as the protagonist in the story. Earlier studies have shown that children's responses to hypothetical and actual moral transgressions are not so different (Turiel, 2008).

In the hypothetical situations of the present study, children were asked to adopt a first person perspective (i.e., imagining the protagonist's perspective as if the protagonist were the self) rather than a third person perspective (i.e., imagining the protagonist's perspective) for several reasons. First, asking adults (Lamm et al., 2007) and children (Keller et al., 2003) to take a first person perspective rather than a third person perspective has been shown to produce different responses. In order to examine how young children would respond to the given situations, asking them to take a first person perspective is likely to be more effective in obtaining responses that are close to their actual responses the similar situations. Second, some studies have shown that children expect a protagonist who commits a moral transgression (seen from the third-person perspective) to feel happy because he or she attains his or her goal (Arsenio & Kramer, 1992; Nunner-Winkler & Sodian, 1988). Children are less prone to this happy victimizer tendency when they are asked to take the first person perspective by imagining themselves as the protagonist (Keller et al., 2003).

Given the challenges encountered by Schultz et al. (2010) in asking young children to pretend to be the protagonist, this study used a laptop computer, four flower cards, two dolls (the child doll matching the gender of the participant and the teacher doll) were used in the interview. First, children were asked to imagine themselves as the protagonist on the computer screen and had an opportunity to practice this role-play in a warm-up story. Subsequently, children were reminded to become the protagonist and were asked to pick a flower card from the stack of 4 cards to choose the next story. When the matched picture on the computer screen was clicked, the story began automatically and questions were asked by the interviewer. This process was repeated to complete all the four stories. The relationship between story base (Block, Tricycle, Ball and Biscuit) and story context (transgression – no blame; transgression – blame; no transgression – no blame; no transgression – blame) was systematically varied across folders and across children by means

of a Latin Square design (see Appendix 1) in order to minimize the effect of the story base on each of the story context.

3.4.1 Children's interpretation of the teacher's emotional state (*Teacher*)

Using a simple scale of three faces (see Appendix 3), children were asked to indicate what they thought the teacher was feeling in each story: "How does the teacher feel? Does she feel: Angry, just OK, or well?" Children's expectations about the teacher's feeling were coded as follows: 0=Angry; 1=OK; 2=well. The higher the score, the more positive a child expected the teacher to feel in a given situation. Children were asked why they expected the teacher to feel as they had described (*justification for expected teacher's feeling*). Children's answers were transcribed and then categorized based on what they emphasized as seen in Appendix 4.1. Children's answers to this open-ended question were supplemental in understanding the reasons behind children's attribution patterns.

3.4.2 Children's expected emotional response (*Self*)

How children thought they would feel if they were the protagonist was also measured using the simple emotion scale shown in Appendix 3 (0=bad, 1=OK, 2=well). Children were then asked why they would feel that way in the given situation: "How would you feel? Would you feel: Bad, just OK, or well?" The higher the score, the more positive a child expected the protagonist to feel in a given situation. Subsequently, children were asked to justify their choice of emotion (*justification for expected protagonist's feeling*). As with the *Teacher* measure, children's answers were transcribed and then categorized based on what they emphasized (see Appendix 4.1).

3.4.3 Children's immediate action choice (*Action*)

How children would choose to act in the four hypothetical social situations was measured using the three action choices illustrated with the protagonist and the hand shown in Appendix 2 (0="it's not ok, and stop completely", 1="it's not ok, and stop for a little bit", 2="it's ok and continue"). More specifically, the interviewer first asked children what they would do ("What would you do?"), and presented each illustrated choice with the recorded voice stating the three action choices. When all the three choices were presented on the computer screen, the interviewer pointed to each action choice and asked what they would do in the given situation: "Would you think it's not ok, and stop completely? Or would you think it is not ok and stop for a little bit? Or would

you think it's ok and continue?" The lower the score is, the more passively a child expected the protagonist to act in a given situation. Through this measure, the way in which the story events (e.g., the child doing something wrong, or the teacher blaming the child) might influence children's action choice could be observed. After children answered that they would stop completely, stop for a moment, or continue they were asked why they would do so, they were asked to justify their action choice (*justification for expected protagonist's subsequent action choice*). As with the *Teacher* and *Self* measures, children's answers were transcribed and then categorized based on what they emphasized (see Appendix 4.1). Their answers were expected to clarify how children viewed the goals of their actions, which is one of the major aspects of social information processing.

3.4.4   Children's expected interaction with teacher (*Interaction*)

Children were asked what they would do or say to the teacher at the end of each story. Children's answers (e.g., apologize to the teacher, or telling the teacher that s/he had not made her/his friend cry) were transcribed and then categorized based on what they emphasized (see Appendix 4.2).

3.4.5   Children's opinions about what adults and teachers should do to avoid false blame (*Advice*)

At the end of the interview, children were asked, "When adults and teachers make a mistake to blame a child when s/he did not do anything bad, what would you like them to do?" Children's answers to this open-ended question were also transcribed and then categorized based on what they emphasized (see Appendix 4.3).

3.5   Reliability

There were six open questions in this study--1) A warm-up question (why is the teacher coming?), 2) the justification question for the *Teacher* measure (why would the teacher feel as such?), 3) the justification question for the *Self* measure (why would you feel as such?), and 4) the justification question for the *Action* measure (why would you continue what you are doing/stop completely/stop for a short while, and then start doing what you were doing?), 5) a question on children's subsequent interaction with the teacher (what would you do or say to the teacher?), and 6) the advice question (what would you like teachers and adults to do to avoid blaming children mistakenly?). Each child was presented with the first and the last questions only once while other four questions were asked repeatedly in each of the four different stories

(*transgression – no blame; transgression – blame; no transgression – no blame; no transgression – blame*).

Children's responses to the open-ended justification questions about what the teacher would think, what they would feel, and why they would act as they had described were classified based on the way that they identified the main reason for their making a certain choice. Because children's justification responses to their expected teacher's feeling (*Teacher*), child's feeling (*Self*), and his/her subsequent action choice (*Action*) fell into similar categories, the same classification table (Table 9) was used to classify children's responses to why they expected a certain feeling to the teacher and the child, and why they expected a certain action choice to the child.

An interrater reliability using the Kappa statistic was performed to determine if there was agreement between the author's and the second rater's (a professor in early childhood studies with preschool-teaching experience) classification on children's responses to each of the open-ended questions. Given the importance of improving classification tables based on how other coder/s coded the same data (Gorden, 1992; Miles & Huberman, 1994), the second rater practiced her coding on some sample data with the initial classification tables, and the two coders reviewed disagreements and unclear categories and discussed ways in which the classification tables could be clearer. Using the improved classification tables, the author and the second rater independently classified a new set of data (20% of the participants or 24 children's data).

Cohen's kappas for agreement between the author and the second rater on categorizing and coding children's responses to the open-ended questions were good, ranging from .89 to 1.00. Interrater agreement was 96% (k = .92) for a subset of 24 responses to the warm-up question, and 100% (k = 1.00) for a subset of 24 responses to the *advice* question. Given the same classification table was used to code children's responses to the justification questions on the *Teacher*, *Self*, and *Action* measures (*Justification Teacher*, *Justification Self*, *Justification Action*), an interrater agreement assessment was conducted on a subset of 96 responses to the justification question for the *Self* measure[8], and interrater reliability was 93% (k = .89). Furthermore, interrater agreement for a subset of 96 responses to the child's subsequent interaction with the teacher question (*Interaction*) was 96% (k = .92). All the disagreements were resolved after discussion.

---

[8] Because children's justification responses for the *Self* measure fell into a widest range of categories among children's justification responses to this study's three main measures, the interrater reliability analysis was performed on a subset of them.

3.6   An overview of the data analyses

3.6.1   Children's responses to closed questions: *Teacher*, *Self*, and *Action* measures

Results from a four-way, repeated-measures MANOVA for each of the study variables were analyzed to examine how the protagonist's transgression, the teacher's blame, children's cultural background, and their age group impacted each measure. In these analyses, the effect of the child's transgression (Transgression vs. No Transgression) and the teacher's blame (Blame vs. No Blame) were treated as within-subjects factors, and the effect of country (Iceland vs. Japan) and age group (younger age group vs. older age group) were treated as between-subject factors. The level of significance for the *p*-value was set as .05 for all statistical analyses.

3.6.2   Children's responses to open ended questions

First, the justification responses for the *Teacher*, *Self*, and *Action* measures as well as what children would do or say to the teacher (*Expected protagonist's interaction*) were compared between different country groups, story types (e.g., Transgression vs. No Transgression, Blame vs. No Blame), and reflected in findings from the MANOVAs for the study's three main measures. In addition, children's responses to the open ended question about why the teacher was approaching in the warm-up story, and what adults and teachers could do to stop blaming children mistakenly (*Advice*) were analyzed.

3.7   Ethical issues in the present study

In the study, four ethical issues were considered important. The first was to protect children's identity. The second issue was my neutrality, especially at the preschool where I had been working as a staff member for many years. Third, since this study was conducted in two different countries, cultural appropriateness was assessed in terms of both the language and the procedure. Fourth, I made attempts to acknowledge young children's agency by treating them as active participants. These ethical issues are discussed in this section.

First, efforts were made to protect children's identities in the study data. Each participant was assigned a special identification number. In order to protect personal information about how each child did in the interview, the data sheets and the audio files of the individual interviews contained only the identification numbers from the study. All the paperwork (e.g., the list of

participants, the data sheets) involved in the study was stored in a safe place. All the data in the computer were also stored in a locked place.

Second, since I had been working as a staff member at the preschool in Iceland, I had to be careful to be as neutral as possible when I conducted the study. First, I made sure that I did not take advantage of my position. The process of informing the participants (the school staff, parents, students) and gathering consent was similar for all the schools involved in this study. Also with regard to the children, I treated all of them as my friends. I was especially concerned about the power difference that children might feel because of the age gap. Although it is almost impossible to solve this problem, I attempted not to intimidate children during the interview study in both countries. Prior to the interview study in Iceland, I had only worked as a part-time substitute staff (only 20 percent) at the preschool. I mainly played with children at my work. In the familiarization process before the interview study in Japan, I attempted to treat children in Japan as I treated children at the preschool in Iceland. In both countries, I did not provide any detailed information concerning a particular child's responses in the interview to other staff members.

Third, efforts were made to make the study as appropriate as possible for children in two different countries. First, I tried to choose hypothetical social situations that would be familiar to children in both countries. Second, after the interview stories and questions were translated into Icelandic and Japanese, both Icelandic and Japanese speakers (both adults and children) were consulted to check the translation and the interview procedure. Any parts that were not clear and components of the interview that seemed to make some children uncomfortable were modified. I speak Japanese as my mother language, and Icelandic as my third language (only seven years of experience at the time of the study), and it was a challenge to conduct the study similarly in both countries. In order to compensate for my weakness in the Icelandic language, the stories used for the interview in Iceland were read out by an Icelandic native speaker. Also, in the questioning process, multiple-choice questions were accompanied by visual aids. However, it is quite possible that my not being fluent in the Icelandic language may have caused some difficulties for the Icelandic children to fully understand the questions or to talk more elaborately in response to the open ended questions.

Finally, this study made attempts to encourage children to be participants in the research process. Christensen and Prout (2002) point out that there are four major perspectives on children in research; viewing the child as: 1) "object," 2) "subject," 3) "social actor," and 4) "co-researcher/participant of the research process" (p. 480). They argue that two kinds of paradoxes exist in our pursuit of understanding children and guiding them toward something

better; 1) the coexistence of multiple perspectives on children (Christensen & Prout, 2002), and 2) the desire to control the future at a time in which we know that one should not try to direct the future toward a particular point (Prout, 2000). I struggled in resolving both of the paradoxes.

First, although this study invited children to inform adults about how they might feel or think in their social interactions at preschool, it is evident that children are treated as subjects in the interview and data analysis. Furthermore, many prior studies reviewed above treated children as research subjects. In this study, children were informed about the purpose of this study and their consent was asked. In addition, they were told that they were allowed to stop the interview if they did not feel comfortable. Each interview was conducted so that children were respected and treated as active participants. In order to elicit more opinions from the children, they were asked to give their views about what teachers should do in order not to blame children by mistake.

The second paradox over which I struggled was that although this study did not aim to judge children as socially competent or incompetent, social situations, especially the moral transgression situations used in the study, could easily lead someone to judge children's responses as competent or incompetent. The desire of researchers to help children become morally and socially competent has been criticized by some researchers in the recent years. Prout (2000) claims that children are still a good target for "controlling the future," and that the modernist perspective of helping children to avoid possible problems is still dominant in a time in which such a unilateral approach to development has reached its limits (p. 306). Dahlberg and Moss (2005) point out that young children can easily be targeted because they are perceived as incompetent in society (Dahlberg & Moss, 2005). In order to limit the categorization of children's responses as competent or incompetent, social situations that did not involve a moral transgression by the protagonist were also presented to children. Also, the goal of this study is not to stop children from making moral transgressions in social interactions. Rather, it is intended to understand how they would think and feel when they are involved in moral transgressions at preschool.

Kagan (1984) points out that research topics in developmental psychology reflect certain social, historical, and political interests: this study is not an exception. The study is not neutral in any way. My personal interests in this topic are influenced by my social, historical and political circumstances. When I started my Ph.D., I was more interested in studying about how to encourage children to become more prosocial. However, as I became more familiar with a child-centered approach (e.g., Reggio Emilia approach, general information

available at http://www.reggiochildren.it) in education as well as in research (e.g., Christensen & Prout, 2002; Dahlberg & Moss, 2005; Prout, 2000), I became interested in understanding young children better. This study was developed on that basis and each interview was developed and carried out viewing young children as competent participants of our society. In addition, attempts were made to analyze children's responses in the interviews to reflect this perspective.

PART 3: RESULTS

This part consists of two chapters. In Chapter 4, the findings for children's responses to the multiple-choice questions are presented. In Chapter 5, the analysis of children's responses to the open-ended questions is presented. More precisely, in Chapter 4, children's responses to this study's three main measures, which were multiple-choice questions, are examined: the *Teacher* (how children attributed feelings to the teacher); *Self* (how children imagined the protagonist would feel if they were the protagonist); and *Action* (how children expected the protagonist to act) measures. All three measures are analyzed with MANOVAs, and the results are used to examine the four hypotheses of the study.

In Chapter 5, children's justifications for their responses to the *Teacher*, *Self*, and *Action* questions are presented and analyzed along with the results from the MANOVAs for the three measures. Subsequently, children's responses to the open-ended question concerning the protagonist's interaction with the teacher provide information supplemental to children's responses to the *Action* question. Furthermore, children's responses to how teachers can stop blaming children mistakenly are presented.

4 Results for the *Teacher*, *Self*, and *Action* measures

4.1 Introduction

The goal of this chapter is to examine the five hypotheses for the three main measures of the study. The findings of the MANOVA analyses for the *Teacher* (multiple-choice question: children's attribution of feelings to the teacher), *Self* (multiple-choice question: children's expected emotional response), and the *Action* measures (multiple-choice question: children's immediate action choice) are presented. First, the two groups from Iceland and Japan are compared with regard to age and gender. Subsequently, means and standard deviations for these measures are presented. Finally, the five hypotheses are examined for each measure in light of the results from the MANOVAs.

4.2 Comparing groups

As seen in Table 1, the distribution of the two age groups as well as mean ages (in months) was similar between Iceland and Japan. A *chi-square test* examining the relation between children's age group and country confirmed that there was no significant difference in the proportion of participants in each age group by country, χ^2 (1, N = 105) = 0.30, p =.584. In addition, t-tests comparing children's mean ages in months between the two countries for each age group confirmed that there was no significant country difference in children's mean age, younger age group: t(49) = 0.11, p = .912, older age group: t(56) = 0.15, p = .884. Furthermore, no significant difference was observed in the proportion of participants of each gender by country, χ^2 (1, N = 105) = 0.15, p = .696. The same analysis within each age group revealed no significant difference in the proportion of each gender by country, younger age group: χ^2 (1, N = 49) = 0, p = 1, older age group, χ^2 (1, N = 56) = 0.10, p = .749.

   The data from Japanese children consisted of preschool and kindergarten children. In order to ensure that children's responses did not differ between the preschool and the kindergarten in Japan, a series of t-tests comparing Japanese preschool children and Japanese kindergarten children in how they responded to the *Teacher*, *Self*, and *Action* questions for each story type were conducted for each age group. The results confirmed that there were no significant differences between Japanese preschool children and Japanese kindergarten children in how they responded to these measures in each age group.

Table 1. *Number of Participants and their mean age in months by Country and Age*

Age Group		Country	
		Iceland	Japan
Younger	N	21	28
	M	52.76	52.61
	(SD)	(4.31)	(5.45)
Older	N	20	36
	M	68.65	68.86
	(SD)	(5.24)	(4.98)
Overall	N	41	64
	M	60.51	61.75
	(SD)	(9.33)	(9.62)

4.3 *Means* and *standard deviations* for the *Teacher*, *Self*, and *Action* measures

Table 2 shows the means and standard deviations for children's expectations concerning the teacher's feelings (*Teacher*) and their own feelings (*Self*) as well as their subsequent action choice (*Action*) as a function of the child's transgression (two stories) and the teacher's blame (two stories). Children's responses on each measure ranged from 0 to 2, with lower values indicating a more negative/passive pattern of attribution. As Table 2 shows across both age groups, in both countries, there was a wide range of individual differences (Teacher: *SDs* = .57 to .96, Self: *SDs* = .69 to .92, Action: *SDs* = .69 to .93) in all the stories for the three studied measures. However there was somewhat less variability in the older age group than in the younger age group for the *Teacher* measure in general, especially in the Transgression stories.

Table 2. *Means and Standard Deviations for Teacher, Self, and Action variables in each Story Type*

Teacher: Interpreted teacher's feeling

Story Type		Transgress. Blame		Transgress. No Blame		No Transgress. Blame		No Transgress. No Blame	
Country	Age Group	M	(SD)	M	(SD)	M	(SD)	M	(SD)
Iceland	Younger	0.95	(0.86)	1.14	(0.96)	1.05	(0.92)	1.38	(0.80)
	Older	0.45	(0.76)	0.50	(0.69)	0.85	(0.81)	1.20	(0.70)
Japan	Younger	0.71	(0.90)	0.50	(0.75)	0.71	(0.85)	1.29	(0.76)
	Older	0.31	(0.58)	0.28	(0.57)	0.75	(0.81)	1.0	(0.79)

Self: Expected child's (protagonist's) feeling

Story Type		Transgress. Blame		Transgress. No Blame		No Transgress. Blame		No Transgress. No Blame	
Country	Age Group	M	SD	M	SD	M	SD	M	SD
Iceland	Younger	1.10	(0.89)	1.52	(0.81)	1.38	(0.74)	1.29	(0.90)
	Older	0.70	(0.73)	0.75	(0.79)	1.20	(0.89)	1.20	(0.83)
Japan	Younger	0.61	(0.76)	0.54	(0.74)	0.57	(0.69)	1.21	(0.92)
	Older	0.53	(0.74)	0.61	(0.80)	0.97	(0.84)	0.89	(0.75)

Action: Immediate action choice

Story Type		Transgress. Blame		Transgress. No Blame		No Transgress. Blame		No Transgress. No Blame	
Country	Age Group	M	SD	M	SD	M	SD	M	SD
Iceland	Younger	1.10	(0.89)	1.05	(0.87)	1.43	(0.93)	1.33	(0.80)
	Older	1.35	(0.81)	1.15	(0.88)	1.10	(0.85)	1.35	(0.88)
Japan	Younger	1.32	(0.77)	1.29	(0.71)	1.50	(0.69)	1.57	(0.74)
	Older	0.64	(0.76)	1.03	(0.84)	1.03	(0.77)	1.22	(0.80)

Note: Teacher, Self, and Action variables range from 0 to 2, smaller values indicating more negative (Teacher, Self) and passive (Action) attributions patterns.

4.4 Warm-up story

In order to ensure that the teacher's walking toward the child (a constant feature for all the four stories) in each of the four hypothetical stories did not have overly negative connotations for the children, their responses to an open-ended question about why the teacher was approaching the child in the neutral warm-up story were analyzed. As shown in Appendix 2, the warm-up story presented children with a hypothetical situation in which the child and his/her friend were playing together, and the teacher was approaching them.

The warm-up story did not include any moral transgression, teacher's criticism, or a crying friend. As shown in Appendix 4.4, children's responses were categorized as Negative cause (e.g., "I was not behaving."), Neutral cause (e.g., "To invite (children) to clean up.") or Positive cause (e.g., "Came to play.").

As shown in Table 3, the majority of children provided no response to this warm-up question. The younger age group had a higher proportion of not applicable responses (including responses such as "I don't know," or "Just because") than the older age group. Among children in the older age group in both countries, around 30 percent of children provided a neutral reason for the teacher approaching the child.

Table 3. *Frequency and Proportion of children's responses to the reason for the teacher coming toward the children in the neutral warm-up story for both age groups in Iceland and Japan*

Country	Age Group	Negative	Neutral	Positive	NA*
Iceland	Younger $N = 21$ (1.00)	2 (0.10)	1 (0.05)	0 (0.00)	18 (0.86)
	Older $N = 20$ (1.00)	3 (0.15)	5 (0.25)	1 (0.05)	11 (0.55)
Japan	Younger $N = 28$ (1.00)	1 (0.04)	2 (0.07)	2 (0.07)	23 (0.82)
	Older $N = 36$ (1.00)	1 (0.03)	11 (0.31)	0 (0.00)	24 (0.67)

*Not applicable response

Thus, the approach of the teacher toward the child in the warm-up story did not provoke children in the younger age group to explain why the teacher was coming toward them. For children in the older age group, the most common response – other than no response to the warm-up question – was a neutral response.

To summarize, most of the children across the two age groups and the two countries did not provide a negative or a positive reason for the teacher's approach. By implication, if children expect the teacher to have negative feelings in one or more of the four hypothetical social situations used in this study, it is likely to be associated with situational factors that are not present in the warm-up story. The situational factors in the main four stories include the crying friend, the protagonist's moral transgression, and the teacher's blame.

4.5   Exploration of children's childcare history as a covariate

In this study, information about participants' childcare history in months (*History*) was collected before the interview study. In order to assess whether

History could be included as a covariate in the existing statistical model (Age Group × Country × Transgression × Blame, Repeated- Measures Multivariate Analysis of Variance with Child's Transgression and Teacher's Blame as between subject factors, and Country and Age Group as between subject factors) for the *Teacher*, *Self*, and *Action* measures, there should be no significant correlation between each of the dependent variables (Age group, Country) and the covariance (History). A set of Pearson product-moment correlation coefficient was computed to assess possible relationship between *History* and *Country*, as well as between *History* and *Age group*. Significant correlations were observed between *History* and *Country* and *History* and *Age group*. There was a moderate, and negative correlation between *History* and *Country*, $r = -.271$, $n = 105$, $p = .005$, suggesting that the Japanese participants' early childcare history ($M = 42.51$, $SD = 9.33$) was significantly shorter than the Icelandic participants' ($M = 33.56$, $SD = 18.63$). Also, not surprisingly, there was a strong and positive correlation between *History* and *Age group*, $r = .596$, $n = 105$, $p = .000$, indicating that the childcare history of the older participants ($M = 46.05$, $SD = 12.55$) was longer than that of the younger participants ($M = 26.78$, $SD = 13.668$) in general. Also within each country, there was a strong and positive correlation between children's childcare history and their age group, Iceland: the younger group ($M = 34.76$, $SD = 4.31$), the older group ($M = 50.65$, $SD = 5.244$), $r = .862$, $n = 41$, $p = .000$, Japan: the younger group ($M = 20.79$, $SD = 15.22$), the younger group ($M = 43.50$, $SD = 14.616$), $r = .610$, $n = 64$, $p = .000$. Thus, because statistically significant correlations existed between *Age group* and *History*, and *Country* and *History*, it was not appropriate to use children's childcare history as a covariate.

4.6   Results for five hypotheses regarding the *Teacher* measure

Five hypotheses concerning the *Teacher* measure were examined based on the findings of MANOVA for the *Teacher* measure as shown in Table 4.

Table 4. *F Statistics from a Four-Way (Age Group × Country × Transgression × Blame) Repeated- Measures Multivariate Analysis of Variance on Teacher measure, with Child's Transgression and Teacher's Blame as between subject factors*

Teacher: Interpreted teacher's feeling		
	Expected Teacher's feeling	
	df	*F*
Age Group	1	8.17 **
Country	1	5.52 *
Age Group × Country	1	0.58
Transgression	1	30.69 ***
Age Group × Transgression	1	3.53
Country × Transgression	1	0.72
Age Group × Country × Transgression	1	0.40
Blame	1	9.79 **
Age Group × Blame	1	0.29
Country × Blame	1	0.51
Age Group × Country × Blame	1	0.00
Transgression × Blame	1	9.08 **
Age Group × Transgression × Blame	1	0.49
Country × Transgression × Blame	1	1.54
Age Group × Country × Transgression × Blame	1	0.69

*Note: *$p < .05$; **$p < .01$; *** $p < .001$*

4.6.1 The child's transgression

The first hypothesis for the *Teacher* measure was that children would expect the teacher to feel more negatively (to feel angrier) in hypothetical social situations involving a moral transgression (referred to as Transgression stories from now on) than in situations involving no moral transgression (No Transgression stories). As predicted, children were more likely to expect the teacher to feel more negative in Transgression stories than No Transgression stories. More precisely, as seen in Table 5, there was a significant main effect of transgression with respect to how children expected the teacher to feel (*Teacher*), $F(1,101) = 30.69$, $p < .001$, η^2 (*partial eta squared*) = .23. On average, children expected the teacher to feel more negative in Transgression stories (*M* = .56, *SD* = .79) than in No Transgression stories (*M* = 1.00, *SD* = .83). However, caution should be exercised in interpreting this main effect because

there was also a significant two-way interaction involving Transgression and Blame. This interaction will be described after considering the main effect of blame.

4.6.2 The teacher's blame

The second hypothesis for the *Teacher* measure was that children would expect to feel more negatively in situations in which the teacher blamed the protagonist (Blame stories) as compared to stories in which the teacher did not blame the protagonist (No Blame stories). As shown in Table 4, a significant main effect of blame was observed for the *Teacher* measure, confirming this hypothesis for children's attribution of feelings to the teacher, F (1,101) = 9.79, p = .002, η^2 (*partial eta squared*) = .09. On average, children expected the teacher to feel more negative in Blame stories (M = .70, SD = .83) than in No Blame stories (M = .87, SD = .84). However, the significant main effect of blame in the *Teacher* measure needs to be interpreted cautiously because, as noted above, there was an interaction between transgression and blame. This interaction is considered below.

4.6.3 The interaction between transgression and blame

As mentioned above and shown in Table 4, there was a significant interaction between Transgression and Blame for the *Teacher* measure. Figure 5 illustrates this interaction. The Figure shows that the impact of blame depended on whether the protagonist transgressed, F (1,101) = 9.08, p = .003, η^2 = .08. Follow-up paired *t*-tests examining the effects of the teacher's blame in the Transgression stories and in the No Transgression stories revealed that a significant effect of blame was detected within the No Transgression stories, t(104) = -4.13, p < .001, but not within the Transgression stories, t(104) = 0.25, p = .807. As shown in Figure 5, for the Transgression stories children expected the teacher to feel similarly in the Blame (M = 0.57, SD = 0.79) and the No Blame stories (M = 0.55, SD = 0.78). Contrary, for the No Transgression stories children tended to expect the teacher to feel more negative in the Blame story (M = 0.82, SD = 0.84) than in the No Blame story (M = 1.19, SD = 0.77).
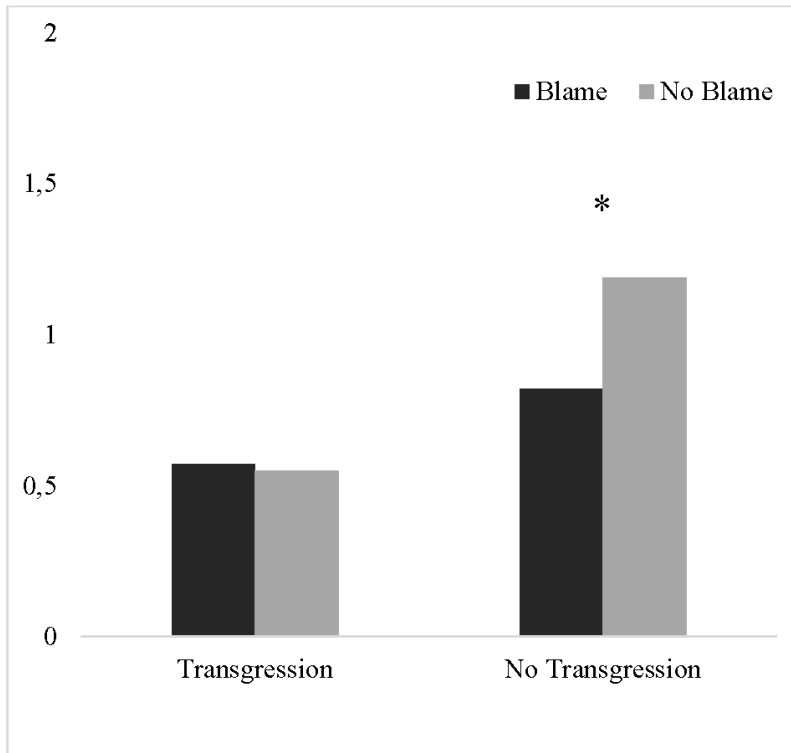
Figure 5. *Expected teacher's feelings (Teacher): Transgression × Blame Interaction*

Inspection of Figure 5 confirms that children expected the teacher to feel less bad when the child had not committed a transgression as compared to when the child had committed a transgression; this difference was somewhat more marked for the No Blame stories, $t(104) = -6.41$, $p < .001$, than for the Blame stories, $t(104) = -2.65$, $p = .009$. Nevertheless, whether the teacher blamed the child or not, children expected the teacher to feel less negative when the protagonist had not committed a transgression. Because of the very small effect size ($\eta^2 = .08$), however, caution should be exercised with regard to this interaction in the *Teacher* measure.

To sum up, when the child had committed a moral transgression, children expected the teacher to have negative feelings whether or not she expressed any blame. However, when the child had not committed a moral transgression, children's expected the teacher to have less negative feelings, especially when she expressed no blame.

Thus, the second hypothesis for the *Teacher* measure was partially supported. If the protagonist had not committed a moral transgression, children attributed more negative feelings to the teacher in the Blame stories than in the No Blame stories. However, when the protagonist had committed a moral transgression, children expected the teacher to feel equally bad in both the Blame and the No Blame stories.

4.6.4   Age

The third hypothesis was that as compared to younger children, older children would show more sensitivity to the hypothetical social situations involving the child's moral transgression or the teacher's blame. As shown in Table 4, there was a significant main effect of age group on how children expected the teacher to feel (*Teacher*), F (1,101) = 8.17, p = .005, η^2 (*partial eta squared*) = .08. On average, children in the older age group expected the teacher to feel more negative (*M* = .64, *SD* = .88) than did children in the younger age group (*M* = .94, *SD* = .77). However, contrary to the implications of the third hypothesis for the *Teacher* measure, this age change was not confined to, or especially marked in, the transgression as compared to the no transgression stories. Thus, the interaction of Age Group x Transgression was not significant. Similarly, this age change was not confined to, or especially marked in the blame stories as compared to the no blame stories. Thus, the interaction of Age Group x Transgression was not significant. Rather, older children seemed to have less positive expectations than younger children about how the teacher would feel no matter what the story context.

4.6.5   Country

The fourth hypothesis for the *Teacher* measure predicted that children in both countries would show a similar sensitivity to hypothetical social situations involving the child's moral transgressions. In addition, the fifth hypothesis for the *Teacher* measure predicted that children in Japan would show more sensitivity to hypothetical social situations that included the teacher's blame than would children in Iceland. In other words, the difference between Transgression and No Transgression stories was expected to be similar in the two countries. However, difference between Blame stories and No Blame stories was expected to be greater among children in Japan than in Iceland.

Overall, a main effect of country was observed for *Teacher* measure. As shown in Table 4, Japanese children (*M* = 0.68, *SD* = .81) tended to expect the teacher to feel more negative than did Icelandic children *(M* = 0.95, *SD* = .86) across all four hypothetical stories, F (1,101) = 5.52, p = .021, η^2 (*partial eta squared*) = .05.

The absence of a significant Country x Transgression interaction for the *Teacher* measure, F (1,101) = .72, p = .398, η^2 (*partial eta squared*) = .007, supports the fourth hypothesis for the *Teacher* measure, namely that children in Iceland and Japan would show a similar sensitivity to children's moral transgression. In other words, Icelandic and Japanese children differentiated in a similar fashion between Transgression stories and No Transgression stories when they attributed feelings to the teacher.

The absence of a significant Country x Blame interaction for the *Teacher* measure, F (1,101) = .51, p = .475, η^2 (*partial eta squared*) = .005, does not support the fifth hypothesis for the *Teacher* measure, namely that children in Japan would show more sensitivity to the presence versus absence of teacher's blame than would children in Iceland.

4.7 Results for five hypotheses regarding the *Self* measure

Five hypotheses concerning the *Self* measure were examined based on the findings of MANOVA for the *Self* measure as shown in Table 5.

4.7.1 The child's transgression

There was a significant main effect of transgression for the *Self* measure, suggesting, as predicted, that children expected to feel more negative in the Transgression stories than in the No Transgression stories, F (1,101) = 16.09, p < .001, η^2 (*partial eta squared*) = .14. On average, children expected to feel more negative (to feel sadder) in the Transgression stories (M = .75, SD = .83) than in the No Transgression stories (M = 1.05, SD = .84). Table 6 also shows that a significant four-way interaction involving Age Group, Country, Transgression, and Blame emerged for the *Self* measure. This will be considered later.

4.7.2 The teacher's blame

The second hypothesis for the *Self* measure was that children would have a more negative and passive response pattern in the Blame stories as compared to the No Blame stories. No significant main effect of blame was observed for the *Self* measure. According to the raw means the children seemed to expect the protagonist to have more negative feelings (Blame: M = .84, SD = .83, No Blame: M = .96, SD = .87) in the Blame stories than the No Blame stories. However, these differences were not large enough to reach the significance level of p < .05, and thus did not support the second hypothesis for the *Self* measure.

Table 5. *F Statistics from a Four-Way (Age Group × Country × Transgression × Blame) Repeated- Measures Multivariate Analysis of Variance on Self measure, with Child's Transgression and Teacher's Blame as between subject factors*

Self: Expected child's (protagonist's) feeling

	Expected Teacher's feeling		
	df	*F*	
Age Group	1	2.84	
Country	1	15.70	***
Age Group × Country	1	3.47	
Transgression	1	16.09	***
Age Group × Transgression	1	2.78	
Country × Transgression	1	0.39	
Age Group × Country × Transgression	1	1.95	
Blame	1	2.82	
Age Group × Blame	1	2.26	
Country × Blame	1	0.11	
Age Group × Country × Blame	1	0.26	
Transgression × Blame	1	0.00	
Age Group × Transgression × Blame	1	0.50	
Country × Transgression × Blame	1	3.77	
Age Group × Country × Transgression × Blame	1	5.51	*

*Note: *$p < .05$; **$p < .01$; *** $p < .001$*

4.7.3   Age

There was no main effect of age, and no interaction of Age Group x Transgression or of Age Group x Blame for children's expectations about their own feelings. Taken together, these results lend no support to the third hypothesis, which predicted that the older age group would show more sensitivity to the protagonist's transgression and to the teacher's blame for the *Self* measure.

However, a significant four-way interaction involving Country, Age Group, Transgression, and Blame was observed for the *Self* measure. This interaction will be discussed below when the results for the fourth hypothesis are discussed.

4.7.4   Country

The fourth hypothesis for the *Self* measure predicted that children in both countries would show a similar sensitivity to the Transgression situations. As shown in Table 5, a main effect of country was detected in how children expected themselves to feel, F (1,101) = 15.70, p < .001, η^2 (*partial eta squared*) = .14. Overall, Japanese children (M = 0.95, SD = .81) expected to feel more negative than did Icelandic children (M = 1.15, SD = .85). The absence of any significant Country x Transgression interaction for the *Self* measure, F (1,101) = .39, p = .534, η^2 (*partial eta squared*) = .00, supports the fourth hypothesis, namely that children in Iceland and Japan would show a similar sensitivity to children's moral transgression regarding how they expect to feel. In other words, Icelandic and Japanese children differentiated in a similar fashion between Transgression stories and No Transgression stories for the *Self* measure.

The fifth hypothesis for the *Self* measure predicted that children in Japan would have more sensitivity to the Blame stories than would children in Iceland. There was no significant Country x Blame interaction for the *Self* measure, *Self*, F (1,101) = .11, p = .741, η^2 (*partial eta squared*) = .00. This finding does not support the fifth hypothesis, namely that children in Japan would show more sensitivity to the presence versus absence of teacher's blame than would children in Iceland with regard to their expectations about their own feelings.

However, these general findings for the *Self* measure should be interpreted with caution because of the four-way interaction, which now will be described.

4.7.5   The interaction between age group, country, blame and transgression

Although a main effect of country was detected for the *Self* measure, indicating that the Japanese children expected to feel more negative than did Icelandic children, the picture becomes more complicated because of the significant four-way interaction mentioned above. The four-way interaction observed for the *Self* measure was between Age group, Country, Transgression, and Blame, F (1,101) = 5.51, p < .021, η^2 (*partial eta squared*) = .05. Figure 6 depicts this interaction.
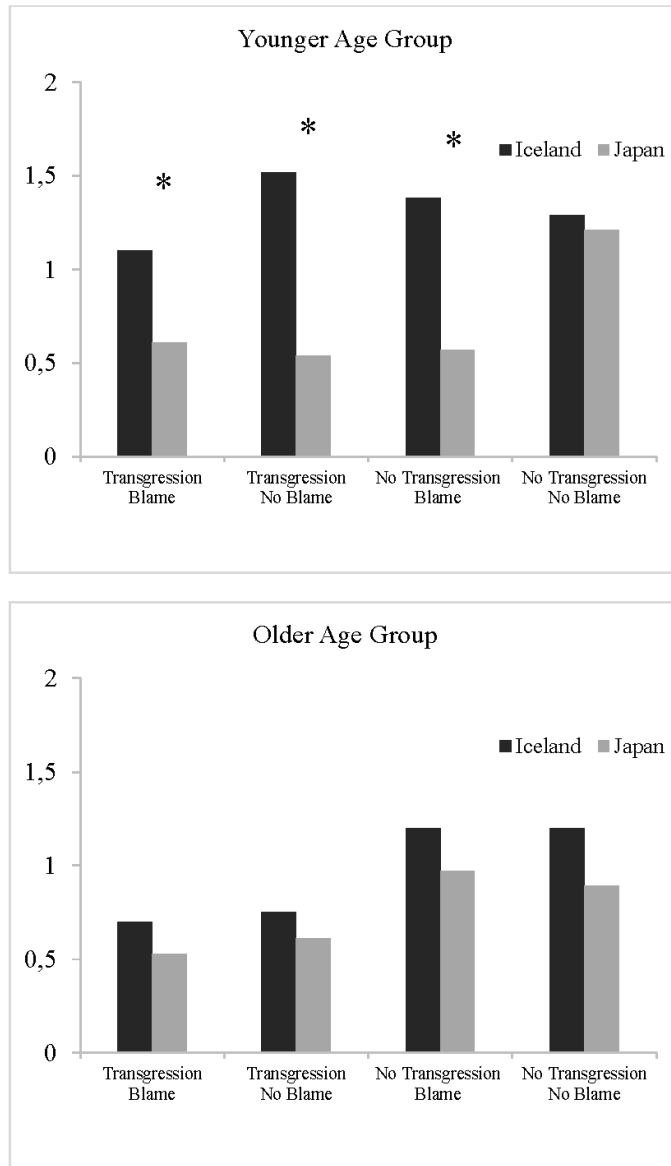
Figure 6. *Expected Protagonist's feelings (Self): Age Group x Country x Transgression x Blame Interaction*

Simple *t*-tests (two-tailed) revealed that when the effect of country was calculated separately for each of the four hypothetical stories a different pattern emerged for the two age groups: Younger Japanese children expected more negative feelings for the self than did Icelandic children for three of the

four story types: Transgression Blame: $t(47) = 2.03$, $p = .048$; Transgression No Blame: $t(47) = 4.42$, $p < .001$; and No Transgression Blame: $t(47) = 3.94$, $p < .001$. There was no country effect for No Transgression No Blame: $t(47) = .27$, $p = .787$. In the older age group, Icelandic children and Japanese children expected the protagonist's feelings similarly across all four story types: Transgression Blame: $t(54) = .84$, $p = .405$; Transgression No Blame: $t(54) = .63$, $p = .535$; No Transgression Blame: $t(54) = .95$, $p = .348$ and No Transgression No Blame: $t(54) = 1.43$, $p = .158$. Figure 6 depicts these findings.

In summary, there was no difference between the older age groups in Iceland and Japan for the *Self* measure. By contrast, among the younger children, in three of the four story settings Japanese children expected to feel more negative than did Icelandic children. More specifically, the results from the *t*-tests showed that these differences between the two countries were statistically significant for all stories except the No Transgression No Blame story.

Thus, although a main effect of country was reported earlier for the *Self* measure, suggesting that overall children in Japan expected the protagonist to feel more negative than did children in Iceland, this country difference was not found for children in the older age group. For children in the younger age group, the Japanese children expected more negative feeling on the part of the protagonist than did Icelandic children in all the hypothetical stories except for the No Transgression No Blame story. Because of the very small effect size ($\eta^2 = .05$), however, caution should be exercised with regard to this interaction in the *Self* measure.

Furthermore, because of the four-way interaction, the results for the fourth hypothesis need to be reexamined for the *Self* measure. Earlier, the results from the *Self* measure were taken as support for the fourth hypothesis namely that children in Iceland and Japan would show a similar sensitivity to a moral transgression. However, as shown by the four-way interaction in Figure 6, in the younger age group, Japanese children expected to feel more negatively than did Icelandic children in both the Transgression Blame story: $t(47) = 2.03$, $p = .048$, and the Transgression No Blame story: $t(47) = 4.42$, $p < .001$. In fact, in this age group, while Icelandic children expected to feel more or less similarly across all the four situations, Japanese children expected to feel more negative feelings when there was a transgression, indicating that the fourth hypothesis was not supported for the *Self* measure among children in the younger age group. In addition, although the absence of a significant Country x Blame interaction for the *Self* measure did not support the fifth hypothesis predicting that children in Japan would show greater sensitivity to the Blame situations than children in Iceland as described earlier, Japanese children in the younger

age group did expect the protagonist to feel more negative than did younger Icelandic children when the situation included the teacher's blame as shown in Figure 6 (Transgression Blame: $t(47) = 2.03$, $p = .048$, No Transgression Blame: $t(47) = 3.94$, $p < .001$). Given that the younger Icelandic children's expectation of their own feelings did not differ between the Blame and the No Blame stories, this finding indicates greater sensitivity to a teacher's blame among the younger Japanese children compared to the younger Icelandic children in the *Self* measure, thus supporting the fifth hypothesis for the *Self* measure among children in the younger age group.

4.8   Results for five hypotheses regarding the *Action* measure

Five hypotheses concerning the *Action* measure were examined based on the findings of the MANOVA for the *Action* measure as shown in Table 6.

Table 6. *F Statistics from a Four-Way (Age Group × Country × Transgression × Blame) Repeated-Measures Multivariate Analysis of Variance on Action measure, with Child's Transgression and Teacher's Blame as between subject factors*

Action: Immediate action choice

	Expected Teacher's feeling		
	df	*F*	
Age Group	1	3.49	
Country	1	0.08	
Age Group × Country	1	3.89	
Transgression	1	8.13	**
Age Group × Transgression	1	0.94	
Country × Transgression	1	0.71	
Age Group × Country × Transgression	1	1.93	
Blame	1	1.06	
Age Group × Blame	1	2.11	
Country × Blame	1	1.95	
Age Group × Country × Blame	1	0.48	
Transgression × Blame	1	0.40	
Age Group × Transgression × Blame	1	0.16	
Country × Transgression × Blame	1	0.98	
Age Group × Country × Transgression × Blame	1	2.60	

*Note: *$p < .05$; **$p < .01$; *** $p < .001$*

4.8.1 The child's transgression

The first hypothesis for the *Action* measure was that children would respond with greater passivity (expecting the protagonist to stop his/her previous activity like riding a bicycle) to the Transgression situations than the No Transgression situations. Table 6 presents the findings of MANOVA for the *Action* measure. As Table 6 shows, there was a significant main effect of transgression, suggesting, as predicted, that children were likely to choose a more passive choice of action in the Transgression stories than in the No Transgression stories, F (1,101) = 8.13, p = .005, η^2 (*partial eta squared*) = .07. On average, children expected the protagonist to take a more passive action in the Transgression stories (M = 1.09, SD = .83) than in the No Transgression stories (M = 1.30, SD = .81).

4.8.2 The teacher's blame

The second hypothesis for the *Action* measure was that children would choose a more passive action choice in the Blame stories than the No Blame stories. For the *Action* measure, according to the raw means the children seemed to expect the protagonist to make a more negative choice of action (Blame: M = 1.15, SD = .84, No Blame: M = 1.24, SD = .81) in the Blame stories than the No Blame stories. However, this difference was not large enough to reach the significance level of $p < .05$, and thus does not support the second hypothesis for the *Action* measure.

4.8.3 Age

There was no main effect of age, and no interaction of Age Group x Transgression or of Age Group x Blame. Thus, the third hypothesis for the *Action* measure predicting that the older children would show more sensitivity to the child's transgression and to the teacher's blame was rejected.

4.8.4 Country

The fourth hypothesis for the *Action* measure predicted that children in both countries would show a similar sensitivity to the Transgression stories. As shown in Table 6, however, the main effect of country was not statistically significant at the level of $p < .05$ (Iceland: M = 1.23, SD = .86, Japan: M = 1.17, SD = .81), F (1,101) = .08, p = .778, η^2 (*partial eta squared*) = .00. The absence of any significant Country x Transgression interactions for the *Action* measure, F (1,101) = .71, p = .401, η^2 (*partial eta squared*) = .01, supports the fourth hypothesis namely that children in Iceland and Japan show a similar sensitivity to children's moral transgression in the *Action* measure. In other words,

Icelandic and Japanese children differentiated in a similar fashion between the Transgression stories and the No Transgression stories when they chose what action choice they would take.

Also, the fifth hypothesis for the *Action* measure predicted that children in Japan would show more sensitivity to the Blame stories than would children in Iceland. However, there was no significant Country x Blame interaction for the *Action* measure, $F (1,101) = 1.94$, $p = .166$, η^2 (*partial eta squared*) $= .02$, thus rejecting the fifth hypothesis for the *Action* measure, namely that children in Japan would show more sensitivity to the presence versus absence of teacher's blame than would children in Iceland when they choose an action choice for themselves.

4.9   Summary

To sum up, the results from this study's three measures *Teacher* (how children attributed feelings to the teacher), *Self* (how children imagined they would feel), *Action* (what action choice children expected to make) supported some but not all of the study's hypotheses.

The first hypothesis predicting that children would be sensitive to the child's moral transgression was supported for the *Teacher*, *Self*, and *Action* measures. The second hypothesis predicting that children would be sensitive to the teacher's blame, the findings received only limited support. Children did expect the teacher to have negative feelings if she blamed the protagonist in the absence of any transgression. However, the teacher's blame was not associated with negative expectations with respect to either the protagonist's own feelings or his or her subsequent action choice.

There was an overall effect of age and country on children's expectations about the teacher's feelings. In general, children in the older age group expected the teacher to have more negative feelings than did children in the younger age group. In addition, Japanese children expected the teacher to have more negative feelings than did Icelandic children. Also, Japanese children expected that they would have more negative feelings than did Icelandic children. However, the four-way interaction between age group, country, transgression, and teacher's blame revealed that this country difference was restricted to one of the two age groups. In the older age group, Icelandic children and Japanese children did not differ in their expectations about their own feelings. By contrast, in the younger age group, Japanese children expected the protagonist to have more negative feelings than did Icelandic children, whose responses for the *Self* measure did not differ so much across all the four stories, in all the situations involving the child's transgression and/or the teacher's criticism.

Contrary to the third hypothesis predicting that children in the older age group would show more sensitivity to the protagonist's moral transgression and to the teacher's blame, children in the two age groups did not differ on any of the three study measures in the way that they responded to the Transgression stories as compared to the No Transgression stories or to the Blame stories as compared to the No Blame stories. However, because of the four-way interaction involving age group, country, transgression and blame, caution should be exercised with regard to these findings for the *Self* measure.

In general, the results supported the fourth hypothesis that children in both countries would show a similar sensitivity to transgression for all three measures. However, reexamination of the results in the light of the four-way interaction revealed that this was not the case for the way that the younger children responded in the *Self* measure. The younger Japanese children showed more sensitivity to the protagonist's moral transgression than did younger Icelandic children. Moreover, although in general the results did not support the fifth hypothesis predicting Japanese children would show more sensitivity than Icelandic children to the teacher's criticism for all three study measures, the reexamination of the results in the light of the four-way interaction supported this hypothesis for the *Self* measure among the younger children. The younger Japanese children showed more sensitivity than the younger Icelandic children to the teacher's blame by expecting more negative feelings on the part of the protagonist.

In the next chapter, these statistical results are further examined in light of children's responses to the open-ended questions that followed the *Teacher*, *Self*, and *Action* measures.

5 Children's responses to open-ended questions

5.1 Introduction

In this study, children were asked open-ended questions concerning their responses to the *Teacher*, *Self*, and *Action* measures in each of the four stories. In this chapter, children's responses to why they attributed a certain feeling to the teacher (referred as *Justification Teacher* from now on), and the protagonist (*Justification Self*) and why they attributed a certain action choice to the protagonist (*Justification Action*), are examined along with the MANOVA results from the *Teacher*, *Self*, and *Action* measures. In addition, children's responses to the open-ended question concerning the protagonist's subsequent interaction with the teacher (*Interaction*) are described as supplemental information to children's responses to the *Action* question. Finally, children's responses for this study's research question--how teachers can avoid blaming children mistakenly--are described. The results are presented in Table 7-11.

There were some limitations in exploring whether children from different groups (e.g., country, age group) differed in how they responded to the open-ended questions. Expected frequencies in some response categories were too small (less than 5) to conduct *chi-square tests*, which could test whether the proportion of children responding in a certain response category (e.g., Concern for friend) would differ between Iceland and Japan. Therefore, only two types of statistical tests were conducted to analyze children's responses to the open-ended questions.

For children's justifications for this study's three main measures (*Teacher*, *Self*, *Action*), a series of *chi-Square tests* were conducted to examine whether the proportions of not applicable responses (i.e., no response, "I don't know," as well as responses that did not respond to the asked questions) would be different between the two age groups and the two countries.

For children's responses for *Justification Teacher*, *Justification Self*, *Justification Action*, and *Interaction*, Wilcoxon Signed-ranks tests were used to examine whether the frequency in which children responded in a certain way (e.g., mentioning the protagonist's wrongdoing) differed between the two Transgression stories (Transgression Blame story, Transgression No Blame story) and the two No Transgression stories (No Transgression Blame story, No Transgression No Blame story) in each country.

Therefore, except for these comparisons made from these statistical tests, other group comparisons made on the proportion of children who responded in a certain way in this chapter is based on the analysis of children's responses to the open-ended questions at face value.

Table 7. Frequency and Proportion of Justification responses for Expected Teacher's Feeling (Justification Teacher) in each Story Type

	Transgression								No Transgression							
	Blame				No Blame				Blame				No Blame			
	Iceland		Japan		Iceland		Japan		Iceland		Japan		Iceland		Japan	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Wrongdoing	17	42	31	48	22	54	34	53	7	17	3	5	2	5	3	5
No Wrongdoing	2	5	0	0	1	2	0	0	6	15	12	19	12	30	21	33
Teacher's Criticism	3	7	2	3	1	2	0	0	10	24	8	13	2	5	4	6
No Teacher Criticism	0	0	2	3	0	0	0	0	0	0	1	2	0	0	0	0
Concern for the Friend	0	0	2	3	0	0	0	0	2	5	0	0	1	2	1	2
Teacher's Approach	0	0	0	0	0	0	0	0	0	0	1	2	0	0	1	2
Apology	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Personal Goals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Better Choice	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Talk with the Teacher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	3	7	1	2	2	5	4	6	2	5	2	3	2	5	1	2
NA	16	39	26	41	15	37	26	41	14	34	37	58	22	54	33	52
Totals N	41	100	64	100	41	100	64	100	41	100	64	100	41	100	64	100

Table 8. Frequency and Proportion of Justification responses for Expected Protagonist's Feeling (Justification Self) in each Story Type

	Transgression								No Transgression							
	Blame				No Blame				Blame				No Blame			
	Iceland		Japan		Iceland		Japan		Iceland		Japan		Iceland		Japan	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Wrongdoing	11	27	5	8	8	20	7	11	0	0	0	0	0	0	0	0
No Wrongdoing	1	2	0	0	1	2	0	0	11	26	12	19	14	34	12	19
Teacher's Criticism	6	15	11	17	4	10	12	19	1	2	11	17	0	0	5	8
No Teacher Criticism	0	0	0	0	0	0	1	2	0	0	1	2	0	0	2	3
Concern for the Friend	0	0	3	5	0	0	0	0	2	5	1	2	1	2	4	6
Teacher's Approach	0	0	1	2	0	0	1	2	1	2	3	5	0	0	1	2
Apology	1	2	2	3	1	2	1	2	0	0	0	0	0	0	1	2
Personal Goals	2	5	3	5	0	0	1	2	2	5	1	2	1	2	1	2
Better Choice	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Talk with the Teacher	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	5	8	5	12	5	8	1	2	5	8	3	7	2	3
NA	20	49	34	53	22	54	36	56	23	56	30	47	22	54	36	56
Totals *N*	41	100	64	100	41	100	64	100	41	100	64	100	41	100	64	100

Table 9. Frequency and Proportion of Justification responses for Expected Protagonist's Subsequent Action Choice (Justification Action) in each Story Type

	Transgression								No Transgression							
	Blame				No Blame				Blame				No Blame			
	Iceland		Japan		Iceland		Japan		Iceland		Japan		Iceland		Japan	
	n	%	n	%	n	%	n	%	n	%	n	%	n	%	n	%
Wrongdoing	1	2	2	3	3	7	9	14	0	0	0	0	0	0	0	0
No Wrongdoing	1	2	0	0	0	0	0	0	3	7	2	3	3	7	4	6
Teacher's Criticism	0	0	3	5	1	2	3	5	0	0	3	5	0	0	0	0
No Teacher Criticism	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Concern for the Friend	0	0	7	11	2	5	5	8	3	7	0	0	1	2	6	9
Teacher's Approach	0	0	1	2	0	0	0	0	0	0	0	0	1	2	1	2
Apology	1	2	4	6	0	0	3	5	0	0	1	2	0	0	0	0
Personal Goals	2	5	1	2	4	10	1	2	4	10	3	5	3	7	1	2
Better Choice	0	2	1	2	0	0	0	0	0	0	0	0	0	0	2	3
Talk with the Teacher	0	5	1	2	0	0	0	0	0	0	3	5	0	0	1	2
Other	4	10	5	8	4	10	1	2	2	5	1	2	2	5	2	3
NA	32	78	39	61	27	66	42	66	29	71	51	80	31	76	46	72
Totals N	41	100	64	100	41	100	64	100	41	100	64	100	41	100	64	100

Table 10. Frequency and Proportion of children's responses for Expected Protagonist's Interaction (Interaction) in each Story Type

	Transgression								No Transgression							
	Blame				No Blame				Blame				No Blame			
	Iceland		Japan		Iceland		Japan		Iceland		Japan		Iceland		Japan	
	n	%	n	%	N	%	n	%	n	%	n	%	n	%	n	%
Apology	5	12	10	16	4	10	8	13	0	0	2	3	0	0	1	2
Clarification	2	7	2	3	3	7	0	0	10	24	17	27	7	17	12	19
Affection	0	0	1	2	0	0	2	3	0	0	1	2	0	0	2	3
I will be good	1	2	2	3	0	0	0	0	2	5	0	0	1	2	1	2
Provocative	1	2	1	2	0	0	0	0	0	0	0	0	1	2	0	0
Play/Activity	2	5	1	2	2	5	1	2	3	7	0	0	2	5	0	0
Other	7	17	1	2	5	12	1	2	5	12	2	3	5	12	1	2
NA	22	54	46	72	27	66	52	81	21	51	42	66	25	61	47	73
Totals *N*	41	100	64	100	41	100	64	100	41	100	64	100	41	100	64	100

101

Table 11. *Frequency and Proportion of children's advices for Adults and Teachers to avoid False Blame (Advice)*

	Younger				Older			
	Iceland		Japan		Iceland		Japan	
	n	%	N	%	n	%	n	%
Better Attention	0	0	4	14	7	35	12	33
Positive Attitude	8	38	4	14	3	15	2	6
Apology	2	10	2	7	1	5	2	6
Other	0	0	1	4	0	0	1	3
NA	11	52	17	61	9	45	19	53
Totals N	21	100	28	100	20	100	36	100

5.2 Older children offered more justifications than younger children

Children's explanations with respect to each of the three measures are shown in Tables 7, 8, 9. First, the proportions of not applicable responses (i.e., no response, "I don't know," as well as responses that did not respond to the asked questions) were compared between the two age groups and the two countries. The children in Iceland and Japan did not differ in terms of the proportions of not applicable responses, *Justification Teacher*: χ^2 (1, N^9 = 420) = 1.87, *p* = .172, *Justification Self*: χ^2 (1, *N* = 420) = 0, *p* = .988, *Justification Action*: χ^2 (1, *N* = 420) = .44, *p* = .506. By contrast, a significant difference between the two age groups in the proportion of not applicable responses was observed for each of the three main measures, *Justification Teacher*: χ^2 (1, *N* = 420) = 13.66, *p* < 0.001, *Justification Self*: χ^2 (1, *N* = 420) = 16.83, *p* < 0.001, *Justification Action*: χ^2 (1, *N* = 420) = 25.29, *p* < 0.001. Indeed, this age difference was observed for the two measures in Iceland, *Justification Self*: χ^2 (1, *N* = 164) = 8.73, *p* = 0.003, *Justification Action*: χ^2 (1, *N* = 164) = 12.38, *p* < 0.001 (for the *Justification Teacher* measure, the difference fell slightly short to reach a statistical difference: χ^2 (1, *N* = 164) = 3.26, *p* = 0.071), and for the three measures in Japan, *Justification Teacher*: χ^2 (1, *N* = 256) = 11.81, *p* = 0.001, *Justification Self*: χ^2 (1, *N* = 256) = 8.43, *p* = 0.004, *Justification Action*: χ^2 (1, *N* = 256) = 12.91, *p* < 0.001. In sum, in both countries, older children were more likely than younger children to offer a justification for their responses in the *Teacher*, *Self*, and *Action* measures.

Given the relatively small number of responses to the justification questions and given that the proportion of children offering the various types of justification for the *Teacher*, *Self*, *Action*, and *Interaction* measures did not obviously differ between the two age groups, responses from the two age groups were combined as seen in Tables 7-10.

5.3 Children's Justification for expected Teacher's feeling (*Justification Teacher*)

Children's justifications of why they expected the teacher to have certain feelings are analyzed in this section. Appendix 4.1 shows the categories to which justifications were allocated. As seen in Table 7, the justifications of Icelandic and Japanese children were mostly similar across all four story-types.

---

[9] Because children's justification responses for the *Self* measure fell into a widest range of categories among children's justification responses to this study's three main measures, the interrater reliability analysis was performed on a subset of them.

For both the Icelandic and the Japanese children, the most frequent justification was the protagonist's involvement or non-involvement in a wrongdoing. When the child did something wrong (Transgression stories), a relatively high proportion of children justified their emotion attribution in terms of his/her wrongdoing (e.g., "Because I did something naughty.") in Iceland (Transgression Blame: 42%, Transgression No Blame: 54%) and Japan (Transgression Blame: 48%, Transgression No Blame: 53%). By contrast, when the child did not do anything wrong (No Transgression stories), the children justified their emotion attribution in terms of the child's non-involvement in any wrongdoing (e.g., "Because I was not breaking the castle."; "I did not do anything."; "Because [the friend] broke it by herself."); in Iceland (No Transgression Blame: 15%, No Transgression No Blame: 30%) and Japan (No Transgression Blame: 19%, No Transgression No Blame: 33%).

Wilcoxon Signed-ranks tests were used to examine whether the frequency with which children mentioned the child's wrongdoing differed between the two Transgression stories and the two No Transgression stories. Indeed, children mentioned the child's wrongdoing more often in the Transgression stories (Iceland: Mdn = 1; Japan: Mdn = 1) than in the No Transgression stories (Iceland: Mdn = 0; Japan: Mdn = 0) and this difference was significant both in Iceland (Z = 3.67, $p < .001$, $r = .41$) and in Japan (Z = 5.41, $p < .001$, $r = .48$). Another set of Wilcoxon Sighed-ranks tests examining the frequency with which children mentioned the child's non-involvement in wrongdoing in the Transgression as compared to the No Transgression stories. These tests showed that children mentioned the child's non-involvement more often in the No Transgression stories (Iceland: Mdn = 0; Japan: Mdn = 0[10]) than in the Transgression stories (Iceland: Mdn = 0; Japan: Mdn = 0) both in Iceland (Z = 3.12, $p = .002$, $r = .34$) and Japan (Z = 4.82, $p < .001$, $r = .43$).

These results show that children in Iceland and Japan justified their expectations about the teacher's feelings based on whether or not the protagonist had committed a moral transgression. More specifically, children made more references to wrongdoing when the protagonist had committed a moral transgression but they made more references to a lack of wrongdoing when the protagonist had not committed a moral transgression. By

---

[10] Medians are the same in both countries even though there are significant differences because there were many participants whose frequency with which they mentioned wrongdoing did not differ between the Transgression stories and the No Transgression stories. Yet, because many more participants mentioned Wrongdoing in the Transgression stories more frequently than in the No Transgression stories, the result for Wilcoxon Signed-ranks test was significant.

implication, children reflected not just on the protagonist's guilt but also on the protagonist's innocence, depending on the type of story. This pattern of justifications confirms and throws further light on the main effect of transgression described in Chapter 4, which indicated that children's attribution pattern for the teacher's feelings differed for the Transgression as compared to the No Transgression stories in both countries. Furthermore, the slightly higher effect sizes for Japanese children than for Icelandic children in the above Wilcoxon Sighed-ranks tests suggest that Japanese children differentiated between the Transgression and the No Transgression stories more strongly than Icelandic children did when they explained the teacher's feelings. It is possible that Japanese children's greater emphasis on the teacher's sensitivity to wrongdoing – or potential wrongdoing – by the protagonist explains why Japanese children tended to attribute more negative feelings to the teacher than did Icelandic children described in Chapter 4.

A small proportion of children (2-7%) in both countries referred to the teacher's criticism (e.g., "Because she is blaming me." or "She thinks that I did it.") in all the stories except for in the No Transgression Blame story (Iceland: 24%, Japan: 13%). The fact that children were more likely to explain their expected teacher's feeling with her criticism in the No Transgression Blame story among other three stories confirm the Transgression x Blame interaction described in Chapter 4, which indicated that children's attribution pattern for the teacher's feeling differed between the Blame and No Blame stories in the No Transgression stories (the protagonist did not do anything wrong), but not in the Transgression stories (the protagonist did something wrong).

Surprisingly, in the No Transgression stories in which the protagonist was blamed by the teacher mistakenly although s/he did not do anything wrong, 17% of Icelandic children (only 5% of Japanese children) justified their expected teacher's feeling with the protagonist's wrongdoing. In other words, when children were asked why they attributed a certain feeling to the teacher in the situation in which the innocent protagonist was blamed by the teacher mistakenly, some children explained that the teacher would feel as such because the protagonist did something wrong (e.g., Because it was his fault.). Given that this pattern was not observed for this group in the justifications for their expectations in the *Self* and *Action* measures, children who reasoned their expectations about the teacher's feeling with the protagonist's wrongdoing in the No Transgression Blame story might have been referring to the teacher's mistaken belief on the protagonist's wrongdoing.

Interestingly, although all the hypothetical stories contained a consistently unpleasant factor, namely the crying friend, only a very small percentage of children in either country justified their emotion attribution to the teacher

(this tendency was also seen for the *Justification Self*, *Justification Action*, and *Interaction* measures) by reference to the crying friend or his/her unhappy situations.

5.4 Children's Justification for expected Protagonist's feeling (*Justification Self*)

5.4.1 Reasoning the protagonist's feelings with the child's wrongdoing vs. the absence of wrongdoing

Appendix 4.1 shows the categories to which justifications were allocated. Table 8 shows how children in each age group justified their emotion attributions to the child in each of the four stories. In the Transgression stories, children in both countries often explained the child's feelings in terms of his/her previous action, notably her wrongdoing (e.g., "Because she took the block."; "Because I feel bad when I do something that I am not supposed to do.") (Iceland: Transgression Blame: 27%, Transgression No Blame: 20%; Japan: Transgression Blame: 8%, Transgression No Blame: 11%). By contrast, in the No Transgression stories children in both countries often explained the child's feelings in terms of his/her absence of wrongdoing (e.g., "Because I did not do anything."; "Because [the friend] broke it be himself.") (Iceland: No Transgression Blame: 26%, No Transgression No Blame: 34%; Japan: No Transgression Blame: 19%, No Transgression No Blame: 19%). A slightly higher proportion of children in Iceland seemed to justify the child's feelings in terms of his/her previous action than in Japan.

As examined for the justification patterns for the teacher's feelings, Wilcoxon Signed-ranks tests examined whether the frequency with which children justified their expectations about the child's feelings with respect to his/her wrongdoing/no wrongdoing differed between the Transgression and the No Transgression stories. The results indicated that children mentioned the child's wrongdoing more often in the Transgression stories (Iceland: Mdn = 1; Japan: Mdn = 1) than in the No Transgression stories (Iceland: Mdn = 0; Japan: Mdn = 0) in Iceland (Z = 3.42, p = .001, r = .38) and in Japan (Z = 3.46, p = .001, r = .31). Also, children mentioned the child's non involvement in wrongdoing more often in the No Transgression stories (Iceland: Mdn = 0; Japan: Mdn = 0) than in the Transgression stories (Iceland: Mdn = 0; Japan: Mdn = 0) in Iceland (Z = 3.62, p < .001, r = .40) and Japan (Z = 4.18, p < .001, r = .37).

Here again, children's pattern of justifications for their expectations about the child's feelings reinforces and throws more light on the main effect of Transgression for the *Self* measure, showing that children's expectations on their own feelings was different between the Transgression and the No

Transgression stories in both countries. As noted with respect to children's attributions to the teacher, children were prone to refer not just the protagonist's wrongdoing but also to his or her lack of wrongdoing when explaining how they would feel if they were the protagonist.

5.4.2 Japanese children's sensitivity to the teacher's criticism in their justifications for the protagonist's feelings

In contrast to the results from children's responses to the *Justification Teacher*, the slightly higher effect sizes for Icelandic children than for Japanese children in the above Wilcoxon Sighed-ranks tests suggest that Icelandic children differentiated between the Transgression and the No Transgression stories more strongly than Japanese children did when they explained the protagonist's feelings. In other words, the impact of the protagonist's wrongdoing or the lack of wrongdoing in children's justifications for their expected feelings appeared much clearer among Icelandic children than in Japanese children. It is possible that more Japanese children imagined that their feelings in the given stories would be affected by other factors (e.g., teacher's criticism) than the protagonist's wrongdoing/lack of wrongdoing. In fact, this speculation seems to be true when the proportions of other explanations for children's expected feelings are compared between two countries.

As seen in Table 8, Japanese children's responses to the *Justification Self* question were more varied than Icelandic children's. In respect to children's justification that referred to the teacher's criticism, a higher proportion of Japanese children than Icelandic children explained the child's feelings in terms of the teacher's criticism overall (Iceland: Transgression Blame: 15%, Transgression No Blame: 10%, No Transgression Blame: 2%, No Transgression No Blame: 0%; Japan: Transgression Blame: 17%, Transgression No Blame: 19%, No Transgression Blame: 17%, No Transgression No Blame: 8%). These results suggest that Japanese children showed more sensitivity to the teacher's criticism (whether it was really expressed in the Blame or not in the No Blame stories) than Icelandic children did when they explained why they would feel as such if they were the protagonist.

Furthermore, how children described the teacher's criticism differed between the Icelandic and the Japanese children. Most Icelandic children who mentioned the teacher's criticism answered quite simply, for example: "Because the teacher is blaming me," or "Because she was scolding at me." However, Japanese children's responses were more elaborate. They contained more details of the teacher's negative reactions (e.g., anger, scolding) as well as their own fear of the teacher's negative response such as "If [I] took the

bike, I would be scolded by the teacher, and cry," "Because [the teacher] gets angry, [I am] scared." "Because [I am] scared when the teacher gets angry," or "The teacher is about to scold me when she is coming over here when I did not do anything." Moreover, a small proportion of children in Japan (8%) justified the protagonist's feelings by reference to the teacher's criticism even when there was no blame expressed explicitly, as in the No Transgression No Blame story. By contrast, no Icelandic children justified the child's feeling by reference to the teacher's criticism when there was no blame expressed in the No Transgression story No Blame story.

The greater sensitivity to the child's transgression and the teacher's criticism observed among younger Japanese as compared to younger Icelandic children in the *Self* measure described in Chapter 4 might be explained by Japanese children's greater sensitivity and fear toward both the teacher's criticism whether or not the criticism was expressed (vs. not expressed) in the Transgression stories or valid (vs. false blame) when they explained their expected feelings in the Blame stories.

5.5 Children's responses to the *Justification Action* and *Interaction* measures

5.5.1 Children's justification for their expected action choice (*Justification Action*)

Appendix 4.1 shows the categories to which justifications were allocated. As seen in Table 9, there were quite varied justifications following the *Action* measure question. Although small in number, a similar proportion of children in each country justified the child's action choice in terms of his/her previous action. They justified their expectations of the action choice in terms of the child's wrongdoing in the Transgression stories (e.g., "Because I was bad.") or absence of wrongdoing in the No Transgression stories (e.g., "Did not do anything wrong."). A slightly higher proportion of Japanese children justified the child's action choice in terms of teacher's reaction across all the story types. Furthermore, a relatively higher proportion of Japanese children than Icelandic children justified their expectations about the child's action choice in terms of his/her concern for the friend (e.g., "Although [the child] wants to take the favorite ball, let [the friend] use it first.") in all the stories except for the No Transgression Blame story. However, because of the low response rate and the highly varied justification types in both Iceland and Japan, it would be challenging to use these responses to examine the main effect of transgression for the *Action* measure.

5.5.2   Children's responses to the interaction measure (*Interaction*)

In this study, children were asked what they would do or say to the teacher (*Interaction* measure) at the end of each story (right after they justified their expected action choices in the *Justification Action* measure.). Appendix 4.2 shows the categories to which children's responses were allocated. As seen in Table 10, the most common interaction with the teacher suggested by children in both countries was Apology in the Transgression stories (e.g., "Sorry."; "I would say sorry.")--Iceland: Transgression Blame: 12%, Transgression No Blame: 10%; Japan: Transgression Blame: 16%, Transgression No Blame: 13%-- and Clarification in the No Transgression stories (e.g., "She broke it by herself."; "I did not do anything."; "That was not me. That was she.")--Iceland: No Transgression Blame: 24%, No Transgression No Blame: 17%; Japan: No Transgression Blame: 27%, No Transgression No Blame: 19%).

Wilcoxon Signed-ranks tests examined whether the frequency with which children suggested apology for the child's interaction with the teacher differed between the Transgression and the No transgression stories. The results indicated that children suggested that the protagonist would apologize more often in the Transgression stories (Iceland: *Mdn* = 0; Japan: *Mdn* = 0) than in the No Transgression stories (Iceland: *Mdn* = 0; Japan: *Mdn* = 0) in Iceland (*Z* = 2.25, *p* = .024, *r* = .25) and in Japan (*Z* = 2.70, *p* = .007, *r* = .24). Also, children suggested that the protagonist would clarify more often in the No Transgression stories (Iceland: *Mdn* = 0; Japan: *Mdn* = 0) than in the Transgression stories (Iceland: *Mdn* = 0; Japan: *Mdn* = 0) in Iceland (*Z* = 2.39, *p* = .017, *r* = .26) and Japan (*Z* = 3.95, *p* < .001, *r* = .35). As noted with respect to children's attributions to the teacher and the protagonist, children differentiated their expected interaction with the teacher between the Transgression and the No Transgression stories by suggesting that they would apologize more often in the Transgression stories than in the No Transgression stories while they would clarify their innocence more often in the No Transgression stories than in the Transgression stories if they were the protagonist. Apologizing implies that the protagonist recognized his/her wrongdoing and thus takes a more passive action choice such as stopping what s/he was doing completely (e.g., stop riding the bicycle.). On the other hand, clarification implies that the protagonist recognizes the lack of his/her wrongdoing and thus takes a less passive action choices such as continuing what one was doing or stop for a while to clarify his/her innocence and then continue what one was doing. Children's responses to the *Interaction* measure reflect children reasoning the protagonist's subsequent action choice and interaction based on the protagonist's wrongdoing and the lack of his/her wrongdoing. In other words, children's response to the Interaction measure

confirm the main effect of Transgression observed in the *Action* measure described in Chapter 4, which suggested that children tend to expect a more passive action choice in the Transgression stories than in the No Transgression stories.

5.5.3   Japanese children's stronger tendency to clarify the teacher's false criticism

Similar effect sizes of Icelandic and Japanese children in the Wilcoxon Signed-rank tests examining whether the frequency with which children suggested apology for the child's interaction with the teacher differed between the Transgression and the No Transgression stories suggest that the tendency for apologizing more in the Transgression stories than in the No Transgression stories were similar between Iceland and Japan. However, the larger effect size in Japan than in Iceland from the results from the Wilcoxon Signed-rank tests examining whether the frequency with which children suggested clarification for the child's interaction with the teacher differed between the Transgression and the No Transgression stories suggests that the tendency for clarifying the protagonist's innocence more often in the No Transgression stories than in the Transgression stories was stronger among Japanese children than Icelandic children. This sheds additional insight on Japanese children's greater sensitivity to the teacher's criticism (whether it was expressed or just imagined) when they explained their expected feelings. It is plausible that Japanese children are more eager to clarify their innocence in the No Transgression stories than in the Transgression stories because of their higher sensitivity to the teacher's criticism. Correcting the teacher's mistaken criticism (when the false criticism was expressed by the teacher) or avoiding potential mistaken criticism (when the criticism was not expressed by the teacher) could result in easing Japanese children's negative emotional reactions caused by the teacher's false criticism, either expressed by the teacher or just imagined by them.

Some children proposed to clarify the situation to the teacher in the No Transgression No Blame story (Iceland: 17%; Japan: 19%). This suggests that some children in both countries were concerned about the teacher blaming the child for mistakenly when s/he had not done anything and the teacher did not express any direct blame.

5.6   What did children suggest to avoid unwarranted blame? (*Advice*)

The No Transgression No Blame story, one of the four hypothetical stories, described the protagonist being blamed by the teacher for something that s/he did not do. At the end of the interview, children were asked, "When adults and

teachers make a mistake by blaming a child when s/he did not do anything bad, what would you like them to do? (*Advice*)" Appendix 4.3 shows the categories to which children's responses were allocated. As shown in Table 11, about half of the children responded to this question. Among the Icelandic children, about one third (38%) of the younger children suggested that teachers and adults should have a positive attitude such as being good or being kind. Among the Japanese children, a smaller proportion of younger children (14%) mentioned a positive attitude, and about 14 percent of children suggested that teachers and adults should pay more attention (e.g., "Write it down on a memo paper."). In the older age group, about one third of the children in both countries suggested that teachers and adults pay more attention (35% in Iceland, 33% in Japan) (e.g., "Camera to videotape and show to the teachers."; "Listen to what children say."; "Watch. Watch carefully. Just like preschool teachers. Also, reconcile. Watch the kids who had fights."), and a smaller proportion of children suggested having a positive attitude (15% in Iceland, 6% in Japan). A small percentage of children in both age groups and in both countries suggested that adults and teachers should apologize for a mistake.

5.7 Summary

5.7.1 Children's justifications confirming main effects of Transgressions in the three measures

In both countries, older children were more likely than younger children to offer justifications for their responses to all three measures. The most frequent justification response for their emotion attributions involved reasoning about the child's previous action (i.e., involvement or non involvement in a transgression). Nonparametric tests confirmed that children's justification patterns for the teacher's feelings (*Teacher*) and the child's feelings (*Self*) differed between the Transgression stories and the No Transgression stories in both countries. Children in Iceland and Japan justified their responses to the *Teacher* and *Self* measures with the protagonist's wrongdoing more often in the Transgression stories than in the No Transgression stories. Moreover, children mentioned the child's lack of wrongdoing more often in the No Transgression stories than in the Transgression stories. As described in Chapter 4, children expected the teacher and themselves to feel more negative in the Transgression stories than in the No Transgression stories. Therefore, children's responses to the *Teacher* and *Self* measures and how children justified their responses to these two measures fit together. In other words, whether the child committed a moral transgression or not (Transgression vs.

No Transgression) was a key factor when children inferred the teacher's feelings as well as their own emotional reactions.

Children's responses to the *Justification Action* measure were too limited to provide additional information for the main effect of Transgression observed in the *Action* measure. However, the results from nonparametric tests on children's suggestion on what they would say or do to the teacher (*Interaction* measure) indicated that the quality of interactions suggested by children were different between the Transgression stories and the No Transgression stories, hinting that children's expected action choice would be more passive in the Transgression stories than in the No Transgression stories.

5.7.2 Children's Justifications for the *Teacher* measure confirming the interaction between Transgression and Blame

The proportion of children referring to the teacher's criticism when they explained the teacher's feeling differed more between the Blame and the No Blame stories in the No Transgression stories, but not in the Transgression stories. This result reinforces the Transgression x Blame interaction seen in the *Teacher* measure described in Chapter 4 suggesting that children imagined that the teacher would feel more negative in the Blame story than in the No Blame story only within the No Transgression stories, but not within the Transgression stories.

5.7.3 Some country differences from the MANOVAs partially confirmed by children's responses to the justifications and interaction measures

The results from children's responses to the *Justification Teacher*, *Justification Self*, *Justification Action* and *Interaction* questions shed more light on some country differences observed in the MANOVA analysis described in Chapter 4.

5.7.3.1 General tendency for Japanese children's more negative pattern in inferring the Teacher's feelings

As described in Chapter 4, the main effect of Country in the *Teacher* measure suggested that Japanese children tended to attribute a more negative feeling to the teacher than Icelandic children did. The results from the nonparametric tests suggesting that Japanese children expected the teacher to have a higher sensitivity to the protagonist's wrongdoing – or potential wrongdoing – than Icelandic children, seem to explain Japanese children's tendency to attribute a more negative feeling to the Teacher.

5.7.3.2 *Higher sensitivity toward the protagonist's transgression and the teacher's expressed blame among Japanese children in the younger age group in the Self measure*

Further analysis of children's responses in the *Justification Self* measure provided supplemental information to understand the greater sensitivity to the child's transgression and the teacher's blame observed among Japanese children in the younger age group compared to Icelandic children in the same age group in the *Self* measure described in Chapter 4. The analysis of the results from the nonparametric tests suggested that Icelandic children showed slightly more sensitivity to the protagonist's wrongdoing or the lack of wrongdoing than Japanese children did when they justified why they would feel as such if they were the protagonist. In addition, higher proportion of Japanese children explained their expected feelings with the teacher's criticism (whether it was expressed by the teacher or just imagined by children). Furthermore, when children justified their expected feelings with the teacher's criticism, Japanese children's explanations were more elaborative as well as implying their fear toward the teacher's negative reaction more strongly compared to Icelandic children's.

In addition, the results from nonparametric tests on children's responses to *Interaction* measure suggested that children were more likely to clarify their innocence to the teacher in the No Transgression stories than in the Transgression stories, and this trend was slightly stronger among Japanese children than among Icelandic children. This difference can be explained by Japanese children's higher sensitivity to the teacher's criticism. Japanese children may have been more eager to clarify their innocence because of their emotional vulnerability to the teacher's criticism. It is also possible that they were more eager to clarify their innocence to the teacher in order to ease their negative feelings caused by the teacher's real or just imagined criticism. It is plausible that while Icelandic children imagined that their feelings would be affected more strongly by the protagonist's wrongdoing or lack of wrongdoing than Japanese children did, Japanese children imagined that their feelings would be affected more strongly by the teacher's criticism in all forms--really expressed by the teacher, just imagined by children, valid, or invalid (false blame). Therefore, it is understandable that Japanese children in the younger age group tended to imagine that they would feel more negative than Icelandic children in the same age group did in the three stories that hinted them the teacher's criticism--Transgression Blame and Transgression No Blame stories hinting the teacher's criticism because of the protagonist's wrongdoing, and No Transgression Blame story hinting the teacher's criticism because it was expressed even though it was a mistaken criticism.

5.7.4 Better attitude and better attention as a means to avoid false blame

Only about half the children in each country responded when asked how teachers and adults might avoid blaming children by mistakenly. The two most common responses were having a better attitude and paying more attention. Better attitude was more common among children in the younger age group, and better attention was more common among children in the older age group. In the younger age group, a higher percentage of Japanese children than Icelandic children suggested paying more attention.

PART 4: DISCUSSION

In the last chapter, Chapter 6, the results are discussed in relation to young children's understanding of another's mind, their sensitivity to moral transgressions and to a teacher's criticism. Group differences concerning age groups and countries are discussed in detail. Limitations and implications of the study for research in areas such as theory of mind and moral development are discussed. Finally, the educational implications of the study are discussed.

6 Discussion

6.1 Introduction

The main purpose of this study was to understand how young children interpret another's mind in the context of social interactions at preschool. Based on Overton's metaframework, this study was designed to explore children's social interaction in relation to individual psychological, biological (not directly examined, but using the existing research from neurological studies), sociocultural, and situational factors. The study used the social information processing approach (Crick & Dodge, 1994; Lemerise & Arsenio, 2000), which is designed to explore individual mental processing in hypothetical social situations.

Preschool children from two age groups in Iceland and Japan were interviewed individually and were asked to take the first-person perspective (imagining the protagonist's perspective as if the protagonist were the self) in four hypothetical stories involving three characters: the child protagonist, a peer, and a teacher. The four situations differed in terms of the presence or absence of a moral transgression by the child protagonist (Transgression vs. No Transgression) and the presence or absence of expressed blame by the teacher (Blame vs. No Blame). Children were presented with multiple choice questions (see Appendix 3) on how they expected the teacher to feel (*Teacher* measure), their own emotional response (*Self* measure), and their own action choice (*Action* measure) as well as open-questions on why they expected a certain feeling/action choice (*Justification Teacher*, *Justification Self*, *Justification Action*). In addition, they were presented with an open-question on how they would interact with the teacher in a given social situation (*Interaction*).

Perhaps the most important finding of this study was the complexity with which the three aspects (*Teacher*, *Self*, *Action*) of children's social information processing were impacted by the child's moral transgression, the teacher's expressed blame (situational factors), children's cultural background (sociocultural factor) and age group.

It was hypothesized that children's responses to three measures, *Teacher* (the feelings that children attributed to the teacher), *Self* (how children expected the protagonist would feel if they were the protagonist), and *Action* (how children expected the protagonist to act) would indicate their sensitivity to the protagonist's moral transgression as well as the teacher's expressed criticism.

The findings indicated that Icelandic and Japanese preschool children from both age groups were sensitive to the presence versus absence of a moral transgression with respect to all three aspects. Their pattern of attribution was generally more negative/passive (*Teacher*: attributing more anger to the teacher, *Self*: attributing more sadness to the protagonist, *Action*: expecting a more passive action choice of the protagonist) for the moral transgression stories than for the no moral transgression stories. However, there was one exception to this very stable pattern. Younger Japanese children were more sensitive to the transgression than Icelandic children when stating their expectations about the child's feelings (*Self*).

Children's sensitivity to the teacher's expressed blame displayed a more complex pattern of variation. In their expectations about the teacher's feelings (*Teacher*), children's sensitivity to the teacher's expressed blame depended on whether there had or had not been a transgression. When the child had not committed a moral transgression, children expected the teacher to feel more negative if she had blamed the child. When the protagonist had committed a moral transgression, the presence versus absence of expressed blame had less impact on children's expectations. Furthermore, children's expectations about the child's feeling and his or his/her subsequent action choice did not differ depending on whether the teacher expressed blame or not. Thus, while the three studied aspects of children's social information processing appeared to be influenced by the protagonist's moral transgression (irrespective of the teacher's expressed criticism), only one of the three aspects of children's social information processing appeared to be influenced by the teacher's expressed criticism (this pattern was only seen when the protagonist did not do anything wrong).

In terms of overall group differences, children's cultural background and age group seem to impact only one of the three studied measures--the older group expected the teacher to feel more negative than the younger group. Also, the Japanese children expected the teacher to feel more negative than the Icelandic children. These overall group differences were not observed in how children expected their own feeling and their subsequent action choice.

Other hypotheses in the study focused on group differences for the three main measures (*Teacher*, *Self*, *Action*). In terms of age group differences, children in the older age group (age range from 5;1 to 6;5) were expected to show more sensitivity to the child's moral transgression and the teacher's expressed blame than children in the younger age group (age range from 3;10 to 5). In contrast to this hypothesis, the results of this study indicate that children in the two age groups did not differ in their sensitivity to the child's moral transgression or the teacher's criticism. Stated differently, even the

younger children were remarkably sensitive to the presence versus absence of moral transgression in the hypothetical situation. However, children in the older age group were more likely than the younger age group to produce justifications for their expectations regarding the teacher's feelings (*Justification Teacher*), the child's feelings (*Justification Self*), and his/her subsequent action choice (*Justification Action*).

Lastly, children in Japan were expected to show more sensitivity to the teacher's criticism than children in Iceland. This hypothesis was largely supported in terms of children's expectations about the child's feeling (*Self*), but not in other two aspects of their social information processing (*Teacher*, *Action*). In the younger group, Japanese children expected the child to feel more negative than did Icelandic children in stories that included criticism by the teacher. Although this trend was not observed among children in the older group, children's explanations of their expectations with respect to the child's feelings suggested greater internalization of the teacher's criticism among the Japanese children, whether it was expressed or just imagined by the children.

Finally, this study involved young children as active participants by asking them for their opinions about how teachers could avoid blaming children mistakenly. Children in both countries recommended teachers to be kind and watchful.

This discussion section consists of four parts. First, the main findings for children's attribution of feelings to the teacher (*Teacher*) are discussed in relationship to existing studies on children's theory of mind. Second, the results for all three aspects (*Teacher*, *Self*, *Action*) of children's social information processing are discussed using the Overton's metaframework (2006). In other words, the results for children's attribution of feelings to the teacher (*Teacher*) are discussed twice--discussed first in comparison to previous research on children's theory of mind ability per se, and then discussed along with two other aspects (*Self*, *Action*) of children's social information processing in a larger framework that puts action in the context of social interaction at the center of the inquiry. Third, children's responses to how adults and teachers could avoid blaming children mistakenly are discussed. Finally, the strengths and limitations of the study as well as implications of this study for education and further research are discussed.

6.2   Children's understanding of another's mind

What kind of children's theory-of-mind ability emerged from the results? There is a substantial amount of research documenting young children's ability to understand another's mind (e.g., Dondi et al., 1999; Dunn & Munn, 1985; Masangkay et al., 1974). Also, previous findings have suggested that children

progressively develop their understanding of another person's perspective (Selman, 1980), belief (Perner & Wimmer, 1985; Wellman, et al., 2001; Wimmer & Perner, 1983) as well as emotion (Fabes et al., 1991; Harris, 1989; Pons et al., 2004; Selman, 1980; Wellman et al., 2001). Furthermore, Wellman (2014) recently suggested that milestones in children's theory-of-mind development may happen in a different sequence for children from different sociocultural-linguistic experiences.

In this section, the results of the study are reflected on the previous findings about children's theory-of-mind ability.

6.2.1 Children's attribution of emotion to the teacher

Because children in this study were asked to imagine the teacher's feelings as well as the protagonist's feelings, this study's results on children's attribution of the teacher's feelings as well as the protagonist's feelings reflect children's understanding of other's emotion. However, because this study asked children to imagine themselves as the protagonist (the first-person perspective), the results from children's attribution of the teacher's feelings are discussed in relation to children's understanding of other's emotion.

In this study, children expected the teacher to have more negative feelings in the transgression situations, which were all moral transgressions, than in the no transgression situations. Indeed, children expected the teacher to have more negative feelings in the transgression situations whether the teacher blamed the child explicitly or not. This is a representative example of children's understanding that a certain event can cause a negative emotion in others (similar to the higher levels of perspective taking described by Selman, 1980). Furthermore, this result provides additional evidence of young children's ability to identify moral transgressions as wrong independent of adult authority (e.g., Killen & Smetana, 1999; Smetana, 1981; Vaish et al., 2011). It has been reported that children understand moral transgressions to be bad because of their impact on another's welfare (Smetana, 1985). The children in this study may have expected the teacher, who was neither the victim nor the victimizer, to have negative sentiments toward moral transgressions.

Also, children from both cultural backgrounds expected the teacher to have more negative feelings in the moral transgression stories than in the no moral transgression stories. This supports the existing view that moral transgressions (e.g., concerning other's rights and welfare) are considered wrong universally (Hollos et al., 1986; Killen et al., 2002; Nisan, 1987; Smetana, 1995; Song et al., 1987; Turiel & Wainryb, 1998; Yau & Smetana, 2003). Furthermore, in the no moral transgression stories, children expected the teacher to feel more negative if she had expressed blame to the protagonist. This is an intriguing

example of children's realization that other people can have different beliefs (the child did something wrong) from their own (the child did not do anything wrong) given situational factors such as limited information (similar to the second level of perspective taking described by Selman, 1980 or children's understanding in differences of knowledge-access by Wellman, 2014) [11]. Moreover, this can also be seen as an example of children's understanding that the teacher's false belief shapes her emotional reaction (similar to the second cluster of children's emotion understanding by Pons et al., 2004).

These findings are consistent with key components of children's perspective-taking (Selman, 1980), theory-of-mind ability (Wellman, 2014), and emotion understanding (Pons et al., 2004), and thus suggest preschool children's good understanding in another's emotion in relation to his/her perspective (e.g., how teacher would see/judge a certain situation), knowledge (e.g., what information the teacher has about the situation), and belief (e.g., what is the teacher's belief in the situation) in their common social interactions. Using hypothetical social situations that are familiar to children might elicit more components of theory-of-mind ability.

6.2.2 Developmental change in children's understanding of other's mind

Previous findings have suggested that children improve with age in understanding another's mind (e.g., Fabes et al., 1991; Harris, 1989; Pons et al., 2004; Selman, 1980; Wellman et al., 2001). The results of this study suggest a similar developmental change in children's attribution of feelings to the teacher (*Teacher*). Children in the older age group expected the teacher to have more negative feelings than did children in the younger age group. There are three possible explanations for this finding. First, older children might have been more sensitive to negative aspects of the stories (e.g., the crying friend, the protagonist committing a moral transgression). Having detected these negative aspects, older children may then have imagined that the teacher would also notice them and feel similarly negative. This explanation is in line with simulation theory (e.g., Goldman, 1992; Gordon, 1992). Second, older

---

[11] Although whether or not the teacher actually witnessed the protagonist's prior interaction with his/her friend was not made clear in the stories (one can argue that the teacher never witnessed the protagonist's prior interaction with the friend in all the four stories), children appeared to assume the teacher knowing about the protagonist's wrongdoing in the moral transgression stories while they were aware of the teacher's lack of knowledge about the protagonist's prior interaction with the friend in the no transgression stories.

children may have a more pessimistic view of the teacher's feelings than younger children based on their experiences at preschool. Howes and Smith (1995) reported that teacher-children interactions are more positive for younger children (1-2 years of age) than older children (3-5 years of age). Third, because children in the older age group are better at detecting a false-belief on a distinctive container based on their experiences (Wellman, 2014), children in the older age group might have considered that the proximity of the crying friend to the protagonist could signal the teacher to suspect the protagonist's moral transgression whether or not it was true. These explanations are in line with the theory-theory (e.g., Gopnik & Wellman, 1992, 1994). Because simulation as well as accumulated knowledge are likely play an important role in understanding other minds (Epley, et. al., 2004), both simulation theory and theory-theory explanations may be valid.

Children in the older age group attributing more negative feelings to the teacher than did children in the younger age group can be interpreted as both a positive and a negative development. In the moral transgression stories, in which the child did something wrong, and the blame stories, in which the teacher expressed her blame to the child, a more negative attribution pattern with respect to the teacher's feelings could be perceived as an indication of a more accurate understanding of the other's mind. However, negative attributions to the teacher in the no moral transgression no blame story cannot be so easily seen as a sign of a more accurate understanding of the other's mind by older children. A similar finding has been reported by Cutting and Dunn (2002). They found that children with better theory-of-mind and emotion understanding ability at four years of age anticipated a more negative response (anger) from the teacher even when the teacher did not express any criticism. The findings of the present study provide additional evidence that children's increased theory-of-mind ability is double-edged--it may help children to understand another's mind more accurately but it might also steer children to understand another's mind in an unnecessarily negative fashion.

When the results of this study are compared to those from Selman's (1980) levels of perspective taking, children in this study showed more advanced perspective taking ability relative to their age. For example, whereas Selman's study reported that 80% of four-year-olds were unable to take another's perspective when reacting to a hypothetical moral dilemma, children in this study attributed more negative feelings to the teacher in the moral transgression stories than in the no moral transgression implying that they were able to take the teacher's perspective based on the social circumstances (e.g., the teacher seeing the child's moral transgression). This kind of perspective-taking is similar to Selman's second level of perspective-taking

(Differentiated and Subjective Perspective Taking), which was seen in most of the six-year-old children (Selman, 1980). This study's results imply even more advanced perspective-taking ability of the children. Children's attribution of a more negative teacher's feeling in the transgression situations than in the no transgression situations irrespective of the teacher's expressed blame suggests that children were aware of how the teacher would see the protagonist's action, which is similar to Selman's third level of perspective-taking (Self-reflective/Second-person and Reciprocal Perspective Taking), which was seen in 60% of the ten-year-old children. These differences might be due to differences in the social situation presented in the two studies. Selman's study (1980) used a moral story in which a cat was caught in a tree. The stories in the present study--involving a child's moral transgression and/or a teacher's expressed blame--might have been more familiar to preschool children in both countries.

6.2.3   Cultural difference in children's understanding of other's mind

A country difference was found for children's attributions of feelings to the teacher. The Japanese children had more negative expectations of the teacher's feelings than the Icelandic children. This difference can be interpreted in several ways. Like the age change discussed above, Japanese children's negative attribution pattern can be perceived as a sign of a more accurate understanding of another's mind. This finding contrasts with the finding of Wellman et al. (2001) that children in Japan having the lowest success rate for the false-belief task among the seven countries that were studied (44-months children in Australia, Austria, Canada, Korea, Japan, United Kingdom, United States). One possible explanation for this difference is that the false-belief task challenges children's analytical ability, which is more emphasized in Western societies (Nisbett et al., 2001). On the other hand, because East Asians focus more on relationships between people (Nisbett et al., 2001), children in Japan may have paid more attention to social cues relating to the child's relationship with the teacher (e.g., the impact of the child's moral transgression on the teacher, the teacher's criticism of the child).

Neurological studies indicate that during theory-of-mind tasks, Asian people tend to show more activity in the brain region related to empathy or emotion understanding, which focuses on others, than Western individuals who tend to show more activity in the brain region related to emotion regulation, which focuses more on the self (De Greck et al., 2012; Kobayashi et al., 2006, 2007). These neurological differences, which are likely to have emerged due to differences in the socialization process (also linguistic differences that are rooted in a particular social system), might be related to cultural differences in

children's performance on the false-belief task and to children's attribution patterns for the teacher's feelings in this study.

6.3 Interpreting the results of children's social information processing using Overton's metaframework

As discussed above, the findings for children's attributions of feelings to the teacher are clear-cut. However, it is more challenging to interpret the results of children's attribution of feelings to the teacher along with other two aspects of children's social information processing--children's expectation about the child's feeling and his/her choice of action. The results are framed in Figure 7 using Overton's metaframework (2006), which integrates personal, biological and sociocultural approaches and puts action in the context of social interaction at the center of the inquiry.

In this section, the results of the study's three measures are examined comprehensively by putting action in the context of social interaction at the center of the inquiry.

6.3.1 Possible impact of the situational factors in children's social information processing

As shown in Figure 7, all three aspects of children's social information processing--children's attributions of feelings to the teacher, children's expectation about the child's feeling, and his/her choice of action--were impacted by the child's moral transgression. By contrast, only children's emotion attributions to the teacher in the no moral transgression stories were influenced by the teacher's blame/criticism.

The results of this study included a complex four-way interaction involving the moral transgression, the teacher's blame, age group and country in how children imagined the protagonist's feelings. Older children expected the protagonist to have more negative feelings in the moral transgression story than in the no moral transgression stories but this was not true for younger children. Complex group differences involving moral transgression and the teacher's blame will be discussed later
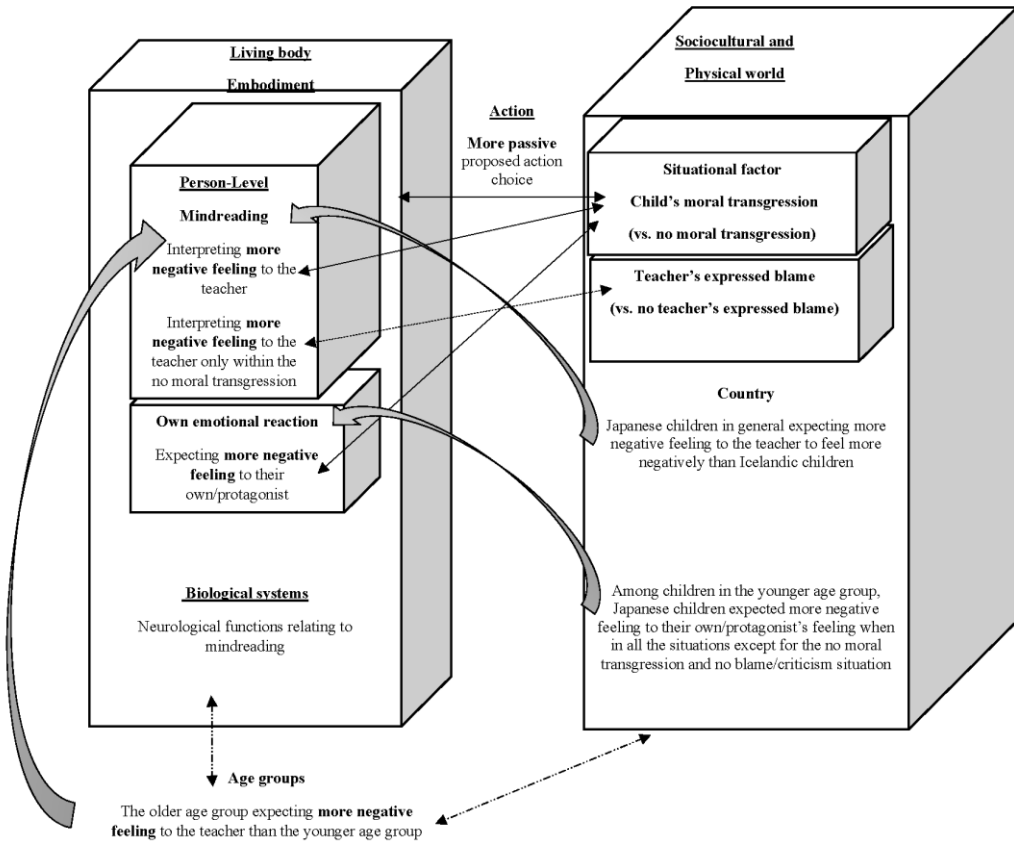
Figure 7. *The results for this study's three main measures placed in Overton's metaframework (2006)*

Children's conflicts over moral transgressions are frequent in preschool (Chen, et. al., 2001; Tobin et al., 2009). Teachers are often present (Tobin et al., 2009) or involved (e.g., Killen & Smetana, 1999; Smetana, 1984) in children's moral transgressions. Although there are numerous studies of young children's moral reasoning and emotion reactions to moral transgressions with their friend/s (e.g., Arsenio & Kramer, 1992; Keller et al., 2003; Nunner-Winkler & Sodian, 1988; Smetana, 1981), there has been very little research on how young children think and feel in their interaction with a teacher following a moral transgressions. The results of this study add new information about children's thoughts and feelings as well as their subsequent actions in social interaction with a teacher following a moral transgression. The findings show that the child's moral transgression had a strong impact on children's

expectations about the teacher's feelings, their own feelings, and their own subsequent choice of action. The teacher's criticism had a more modest impact.

6.3.1.1 Possible impact of the child's moral transgression in children's social information processing

As just noted, the child's moral transgression impacted all three aspects of children's social information processing--children's attributions of feelings to the teacher, children's expectation about the child's feeling, and his/her choice of action. However, the size of that impact varied across the three aspects. The moral transgression had the strongest impact on children's expectations about the teacher's feelings, and the least impact on their proposed choice of action.

Children in both Iceland and Japan expected the teacher and the child to feel more negative in the moral transgression stories than in the no moral transgression stories, implying that children perceived that the child's moral transgression could have a negative impact on the teacher's feelings as well as the child's feelings. How children justified their expectations about the teacher's and the protagonist's feelings is a good example of children's counterfactual thinking, which is considered to be a part of children's causal thinking. In the transgression stories, children used the child's transgression (e.g., "Because I did something wrong") as a main reason for the teacher's and the child's feelings. By contrast, they explained why they attributed a certain feeling to the teacher and the protagonist with the absence of the child's transgression (e.g., "Because I did not do anything wrong") in the no transgression stories. Counterfactual thinking happens in children's causal thinking when children "compare the actual with the non-actual (p.144)," (Harris, 2000). Previous research has shown that children as young as three and four use counterfactual thinking when they analyze the cause of an event (e.g., the child getting dirty fingers because s/he chose a black pen and did not choose a pencil, or getting full because s/he ate a big sandwich instead of a small sandwich) or how a certain event could have been avoided (e.g., mentioning what the protagonist should have done in order to avoid a current situation) (German, 1999; Harris, German & Mills, 1996; Kavanaugh & Harris, 2000). The findings of this study provide additional insights into children's counterfactual thinking in two ways: 1) providing new evidence that children use counterfactual reasoning not in a positive situation, and 2) providing further evidence that children use counterfactual thinking to explain emotions.

First, in this study, children engaged in counterfactual reasoning (by commenting on what the protagonist had not done) in a positive situation--one in which the protagonist did not do anything wrong. In previous research (German, 1999; Harris et al., 1996; Kavanaugh & Harris, 2000), children

mentioned what the protagonist should have done to avoid a negative situation (e.g., s/he should have chosen a pencil instead of a pen to avoid getting dirty fingers, or s/he should have chosen an apron to avoid getting dirty when s/he painted). However, children in this study mentioned the non-actual event (e.g., what the child did not do) in the no transgression stories whereas they mentioned the actual event (e.g., the protagonist did do in the transgression stories.

Why didn't children in the study engage in counterfactual thinking in transgression stories (e.g., the teacher feels so because I was not nice with my friend, or I did not share the bicycle)? It is plausible that moral transgressions are different from other mishaps (e.g., getting dirty in hands or shirt). While children reason about actual mishaps in terms of what one should have done to avoid the mishap (e.g., using a pencil, or using an apron), children might consider moral transgressions to be evidently wrong, and this negative evaluation is more readily available than counterfactual thoughts about how the moral transgression might not have been committed than causal thinking. By contrast, in the no moral transgression stories, which are more positive than in the transgression stories, children justify their expectations about the teacher and the child by referring to the non-actual (e.g., what did not happen).

There are two possible explanations for this pattern of results. First, because the no moral transgression situations do not have particularly happy features (e.g., getting a present), children might have paid attention to the friend's crying and thought about how to avoid being blamed for the friend's crying by emphasizing their lack of wrongdoing. The other explanation is that children reason about the other's more positive feelings in uneventful situations (e.g., not particularly negative or positive) in terms of the non-actual (e.g., not having done anything wrong). However, children's action choice suggests that they sometimes do engage in counterfactual thinking in moral transgression situations. Children suggested that the protagonist would be more likely to stop his/her moral transgression in the moral transgression stories than in the no moral transgression stories when they were asked to choose one of three action choices. Although children's justification responses for their choice of action were quite diverse, the fact that children suggested a more passive action choice (e.g., the protagonist stopping his/her previous activity such as riding a bicycle) in the moral transgression stories than in the no moral transgression stories indicates that children think about what they would behave differently (e.g., by stopping their misbehavior) from how they have just, in fact, behaved (e.g., pushing the friend) in the moral transgression

situations. It is plausible that children's counterfactual thinking about morality exhibits a different pattern from their event-focused causal thinking.

Second, the justifications observed in this study provide further evidence of children's counterfactual thinking. Previous studies (German, 1999; Harris et al., 1996; Kavanaugh & Harris, 2000) have shown that children use counterfactual thinking by comparing what has happened with what could have happened when explaining a mishap. This study shows that children also use this counterfactual thinking to explain emotions. They comment on how the absence of a potential transgression explains certain emotions as well as on how an actual transgressions explains certain emotions.

In short, the analysis of children's justification patterns in terms of children's counterfactual thinking shows that children's awareness of whether the child engaged in a moral transgression or not is central to their analysis of the teacher's emotions as well as their own emotions.

6.3.1.1.1 *The absence of a happy victimizer tendency in the moral transgression stories*

The children expected the child (themselves) to feel more negative in the moral transgression stories than in the no moral transgression stories. This finding contradicts previous studies reporting that young children expect the child (victimizer/transgressor) to feel happy when s/he commits a moral transgression (Arsenio & Kramer, 1992). Studies by Arsenio and Kramer (1992) showed that all four- and six-year-olds and most eight-year-olds expected the protagonist who committed a moral transgression to feel happy. Although children as well as adults tend to expect the victimizer/transgressor to feel happy when s/he fulfilled his/her goals (e.g., stealing money from his/her parents because s/he wants to buy a toy), older children and adults are more likely to attribute mixed feelings to the victimizer/transgressor than younger children (four-, five- and six-year-old children) (Arsenio & Kramer, 1992; Lagattuta, 2005). Why did the children in this study (transgressor's goals were stated clearly in all moral transgression stories in this study) who are younger than seven years fail to show the happy victimizer pattern? There are two possible reasons. The first reason is linked to the social context of the stories used in the study. The second reason is linked to the method adopted, notably children adopting a first person rather than a third person perspective.

First, this study presented children with hypothetical situations that involved the child, a friend, and a teacher, and it prompted children to imagine not only their emotional responses but also their subsequent action choice. Previous studies (Arsenio & Kramer, 1992) showing the happy victimizer pattern among young children used stories involving two child characters

representing the victimizer and the victim, and they mainly focus on exploring children's emotional responses as the victimizer. As Haidt (2001) has noted social and cultural factors can influence people's moral judgments and so it is plausible that having the teacher present in the hypothetical social situation prompted children to pay more attention to how others, especially the teacher, might perceive the protagonist's moral transgression as well as the possible negative consequences of that transgression for the social relationship between the teacher and the protagonist. In addition, because the stories used in this study contained both child-child interaction (e.g., the protagonist taking a biscuit from the friend) as well as teacher-child interaction (e.g., the teacher comes toward the protagonist), it is possible that children reflect more on the teacher's and friend's responses when they think about their own emotional response. In fact, the two most frequent explanations for children's expectations about the child's feelings were related to children's moral reasoning (e.g., "Because I broke the friend's castle.") as well as their concern for the teacher's criticism (e.g., "Because the teacher is angry."). In this study, only a few children explained the protagonist's feeling in terms of his/her fulfillment of personal goals (e.g., getting more biscuits), which was the most prominent explanation for the victimizer's feeling among young children in other studies (Arsenio & Kramer, 1992).

Children's explanation styles in this study are similar to the rule-oriented and future-oriented explanation styles observed among older children and adults in Lagattuta's study (2005). In her study, four- and five-year-old children voiced expectations about the transgressor's feelings in relation to the protagonist's goals (although her study used conventional transgressions rather than moral transgressions) whereas seven-year-old children and adults tended to give more rule-oriented (e.g., Because s/he is breaking a rule) and future-oriented (e.g., possible negative consequences for the self and for others) explanations for the transgressor's feelings.

This speculation that children show less happy-victimizer tendency in moral transgression situations with more social interactive features is supported by previous studies examining the impact of children's apology on how children expect the victimizer's emotional response (Smith et al., 2010; Smith & Harris, 2012). Children show no happy-victimizer tendency in the apology situation (the victimizer apologizing to the victim) whereas they expected the victimizer to feel happy in the no apology situations. In fact, in this study when children were asked to suggest what they would do or say to the teacher if they were the protagonist, they suggested that the protagonist would be more likely to apologize in the transgression stories than in the no transgression stories, whereas s/he would be more likely to clarify his/her innocence in the no

transgression stories than in the transgression stories. How children expect the victimizer's feeling in moral transgressions might differ depending on whether children are prompted to focus on the victimizer's feeling per se, and whether a social situation prompts children to think about possible social interactions between the victimizer and others (e.g., the victim, the teacher). Given that there would be a chain of social interactions following children's moral transgressions in everyday life, it is possible that when a child commits a moral transgression, both happy and not-so-happy feelings coexist in the child's mind. However, the more children focus on or are invited to reflect on others' responses or subsequent social interactions, the less of a happy victimizer tendency they might show.

The other reason for children not showing the happy victimizer pattern in this study may be due to the interview method adopted in this study. The interviewer asked children to take the first person perspective rather than the third person perspective in all four hypothetical stories. There is mixed evidence on the relationship between the interview style and children's happy victimizer tendency. Keller et al. (2003) reported that children's happy victimizer tendency is less evident when the interviewer asked children to take the first person perspective toward the end of the interview. By contrast, Arsenio and Kramer (1992) found no difference in children's happy victimizer tendency in two experiments with different interview styles. The first experiment presented children with hypothetical stories involving two children. The second experiment asked children to imagine themselves to be the victimizer and their actual friend as the victim. In both experiments, almost all the four- and six-year-old children imagined the protagonist to feel either good or happy. In addition, asking children in the present study to imagine the teacher's feelings before asking them what they would feel as the child may have caused children to think about the child's feelings in relation to the teacher's feelings.

6.3.1.1.2 *Possible impact of the child's moral transgression on children's proposed choice of action and interaction with the teacher*

As shown in Figure 7, children expected the protagonist to choose a more passive action in the moral transgression situations than in the no moral transgression situations. However, the moral transgression appeared to have a smaller impact on children's expectations of the protagonist's action choice than on their expectations of the protagonist's feelings. Previous research on young children's social information processing (Shultz et al., 2010; Weigel, 2008) has produced mixed findings on the link between young children's behaviors and their social information processing. It is not known whether

children's expectations about the protagonist's choice of action reflects what they would do in a real social situation. A study by Schulz et al. (2010) found a link between children's anti-social behaviors and their social information-processing pattern whereas a study by Weigel (2008) did not find such a link. Weigel (2008) reported that children who were rated as physically aggressive by teachers tend to judge that physical aggression is not a good way to solve a problem. The moral transgression may have had the smallest impact on children's expectations about the protagonist's choice of action because of the gap between children's moral reasoning and their behaviors. In other words, children's moral reasoning may not be the only factor influencing children's subsequent choice of action in actual moral transgression situations. Children's consideration of other situational factors (e.g., their relationship with the teacher, or the victim), children's mood, and personality might also have an impact.

The majority of children did not respond to the open-ended question about what they would do or say to the teacher if they were the protagonist. However, children suggested to apologize more often in the transgression stories than in the no transgression stories. There is evidence that children attempt to reconcile with peers after conflicts (Fujisawa et al., 2001). Thus, children's proposed choice of action and interaction with the teacher in the moral transgression situations can be interpreted as having two of the components of embodied action proposed by Overton (2006). Choosing a more passive action choice in the moral transgression situation than in the no moral transgression situation can be perceived as an action that is constitutive of their individual psychological system and processing (e.g., moral reasoning, emotional response). Also, children's proposal that they would apologize to the victim (Fujisawa et al., 2001) or the teacher can be perceived as an instrumental action, suggesting that children want to maintain their social relationships with others.

6.3.2   Children's sensitivity to the teacher's criticism

In this section, how all three aspects of children's social information processing--children's attributions of feelings to the teacher, children's expectation about the child's feeling, and his/her choice of action--were impacted by the teacher's criticism is discussed. Unlike the protagonist's moral transgression, the teacher's expressed blame (explicit blame) in the hypothetical situations did not impact children's choice of action. However, children did show some sensitivity to teacher's blame. First, in the no moral transgression situations, children were sensitive to the teacher's explicit blame of the protagonist in their expectations about the teacher's feelings. Second,

the results from children's justifications on their expected self/protagonist's feelings indicated that children were sensitive to the teacher's blame in anticipating the teacher's negative emotional reaction even when the teacher did not express any criticism.

6.3.2.1 Children's sensitivity to the teacher's explicit blame

As shown in Figure 7, in contrast to the protagonist's moral transgression, the teacher's explicit blame influenced only one of the three aspects of children's social information processing studied. Children were sensitive to the teacher's explicit blame with respect to their expectations about the teacher's feelings only for the no moral transgression situations. Children's expectations about the teacher's feelings were similar whether or not the teacher expressed her blame toward the protagonist in the moral transgression stories. In the moral transgression situations, children anticipated that the teacher would feel just as negative whether she did or did not express her blame. This supports the view that young children are able to judge moral transgressions as wrong independent of adult authority (e.g., Nucci & Turiel, 1978; Smetana, 1981; Turiel, 1978). However, caution should be exercised because the effect size for the interaction between the child's moral transgression and the teacher's expressed blame was quite small.

6.3.2.2 Children's anticipation of the teacher's criticism in the moral transgression situations

Although there is limited research on young children's sensitivity to a teacher's criticism of moral transgressions, previous studies have shown that children are sensitive to adults' criticism in other social situations (Academic/educational tasks: Adalbjarnardóttir & Selman, 1989; Cutting & Dunn, 2002; Success and failure in playing with toys: Stipek et al., 1992). Studies by Stipek et al. (1992) suggest that children start to anticipate adults' reactions (e.g., anticipate positive reaction to their successes, avoid negative reactions in failure) starting around two years of age. Therefore, children's anticipation of negative reactions in the moral transgression situations, whether or not there was any explicit blame, can be perceived as another example of young children's understanding of how adults evaluate certain behaviors.

Previous findings from the study by Cutting and Dunn (2002) along with more recent findings on preschool's children's sensitivity to criticism (Lecce et al., 2011, 2014; Mizokawa, 2013, 2015; Mizokawa & Lecce, 2016) suggest that children across different cultures (England, Italy, Japan) show sensitivity to other's criticism (by teacher and by peer) by rating their ability lower and expecting more negative emotion in a criticism condition (both by peer and by

teacher) than a no criticism condition when the main character makes a small error. By contrast, children in this study did not expect a more negative or passive pattern for the protagonist's feelings or for his/her action choice in the blame stories than in the no blame stories. There are three possible explanations. First, this can be explained by differences in the nature of mishaps presented to children in each study. This study presented children with moral transgressions (e.g., breaking the friend's castle, pushing the friend) whereas previous studies on preschool children's sensitivity to criticism (Cutting & Dunn, 2002, Lecce et al., 2011, 2014; Mizokawa, 2013, 2015; Mizokawa & Lecce, 2016) presented children with academic transgressions (e.g., making a mistake in writing a number, drawing a person, doing puzzles). Children's sensitivity to other's criticism may appear differently depending on the nature of transgressions used in a study. Second, this can be explained by differences in the directness of the teacher's criticism used in this study compared to previous studies (Cutting & Dunn, 2002, Lecce et al., 2011, 2014; Mizokawa, 2013, 2015; Mizokawa & Lecce, 2016). While the previous studies used quite direct and elaborate criticism (e.g., "The number 2 is missing. That's not what I call writing numbers the right way. I'm disappointed in you." Cutting & Dunn, 2002, p. 852), the teacher's criticism was expressed more indirectly (e.g., "She thinks that it's your fault") in this study. The last explanation is partly related to the previous explanation. Because this study's use of indirect criticism required children to infer the teacher's mental state in terms of her belief (e.g., the child is responsible for the given situation.) from a more complicated sentence structure with syntax using *think*[12], children's sensitivity to the teacher's criticism in this study did not emerge as strongly as it did in previous studies.

The results of this study suggest that in moral transgression situations children may be emotionally affected by the teacher's negative reaction even when blame is not expressed. When children were asked to explain why they expected the child to have certain feelings following his/her moral transgression even in the absence of any expressed blame by the teacher, some children referred to the protagonist's wrongdoing whereas some children referred to the teacher's criticism. Therefore, children in this study expected a more negative feeling to the protagonist in the moral transgression situations than in the no moral transgression situations irrespective to the

---

[12] Previous studies (e.g., Bartsch & Wellman, 1995) have shown that children start to use sentences using think, know, remember, dream around 3 years of age, and their use of such words consistently increases till 4 years, and then remain quite consistent from 4 to 6 years of age.

teacher's expressed criticism not only because of their judgement on the protagonist's moral transgression but also because of their anticipation of the teacher's criticism.

Children's sensitivity to (or anticipation of) the teacher's criticism even when it was not expressed can be explained by the theory-theory (e.g., Gopnik & Wellman, 1992, 1994) and simulation (e.g., Goldman, 1992; Gordon, 1992) approaches. The theory-theory (e.g., Goldman, 1992; Gordon, 1992) suggests that people use accumulated knowledge to understand another's mind. Previous studies have reported that teachers often react to a moral transgression by making some remarks or issuing commands (Killen & Smetana, 1999), though such interventions are less preferred in some cultures (Killen et. al., 2000; Tobin et al., 2009). It is plausible that children used their accumulated knowledge to foresee the teacher's reaction to the moral transgression without any explicit cue from the teacher. The simulation theory proposes that people infer another's minds by imagining how they would think, believe, desire, or feel in a given situation (e.g., Goldman, 1992; Gordon, 1992). Because young children often protest at moral transgressions when they are the victim of the transgression (Dunn & Munn, 1987; Smetana, 1981) and when they are a bystander (Vaish et al., 2011), children may have anticipated that the teacher would also have negative feelings if she were involved in the moral transgression situation.

In line with findings by Epley et al. (2004) indicating that people take another's perspective using both accumulated knowledge as well as simulation, children in this study may have used their accumulated knowledge about the teachers' responses in moral transgression situations as well as their ability to imagine what they would feel in the hypothetical situation. According to this line of analysis, it is plausible that the teacher's criticism, whether expressed by the teacher or just imagined by the child, had some impact on their emotional reactions and their choice of a more passive action in the moral transgression situations. Therefore, although the teacher's explicit blame in the moral transgression situations did not appear to influence any of the studied three aspects of children's social information processing as shown in Figure 7, children's anticipation of the teacher's negative reaction may have led them to expect a more negative feeling and a more passive action choice for the child in the moral transgression situation even in the absence of any criticism expressed by the teacher.

6.3.3 Overall group differences in children's expectation of the teacher's feeling

The overall age and country differences in children's expectation about the teacher's feelings that were previously discussed in relation to the previous research on children's theory-of-mind ability can be framed in Overton's metaframework, as shown in Figure 7. The results showed that children in the older age group (vs. the younger age group) and the Japanese children (vs. the Icelandic children) overall expected the teacher to have more negative feelings than did their counterparts. Age changes in children's expectations about the teacher's feelings can be explained both by development in the neurological functions relating to theory-of-mind ability as well as by children's accumulated knowledge of how people would react in similar social situations. On the other hand, the country difference in children's expectation about the teacher's feelings may be explained partially by differences in children's socialization as well as by language and social systems (though these sociocultural and linguistic differences may also be related to neurological functions that develop in different ways due to differences in socialization process).

6.3.4 The age change in children's response rate for the justification questions

One consistent age change was seen in children's response rate for the follow-up justification questions for all three measures. Older children were more likely to provide reasons for their expectations with regard to the teacher's feelings, the child's feelings, and his/her subsequent choice of action. Because children's language ability is an important predictor of their ability to understand another's feelings (Pons et al., 2003), it is to be expected that older children would be more able to explain the reasons for their expectations with regard to the three measures than children in the younger age group.

6.3.5 Cultural difference in children's justifications with respect to the child's feelings

With respect to the child's feeling, Japanese children offered more elaborate explanations with details of the teacher's negative reactions (e.g., scolding or anger) as well as their fear (e.g., being scared, or crying). On the other hand, although Icelandic children also explained the self/protagonist's feeling in terms of the teacher's negative reactions, their more straightforward explanations (e.g., because the teacher is blaming me) implies less

internalization of the teacher's negative reaction. This finding can be explained in two ways.

First, this result might be an example of cultural differences in the emphasis on interpersonal relationships. Nisbett et al. (2001) suggest that East Asians adopt a holistic approach and focus more on relationships whereas Westerners adopt an analytic approach and focus more on categorizing features of objects detached from their context. Japanese preschool teachers' encouragement of children's empathy (Hayashi et al., 2009) can be seen as a byproduct of Japanese's socialization process which emphasizes one's relationship with others. Japanese children's greater internalization of the teacher's criticism as compared to Icelandic children, whether it was expressed or imagined, may be related to differences in the degree of emphasis on interpersonal relationships.

In relation to the previous explanation, this cultural difference in children's sensitivity to teacher's criticism can be understood as an example of differences in neurological functioning. Previous research by De Greck et al. (2012) found that Chinese students showed more neuronal activity in regions related to emotion regulation whereas German students showed enhanced neurological activity in regions associated with emotion understanding and perspective-taking when they were asked to empathize with an angry person. This finding implies that Chinese students are more emotionally affected by the angry facial expression, and need more emotional regulation, than German students. Therefore, Japanese children's more frequent mention of fear or the teacher's anger may be related to Japanese children's greater sensitivity to the teacher's negative reaction, whether that reaction was actually expressed or just imagined by children. This may be related to cultural differences between Iceland and Japan in the emphasis on interpersonal relationships in the socialization process as well as the social framework.

Another plausible explanation for Japanese children mentioning fear or the teacher's anger more often might be related to differences in the teacher-child ratio. Compared to the Icelandic children in this study, the Japanese children belong to classes with a higher teacher-child ratio. Accordingly, the Japanese children's more elaborate explanation might be due to Japanese children perceiving teachers as having more authority given that they are in change of a larger number of children. Alternatively, the Japanese children might have accumulated more experience with stressed and unhappy teachers given their responsibility for larger classes. In order to examine the possible influence of the teacher-child ratio on children's social information processing at preschool, future research could benefit from comparing schools with very different teacher-child ratios within each of the target countries.

6.3.6 Group differences in the impact of the moral transgression and the teacher's expressed blame in children's social information processing

In this study, a group difference based on situational factors (the child's moral transgression, the teacher's expressed blame/criticism) was observed in children's social information processing. As Figure 8 shows, although the age and country differences in children's expectation about the teacher's feelings applied to all the four social situations, a remaining group difference applied in only some of the four social situations. Recall that children's expectations about the self/protagonist's feelings included the complex four-way interaction involving age group, country, moral transgression, and teacher's blame. In the younger group, Japanese children expected the child to have more negative feelings than did the Icelandic children in the three stories that contained the protagonist's moral transgression or/and the teacher's explicit blame/criticism.
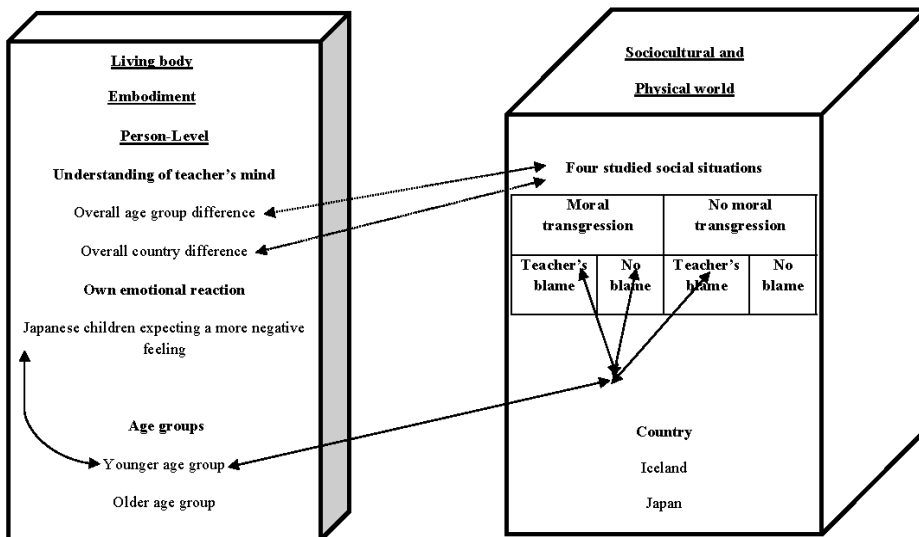
Figure 8. *Complex interaction of country and age group in children's social information processing in the four studied social situations*

Three questions emerge. First, why did these cultural differences vary across different aspects of children's social information processing? Second, why did these cultural differences vary across different age groups? Third, why did these cultural differences vary across different social situations?

One possible way to interpret such a country difference appearing for different age groups in different aspects of the children's social information is to consider how children justified their expected self/protagonist's feeling. Among younger children, Japanese children showed more sensitivity to the teacher's expressed blame by expecting the child to have more negative feelings than did Icelandic children in reaction to blame expressed by the teacher. The older Icelandic and Japanese children did not differ in how they imagined the child's feeling in the situations that included teacher's expressed blame. However, the fact that Japanese children's explanation of their expectations about the child's feelings included more details of children's fear of the teacher's criticism (real or imagined) suggests that Japanese children might internalize the teacher's criticism more strongly.

In summary, the complex interaction involving the country, age group, the child's moral transgression, and the teacher's expressed blame factors suggests that how each aspect of children's social information processing is affected by a particular cultural or developmental factor can vary across different social situations.

For example, although previous studies (Hollos et al., 1986; Killen et al., 2002; Nisan, 1987; Smetana, 1995; Song et al., 1987; Turiel & Wainryb, 1998; Yau & Smetana, 2003) as well as this study indicate that children from different cultural backgrounds regard moral transgressions as wrong (i.e., they adopt a more negative/passive pattern in the moral transgression situations than the no moral transgression situations in all the three aspects of social information processing), a cultural difference was observed for younger children in terms of how they expected the child to feel in the transgression stories (younger Japanese children attributed more negative feelings to the child in the transgression situations than did younger Icelandic children). However, caution should be exercised because the effect size for the interaction involving children's age group, country, the child's moral transgression and the teacher's expressed blame was quite small.

6.3.7 Alternative explanation for different results for each of the three studied aspects of children's social information processing

If we dismiss the aforementioned complicated four-way interaction concerning children's expectations about the self/protagonist's feelings expectations given

its small effect size, it is plausible to build one alternative explanation for the following two questions; 1) Why did the child's moral transgression appear to have the greatest impact on children's expectations about the teacher's feelings?, 2) Why did child's age have a variable impact across the three measures of the study?

While children might have focused mainly about how the teacher would react, they might have to engage in more complicated theory-of-mind processing when they thought about how they/the protagonist would feel or choose to act. Responding to the latter two questions might have required children to use their second-order theory-of-mind ability. In other words, they needed to think about their/the protagonist's feeling and action choice in relation to the teacher's mental state (e.g., her belief about the protagonist's wrongdoing, or her feeling in a given situation). Given that children around 6 and 7 years of age master this kind of understanding (e.g., Perner & Wimmer, 1985) and the ability to understand one's own mind might be more challenging than understanding another's mind (Gambini et al., 2004), the reason why the impact of the transgression was weaker for children's expectations about their/the protagonist's feelings or action choice than for children's expectations about the teacher's feelings might be related to the fact that this study's three measures required children to engage in different kinds of thought processes. This explanation can be used to explain why the main effect of age only emerged for children's expectations about the teacher's feeling. The main effect of age might not have emerged in the other two measures because thinking about their/the protagonist's feelings and action choice was equally challenging for children from both age groups.

Given that the main effect of country appeared stronger for children's expectations about their/the protagonist's feelings than for the teacher's feelings, children's anticipation of their/the protagonist's emotional responses might be more influenced by children's sociocultural and linguistic background (e.g., different social systems, different languages, different social practices at preschool, differences in each country's teacher-child ratio) than by age. It is also plausible that children's personality or children's early socialization styles mediated by children's personality (e.g., Kochanska, 1997) has some impact on children's emotional responses (or the emotional responses that they attribute to themselves to be exact) in the given situations.

Further research is needed to understand how sociocultural-linguistic, age, and personality factors relate to various aspects of children's social information processing across different social situations.

6.4 Children's advice for teachers to avoid blaming children by mistake

Because it is important for adults to listen to children's opinions as stated in the Rights of the Child (1990) and because researchers are increasingly eager to involve children as participants in recent years (Christensen & Prout, 2002), this study asked children how teachers can avoid blaming innocent children. About the half of the children responded to this question. This implies that being understood properly by teachers and adults is important for both Icelandic and Japanese children in both age groups. The two most frequent responses in both countries were to pay better attention to what children are doing and to be good or kind. More children in the older age group suggested that teachers and adults should pay better attention. Among younger children, more Japanese children suggested that teachers and adults should pay better attention. This difference may be related to the fact that younger Japanese children were prone to internalize the teacher's inappropriate negative emotional reaction in the no moral transgression story. Nevertheless, teachers and adults are humans and they can make mistakes by mistakenly criticizing innocent children. Children's recommendation that teachers and adults be kind and good as well as observant is a plausible way for minimizing such mistakes.

6.5 Conclusion

The goal of this study was to understand how preschool children think about the minds of others in their social interactions at preschool. The results should have important implications for research on children's theory of mind, emotion understanding, perspective-taking, as well as children's moral development. Furthermore, the results lead to several important suggestions for parents and teachers of young children.

What have we learned about young children's understanding of another's mind from the results of this study? In terms of the development of children's understanding of others minds, the findings that older children had a more negative interpretation of teacher's feelings than younger children suggests that there is an important developmental change in children's understanding of the teacher's mind as they get older. This finding echoes previous studies showing that with age children get better at understanding another's mind (e.g., Fabes et al., 1991; Harris, 1989; Pons et al., 2004; Selman, 1980; Wellman et al., 2001). However, the fact that there was no age difference in children's expectations about the child's feeling or his/her choice of action suggest the possibility that the course of development varies for different aspects of children's social information processing. Furthermore, similar to the potentially negative consequences of children's growing understanding of other minds

pointed out by Cutting and Dunn (2002), the results of this study indicate that older children might be more likely to attribute negative feelings to the teacher than do younger children even when there was no objective reason for them to make that attribution.

Previous studies have reported cultural influences on people's cognition (e.g., Nisbett et al., 2001), emotion (e.g., Cole et al., 2002; Ekman & Friesen, 1971; Kitayama & Markus, 1990), and behavior (e.g., Hofstede, 1986; Triandis, 1994). The results of this study suggest that cultural factor may have a different impact on children's understanding of another's mind, their own emotional reaction and actions depending on the social situation and children's age group. For example, although a cultural difference was found in children's expectations about the teacher's feelings, it was not found for children's expectations about the child's feelings or his/her subsequent choice of action. Therefore, although cultural differences in neurological activity during theory-of-mind tasks (De Greck et al., 2012; Kobayashi et al., 2006, 2007), cultural differences in the socialization process (Hayashi et al., 2009) and in the modes of thoughts, are useful for explaining this cultural difference in children's attribution pattern, they are not sufficient to explain why the same cultural difference was not observed for other aspects of children's social information processing.

In line with previous studies suggesting children's universal sensitivity to moral transgressions in their reasoning (e.g., concerning other's rights and welfare) (Hollos et al., 1986; Killen et al., 2002; Nisan, 1987; Smetana, 1995; Song et al., 1987; Turiel & Wainryb, 1998; Yau & Smetana, 2003), children from Iceland and Japan proved to be similar in their sensitivity to the child's moral transgression when they formed expectations about the teacher's feelings. Furthermore, the results suggest a similar universality with respect to what children would feel and do when they commit moral transgressions. However, one exception to this cultural invariance was seen among children in the younger age group. Younger Japanese children expected more negative feelings on the part of the child in the transgression situations than did younger Icelandic children. More research is needed to understand how children's emotional reactions to moral transgressions are related to cultural factors and age.

6.5.1   Strengths and limitations of the study

This study is innovative in exploring different aspects of children's social information processing--children's understanding of another's mind, their own emotional reactions, and their choice of action--in hypothetical social situations involving a moral transgression and blame expressed by the teacher

among children from different cultural backgrounds using Overton's metaframework (2006). The results for children's understanding of the teacher's mind appear clear and straightforward with regard to the effects of age, country, and the child's transgression. Furthermore, the results suggest that a teacher's criticism has a different impact on children's interpretation of the teacher's feelings depending on whether or not the child has committed a moral transgression. However, when these results were analyzed alongside the results from other two aspects of children's social information processing-- children's expectation of the child's emotional response and action choice, the impact of the child's transgression and the teacher's criticism become harder to interpret. For example, while the child's moral transgression was related to a more negative/passive pattern in all three aspects of children's social information processing, the teacher's criticism was related to a more negative pattern in only one of the three aspects. One of the strengths in this study is framing children's ability to think about another's mind with their own emotional reaction and action in the hypothetical social situations and revealing complex patterns in how a certain factor (e.g., cultural background, age group, the child's transgression, the teacher's explicit blame) might impact these three aspects of children's social information processing.

This study highlights four kinds of complexity in understanding children's theory-of-mind patterns in social situations. First, a certain age difference or country difference in children's understanding of another's mind in a given social situation does not necessarily mean that a similar difference will be observed in children's expectations about how they would feel and act in that social situation. Second, while some situational factors may impact children's attributions to another's mind, their own emotional reactions, and their subsequent choice of action, and other situational factors might impact only one or two aspects or none. Third, the degree to which a given situational factor impacts each aspect of children's social information processing can be different. Fourth, the way that a cultural difference appears in each aspect of children's social information processing may vary between different age groups. Thus, this study offers a more dynamic (and messy) overview of children's understanding of another's mind in social interactions. Investigating children's understanding of another's mind (e.g., theory of mind, perspective-taking, emotion understanding) in relation to other aspects of children's social information processing (e.g., children's emotion, social engagement) in social interactions may expand our understanding of children's social cognition. Previous studies of children's theory of mind have focused mostly on a single aspect of children's understanding of other minds. For example, a study by Dondi et al. (1999) explored children's empathy by measuring newborn babies'

crying. The famous false-belief test (Wimmer & Perner, 1983) only measures children's ability to work out another's mistaken belief. Further studies using a similar approach as this study could bring more insight into children's theory-of-mind patterns in social interaction. For older children, it might be possible to interview them during their actual social interactions to explore relationships between children's theory-of-mind patterns and their actual social engagement. Also, exploring neurological activities of children from different cultural backgrounds when they think about another's mind in social interaction situations (actual or hypothetical) might be used to further explore some of the cultural differences observed in this study.

In addition, the results of this study provide new insights into children's early morality. Previously, the social information processing approach (Crick & Dodge, 1994; Lemerise & Arsenio, 2000) was mainly used to examine the different social information processing patterns of children with anti-social behaviors (e.g., aggression) as compared to typically developing children. This study showed that a similar approach could be used to explore children's social information processing, including children's theory-of-mind patterns, in social interactions. The method may provide a window for adults, especially parents and teachers, to understand how children understand the minds of other people as well as how they feel in social interactions.

This study has several limitations. One of them is that only Icelandic children in one preschool and Japanese children in one preschool and one kindergarten participated in the study. It is possible that having more participants from multiple early childhood educational institutions would yield different results. Furthermore, due to the difficulty in obtaining participants in Japanese preschool, the data were gathered both in preschool and kindergarten in Japan. Because it is more common for children whose mothers stay home in Japan to wait to go to school until kindergarten (rather than to start earlier in preschool)[13], their social information processing might appear different if there were more participants from the two different kinds of early childhood educational institutions. In addition, because there has been limited research on the understanding of minds among preschool children in Japan and Iceland, this study was guided by earlier studies that included individuals from other Asian and Western countries. However, some of the similarities and differences observed between Icelandic and Japanese children in this study may be unique, and not comparable to studies with other Asian and Western individuals.

---

[13] In recent years, because of more economical demand and women's equal social participation, the number of working mothers are increasing in Japan.

In addition, there are two further limitations regarding the design of this study. First, it had a small sample size. Having a bigger sample size might have provided stronger evidence, especially with respect to the way that children justified their responses for the three main measures. Second, a large body of research has suggested a strong relationship between children's linguistic ability and some aspects of children's theory of mind (e.g. Hughes & Dunn, 1998; Milligan et al., 2007), this study did not assess children's linguistic ability mainly due to my own hesitation about categorizing children in terms of their ability. However, given that language is something that might have developed in relation to social systems and social relationships (Chomsky, 1984), children's language ability and children's ability to understand another's mind, both very unique to humans, appear to be very related constructs. Further understanding of the possible relationship between children's linguistic ability and their understanding of another's mind, along with other aspects of their social information processing might provide helpful information for parents and teachers especially if it is based on children from various sociocultural-linguistic backgrounds.

Furthermore, although there were significant two-way interactions for children's expectations about the teacher's feeling and a four-way interaction for how children expected their own/protagonist's feelings, the effect sizes were very small. Therefore, caution should be exercised until these interactions are reproduced in future studies with bigger sample sizes.

Other limitations derive from this study's method. Multiple questions as well as the sequence of the questions asked during each hypothetical story in the interview may have impacted the results. For example, children were asked to imagine the teacher's feelings before they imagined the child's feelings in the given situation. Children's expectation about the child's feelings and their reasoning style might have been different if the sequence of questions had been different. In addition, this study did not ask children about the victim in the moral transgressions. Previous studies of young children's moral judgment have shown that young children view moral transgressions to be bad mainly because of the other's welfare (Smetana, 1985). However, few children connected the protagonist's emotional reactions to the friend's material loss, or physical and psychological pain. This may be because of the emphasis in this study on social interactions between the protagonist and the teacher.

How children process social information in hypothetical social situations may be different from their social information processing patterns in real social situations. Previous studies have reported that children show different social understanding, emotional reactions, and social interactions with different people e.g., teachers versus friends (Adalbjarnardóttir & Selman, 1989), or

friends versus non-friend (Burgess, Wojslawowicz, Rubin, Rose-Krasnor, & Booth-LaForce, 2006; Hartup, Laursen, Stewart, & Eastenson, 1988; Laursen, Hartup, & Keplas, 1996; Orobio de Castro, Veerman, Koops, Bosch, & Monshouwer, 2002). Therefore, children's responses to the child's moral transgression and the teacher in this study might be different from their responses to a moral transgression involving their best friend or their favorite teacher.

At last, this study recognized different perspectives on children in research (Christensen & Prout, 2002) and made attempts to treat children as social actor (e.g., exploring children's interaction with the teacher in different situations) and active participant of the research process (e.g., informing them the purpose of the study, asking them their opinions about what adults and teachers should do to avoid blaming children mistakenly). However, children were also treated as subjects because their responses were analyzed in terms of how a certain factor (e.g., the protagonist's moral transgression) might influence children's thought about the teacher's feeling, their own feeling, and subsequent interaction with the teacher. Future studies exploring children's social information processing during certain social interactions (e.g., play, conflicts such as bullying) at preschool along with children's ideas, opinions, and evaluations on the social interactions might reflect the perspective of children as social actor or active research participant more strongly. For example, a follow-up study can examine children's opinions about teacher's role in children's peer conflicts including moral transgressions.

6.5.2   Implications for early childhood educators and parents

This study has several implications for teachers and parents. First, given that the moral transgression appeared to have more impact on children's understanding of the teacher's mind and on their expected emotional reaction than on their expected action choice, teachers and parents may need to recognize that children's actions may not always reveal their emotional reactions or their interpretation of a teacher's or parent's mental states. For example, a teacher can see a child pushing his/her friend to be the first in line for some activity. The teacher might see the child still staying at the same position in spite of his/her crying friend. Also, the teacher might see the child remain in the same position even though s/he told the child to stop. In these circumstances, it might be almost automatic for the teacher to think that the child does not understand the friend's feelings or the teacher's feelings, and conclude that s/he needs to teach the child how the friend or the teacher is feeling. Based on the results from this study, it is quite possible that this child does understand the friend's feelings or the teacher's feelings. Instead of

assuming that the child did not understand the other's feeling, it might be helpful for the teacher to start by asking the child how s/he is feeling or what s/he wanted to do. In this case, it is possible that the child had two conflicting goals, which were to be first in line as well as to be good to his/her friend (also to maintain a good relationship with the teacher). However, the drive for the first goal appeared stronger. Accordingly, exploring conflicting goals or mixed emotions (feeling good about being the first in line as well as feeling bad as seeing his/her friend cry) together with the child might be more appropriate than teaching the child to understand another's feelings and thoughts in some situations.

Second, the results of this study provide useful information for parents and teachers in responding to children's moral transgressions. In contrast to previous studies that reported children's happy victimizer tendency following a moral transgression (Arsenio & Kramer, 1992; Nunner-Winkler & Sodian, 1988), children in this study overall did not expect the protagonist to feel happier in the moral transgression situations than in the no moral transgression situations. It has been reported that preschool teachers get involved by talking about fairness or the feelings of the victim when children commit moral transgressions (Killen & Smetana, 1999) (several studies have noted that this approach is less evident among parents and preschool teachers in Japan, Killen & Sueyoshi, 1995; Tobin et al., 2009). However, given children's sensitivity to a child's moral transgression in forming expectations about the teacher's feelings, the child's feelings, and their expectation of the child's choice of action, irrespective of whether the teacher expressed her blame, teachers may not need to criticize children when they commit a moral transgression. Simply being present during children's moral transgressions might be enough for children to reflect on their transgressions. Also, teachers could facilitate discussion between a victimizer and his/her victim to reveal their thoughts (e.g., what they wanted to do, what one thought the other wanted to do), and feelings.

Because children might have learned to judge moral transgressions as wrong through their early interactions with their family members, caregivers, and others, the results of this study do not suggest that adults completely stop reacting to moral transgressions. Child-centered educational approaches such as Reggio Emilia encourage adults to perceive children as competent social beings. I myself am a strong believer in this idea. Yes, they are very competent and capable. They are creative and they can solve lots of problems. However, this does not mean that we adults cannot influence children. Just as children who are competent social beings who can influence adults, adults including parents and teachers are also competent social beings, who think, feel, and

react, especially when moral transgressions occur. Social interactions are important components of our social life, and moral transgressions provide opportunities for children, parents, and teachers to listen to and understand each other (also ourselves). Just as children learn from their interactions with others, adults can also learn from their interactions with children (also with adults[14]) to reflect on their existing assumptions about children's thoughts and feelings, to broaden their view on children, and explore better ways to communicate with children when moral transgressions happen at home or at school. Children's moral transgressions provide opportunities for both children as well as adults to reexamine their understanding of each other's minds, their emotional reactions as well as their interactions with each other.

Furthermore, because the frequency of face-to-face social interactions (both child-child and child-adult interactions) might be in decline these days due to an increasing use of computers, phones, or other digital items, exploring each other's thoughts and feelings (also our own thoughts and feelings) in everyday social interactions (especially in emotionally charged situations) might be more important than ever. Moreover, because of the globalization, children in this century will have more occasions (in person or just through the media or internet) in which they ponder about or build their theory about minds of people from different sociocultural and linguistic backgrounds. Having a critical attitude for one's own "theory of mind" and be open to exchange one's thoughts and feelings with others might be more important than ever for building a more peaceful world as the world becomes more interconnected. Some might argue whether fostering such attitude would be culturally appropriate in some places. Hiding some emotions is perceived as a virtue (e.g., to maintain harmony in a bigger entity than oneself such as family or community) in some cultures (e.g., Cole et al., 2002). However, as the world gets more interconnected, to exchange one's thoughts and feelings more clearly with others might become a new virtue to maintain harmony in a much bigger entity called the world or mankind.

Lastly, although previous studies have shown that children are sensitive to adults' and teachers' criticism (e.g., Adalbjarnardóttir & Selman, 1989; Cutting & Dunn, 2002; Stipek et al., 1992) in school activities or playing, limited research exists on how children from different cultural backgrounds respond to

---

[14] We adults are not exempt for making moral transgressions (e.g., breaking promises, etc.). Therefore, it might be important for adults to communicate our thoughts and feelings with others in order to reexamine our assumptions about people in general.

a teacher's criticism[15]. The results of this study suggest some cultural differences in children's sensitivity to teacher's criticism. Furthermore, the results suggest that children from different cultural backgrounds are different in how they internalize teachers' criticism, whether it is expressed or not. Given that some children may attribute a feeling that is more negative than a teacher actually feels or might be very affected by a teacher's expressed or imagined criticism, teachers may need to communicate their feelings more clearly as well as to be sensitive to children's emotional reactions in order to avoid misunderstanding or to ease children's unnecessary anxieties.

To summarize, the results of this study suggest that children's minds can vary depending on age, cultural backgrounds, as well as the particular situation. Furthermore, the results suggest that children can also misunderstand teacher's thoughts and feelings in some social situations. Given that teachers often use their implicit theories about children's minds (Olson & Bruner, 1996) in their teaching, the findings encourage adults and caregivers/teachers to express their thoughts and feelings clearly as well as to challenge their own assumptions about children's minds by being open to learning more about children's thoughts and feelings in their social interactions.

In Preface, I wrote about Anna, a two-year-old girl, who started to cry when she saw another person's pacifier going into his bowl of oatmeal (personal communication, July 25, 2011). I remember that I was busy comforting Anna while trying to understand why she was crying. However, I did not ask her how she was feeling or why she was crying (I might have asked her why she was crying, but I asked her this question as a way to comfort her. I was not making an effort to get her answer). After learning more about children's theory of mind in this study, would I do anything different if I encountered a similar situation? Yes, I think I would. Instead of getting busy about making assumptions about the child's mind, I would make an effort to understand how the child is feeling and why s/he is crying. If it was too difficult for the child to talk verbally about his/her feelings, I would ask him/her simple questions (e.g., How are you feeling? Are you hurt? Where is it hurting? Tell me or show me what is bothering you?). If the dirty pacifier of another person was the reason for his/her crying, I would like to tell him/her how I am/was feeling and thinking (e.g., Are you so kind to think about your friend, but s/he is all right and we will clean the pacifier. I was surprised to see you cry so suddenly, but

---

[15] In recent years, more studies have explored children's sensitivity to criticism in different countries (e.g., Lecce et al., 2011, 2014; Mizokawa, 2013, 2015; Mizokawa & Lecce, 2016)

now I understand! I am so happy to have such a kind child in my class!). If I was wrong in my assumptions, I would tell him/her my wrong theory of his/her mind and thank him/her for letting me know about his/her feelings.

Interacting with children while reconsidering our assumptions will probably foster a stronger child-adult relationship. However, doing so requires more time and effort from adults and teachers/caregivers. Policies involving young children as well as families with young children need to ensure that parents and caregivers/teachers at early childhood educational institutions are given opportunities to develop their understanding of children as well as themselves. In fact, children's advice on how teachers/adults could avoid blaming innocent children by mistake contained good suggestions. Pay better attention and be kind might be the two most powerful suggestions for adults and caregivers/teachers when they interact with young children.

References

Adalbjarnardóttir, S. (1993). Promoting children's social growth in the schools: An intervention study. *Journal of Applied Developmental Psychology, 14*(4)*,* 461-484.

Adalbjarnardóttir, S., & Selman, R. L. (1989). How children propose to deal with the criticism of their teachers and classmates: Developmental and stylistic variations. *Child Development, 60*(3), 539-550.

Adams Jr, R. B., Rule, N. O., Franklin Jr, R. G., Wang, E., Stevenson, M. T., Yoshikawa, S., . . . Ambady, N. (2010). Cross-cultural reading the mind in the eyes: An fMRI investigation. *Journal of Cognitive Neuroscience, 22*(1), 97-108.

Arsenio, W. F., & Kramer, R. (1992). Victimizers and their victims: Children's conceptions of the mixed emotional consequences of moral transgressions. *Child Development, 63*(4), 915–927.

Astington, J. W., & Jenkins, J. M. (1995). Theory of mind development and social understanding. *Cognition & Emotion, 9*(2-3), 151-165.

Baron-Cohen, S., Leslie, A. M., & Frith, U. (1985). Does the autistic child have a "theory of mind"? *Cognition, 21*(1), 37-46.

Baron-Cohen, S., Spitz, A., & Cross, P. (1993). Do children with autism recognise surprise? A research note. *Cognition & Emotion, 7*(6), 507-516.

Bartsch, K., & Wellman, H. M. (1995). *Children talk about the mind*. New York: Oxford University Press.

Bronfenbrenner, U. (1979). Contexts of child rearing: Problems and prospects. *American Psychologist, 34*(10), 844-850.

Brown, J. R., & Dunn, J. (1996). Continuities in emotion understanding from three to six years. *Child Development, 67*(3), 789-802.

Burgess, K. B., Wojslawowicz, J. C., Rubin, K. H., Rose-Krasnor, L., & Booth-LaForce, C. (2006). Social information processing and coping styles of shy/withdrawn and aggressive children: Does friendship matter? *Child Development, 77*(2), 371-383.

Cairns, R. B., Cairns, B. D., Neckerman, H. J., Ferguson, L. L., & Gariépy, J. L. (1989). Growth and aggression: I. childhood to early adolescence. *Developmental Psychology, 25*(2), 320-330.

Caputi, M., Lecce, S., Pagnin, A., & Banerjee, R. (2012). Longitudinal effects of theory of mind on later peer relations: The role of prosocial behavior. *Developmental Psychology, 48* (1), 257-270.

Chen, D. W., Fein, G. G., Killen, M., & Tam, H. P. (2001). Peer conflicts of preschool children: Issues, resolution, incidence, and age-related patterns. *Early Education and Development, 12*(4), 523-544.

Chen, X., & French, D. C. (2008). Children's social competence in cultural context. *Annual Review Of Psychology, 59*(1), 591-616.

Chomsky, N. (1984). On language and culture. In W. Osiatyński (Ed.), *Contrasts: Soviet and American thinkers discuss the future* (pp. 95–101). New York: MacMillan.

Christensen, P., & Prout, A. (2002). Working with ethical symmetry in social research with children. *Childhood, 9*(4), 477-497.

Cole, M. (2006). Culture and cognitive development in phylogenetic, historical, and ontogenetic perspective. In D. Kuhn, & R. Siegler (Eds.), *Handbook of child psychology, Vol.2: Cognition, perception, and language* (6 ed., pp. 636-686). New York: Wiley.

Cole, P. M., Bruschi, C. J., & Tamang, B. L. (2002). Cultural differences in children's emotional reactions to difficult situations. *Child Development, 73*(3), 983-996.

Convention on the Rights of the Child. (1990). Retrieved January 22, 2016 from http://treaties.un.org/doc/Publication/UNTS/Volume%201577/v1577.pdf

Cornelius-White, J. (2007). Learner-centered teacher-student relationships are effective: a meta-analysis. *Review of Educational Research, 77*(1), 113-143.

Crick, N. R., & Dodge, K. A. (1994). A review and reformulation of social information-processing mechanisms in children's social adjustment. *Psychological Bulletin, 115*(1), 74-101.

Cutting, A. L., & Dunn, J. (1999). Theory of mind, emotion understanding, language, and family background: Individual differences and interrelations. *Child Development, 70*(4), 853-865.

Cutting, A. L., & Dunn, J. (2002). The cost of understanding other people: Social cognition predicts young children's sensitivity to criticism. *Journal of Child Psychology and Psychiatry, 43*(7), 849-860.

Dahlberg, G., & Moss, P. (2005). *Ethics and politics in early childhood education.* New York: RoutledgeFalmer.

Dapretto, M., Davies, M. S., Pfeifer, J. H., Scott, A. A., Sigman, M., Bookheimer, S. Y., & Iacoboni, M. (2006). Understanding emotions in others: mirror neuron dysfunction in children with autism spectrum disorders. *Nature Neuroscience, 9*(1), 28-30.

De Castro, B. O., Veerman, J. W., Koops, W., Bosch, J. D., & Monshouwer, H. J. (2002). Hostile attribution of intent and aggressive behavior: A meta-analysis. *Child Development, 73*(3), 916-934.

de Greck, M., Shi, Z., Wang, G., Zuo, X., Yang, X., Wang, X., . . . Han, S. (2012). Culture modulates brain activity during empathy with anger. *NeuroImage, 59*(3), 2871-2882.

Denham, S. A., Zoller, D., & Couchoud, E. A. (1994). Socialization of preschoolers' emotion understanding. *Developmental Psychology, 30*(6), 928-936.

Dodge, K. A., & Murphy, R. R. (1984). The assessment of social competence in adolescents. In P. Karoly, & J. Steffen (Eds.), *Advances in child behavioral analysis and therapy: adolescent behavior disorders* (Vol. 4, pp. 61-96). Lexington, MA: Lexington Books.

Dodge, K. A., & Price, J. M. (1994). On the relation between social information processing and socially competent behavior in early school-aged children. *Child Development, 65*(5), 1385-1397.

Dodge, K. A., & Rabiner, D. L. (2004). Returning to roots: on social information processing and moral development. *Child Development, 75*(4), 1003-1008.

Dondi, M., Simion, F., & Caltran, G. (1999). Can newborns discriminate between their own cry and the cry of another newborn infant? *Developmental Psychology, 35*(2), 418–26.

Dunn, J. (2004). *Children's friendships: The beginnings of intimacy.* Malden, MA: Blackwell.

Dunn, J., Brown, J., Slomkowski, C., Tesla, C., & Youngblade, L. (1991). Young children's understanding of other people's feelings and beliefs: Individual differences and their antecedents. *Child Development, 62*(6), 1352-1366.

Dunn, J., & Munn, P. (1985). Becoming a family member: family conflict and the development of social understanding in the second year. *Child Development, 56*(2), 480-492.

Duska, K., & Whelan, M. (1977). *Moral Development: A guide to Piaget and Kohlberg.* Dublin, Ireland: Gill & Macmillan.

Eggum, N. D., Eisenberg, N., Kao, K., Spinrad, T. L., Bolnick, R., Hofer, C., . . . Fabricius, W. V. (2011). Emotion understanding, theory of mind, and prosocial orientation: Relations over time in early childhood. *The Journal of Positive Psychology, 6*(1), 4-16. doi:10.1080/17439760.2010.536776

Einarsdottir, J. (2003). Beliefs of early childhood teachers. In O. N. Saracho, & B. Spodek (Eds.), *Studying teachers in early childhood settings* (pp. 113-134). Greenwich, CT: Information Age Publishing.

Eisenberg, N. (2004). Prosocial and moral development in the family. In T. A. Thorkildsen, & H. J. Walberg (Eds.), *Nurturing morality* (pp. 119-135). Hillsdale, NJ: Springer.

Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2006). Prosocial development. In N. Eisenberg, & W. Damon (Eds.), *Handbook of child psychology. Vol. 3. Social, emotional, and personality development* (6 ed., pp. 646-718). New York: Wiley.

Eisenberg, N., & Mussen, P. H. (1989). *The roots of prosocial behavior in children.* Cambridge, England: Cambridge University Press.

Ekman, P., & Friesen, W. V. (1971). Constants across cultures in the face and emotion. *Journal of Personality and Social Psychology, 17*(2), 124-129.

Epley, N., Keysar, B., Van Boven, L., & Gilovich, T. (2004). Perspective taking as egocentric anchoring and adjustment. *Journal of Personality and Social Psychology, 87*(3), 327–339.

Fabes, R. A., Eisenberg, N., Nyman, M., & Michealieu, Q. (1991). Young children's appraisals of others' spontaneous emotional reactions. *Developmental Psychology, 27*(5), 858-866.

Fang, Z. (1996). A review of research on teacher beliefs and practices. *Educational Research, 38*(1), 47-65.

Farver, J. A., Kim, Y. K., & Lee, Y. (1995). Cultural differences in Korean-and Anglo-American preschoolers' social interaction and play behaviors. *Child Development, 66*(4), 1088-1099.

Fiske, A. P. (1992). The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review, 99*(4), 689-723.

Fordham, S., & Ogbu, J. U. (1986). Black students' school success: Coping with the "burden of 'acting white'". *The Urban Review, 18*(3), 176-206.

Freud, S. (1962). *The ego and the id. (J. Riviere, Trans.).* New York: Norton.

Fujisawa, K. K., Kutsukake, N., & Hasegawa, T. (2005). Reconciliation pattern after aggression among Japanese preschool children. *Aggressive Behavior, 31*(2), 138–152.

Gallese, V., & Goldman, A. (1998). Mirror neurons and the simulation theory of mind-reading. *Trends in Cognitive Sciences, 2*(12), 493-501.

Gambini, O., Barbieri, V., & Scarone, S. (2004). Theory of Mind in schizophrenia: First person vs third person perspective. *Consciousness and Cognition, 13*(1), 39-46.

Gardner, H. (2006). *Multiple intelligences: New horizons.* New York: Basic Books.

Garfield, J. L., Peterson, C. C., & Perry, T. (2001). Social cognition, language acquisition and the development of the theory of mind. *Mind and Language, 16*(5), 494-541.

Gergen, K. J. (1985). The social constructionist movement in modern psychology. *American Psychologist, 40*(3), 266-275.Gibbs, J.C. (2013). *Moral development and reality: Beyond the theories of Kohlberg, Hoffman, and Haidt*. New York: Oxford University Press.

German, T. P. (1999). Children's causal reasoning: Counterfactual thinking occurs for 'negative' outcomes only. *Developmental Science*, *2*(4), 442-457.

Gopnik, A., & Wellman, H. M. (1992). Why the child's theory of mind really is a theory. *Mind & Language, 7*(1-2), 145-171.

Gorden, R. (1992). *Basic interviewing skills.* Ithasca, IL: F. E. Peacok.

Gordon, R. M. (1992). The simulation theory: Objections and misconceptions. *Mind & Language, 7*(1-2), 11-34.

Greetz, C. (1975). On the nature of anthropological understanding. *American Scientist, 63*(1), 47-53.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review, 108*(4), 814-834.

Han, S., & Northoff, G. (2008). Culture-sensitive neural substrates of human cognition: A transcultural neuroimaging approach. *Nature Reviews Neuroscience, 9*(8), 646-654.

Happé, F. (2003). Theory of mind and the self. *Annals of the New York Academy of Sciences, 1001*, 134–144.

Harper, L. V., & McCluskey, K. S. (2003). Teacher–child and child–child interactions in inclusive preschool settings: Do adults inhibit peer interactions? *Early Childhood Research Quarterly, 18*(2), 163-184.

Harris, P. L. (1989). *Children and emotion: The development of psychological understanding.* Oxford, England: Blackwell Publishing.

Harris, P. L. (1994). The child's understanding of emotion: Developmental change and the family environment. *Journal of Child Psychology and Psychiatry, 35*(1), 3-28.

Harris, P. L. (1999). Individual differences in understanding emotion: The role of attachment status and psychological discourse. *Attachment & Human Development, 1*(3), 307-324.

Harris, P. L. (2000). *The work of the imagination*. Oxford, England: Blackwell Publishing.

Harris, P. L. (2006). Social cognition. In W. Damon, R. M. Lerner, D. Kuhn, & R. Siegler (Eds.), *Handbook of Child Psychology. Vol. 2* (6 ed., pp. 811-858). New York: Wiley.

Harris, P. L., German, T., & Mills, P. (1996). Children's use of counterfactual thinking in causal reasoning. *Cognition*, *61*(3), 233-259.

Hartup, W. W., Laursen, B., Stewart, M., & Eastenson, A. (1988). Conflict and the friendship relations of young children. *Child Development, 59*(6), 1590–1600.

Hayashi, A., Karasawa, M., & Tobin, J. (2009). The Japanese preschool's pedagogy of feeling: Cultural strategies for supporting young children's emotional development. *Ethos, 37*(1), 32-49.

Helwig, C. C. (1995). Adolescents' and young adults' conceptions of civil liberties: Freedom of speech and religion. *Child Development, 66*(1), 152–166.

Heyman, G. D., Dweck, C. S., & Cain, K. M. (1992). Young children's vulnerability to self-blame and helplessness: Relationship to belifs about goodness. *Child Development, 63*(2), 401-415.

Hoffman, M. (1982). Development of prosocial motivation: Empathy and guilt. In N. Eisenberg (Ed.), *The development of prosocial behavior* (pp. 218-231). New York: Academic Press.

Hoffman, M. (2001). *Empathy and moral development: Implications for caring and justice.* Cambridge, England: Cambridge University Press.

Hofstede, G. (1986). Editorial: The usefulness of the 'organizational culture' concept. *Journal of Management Studies, 23*(3), 253-257.

Hogrefe, G-J., Wimmer, H., & Perner, J. (1986). Ignorance versus false belief: A developmental lag in attribution of epistemic states. *Child Development, 57*(3), 567-582.

Hollos, M., Leis, P. E., & Turiel, E. (1986). Social reasoning in Ijo children and adolescents in Nigerian communities. *Journal of Cross-Cultural Psychology, 17*(3), 352-374.

Howes, C., Rubin, K. H., Ross, H. S., & French, D. C. (1988). Peer interaction of young children. *Monographs of the society for research in child development, 53*(1), i-92.

Howes, C., & Smith, E. W. (1995). Relations among child care quality, teacher behavior, children's play activities, emotional security, and cognitive activity in child care. *Early Childhood Research Quarterly, 10*(4), 381-404.

Hughes, C., & Dunn, J. (1997). "Pretend you didn't know": Preschoolers' talk about mental states in pretend play. *Cognitive Development, 12*(4), 477-497.

Hughes, C., & Dunn, J. (1998). Understanding mind and emotion: Longitudinal associations with mental-state talk between young friends. *Developmental Psychology, 34*(5), 1026-10

Hynes, C. A., Baird, A. A., & Grafton, S. T. (2006). Differential role of the orbital frontal lobe in emotional versus cognitive perspective-taking. *Neuropsychologia, 44*(3), 374-383.

Hyson, M. (2004). *The emotional development of young children: Building an emotion-centered curriculum.* New York: Teachers College Press.

Iacoboni, M. (2005). Neural mechanisms of imitation. *Current opinion in neurobiology, 15*(6), 632-637.

Iacoboni, M., Woods, R. P., Brass, M., Bekkering, H., Mazziotta, J. C., & Rizzolatti, G. (1999). Cortical mechanisms of human imitation. *Science, 286*(5449), 2526-2528.

Johnson-Frey, S. H., Maloof, F. R., Newman-Norlund, R., Farrer, C., Inati, S., & Grafton, S. T. (2003). Actions or hand-object interactions? Human inferior frontal cortex and action observation. *Neuron*, 1053-1058.

Kagan, D. M. (1992). Implication of research on teacher belief. *Educational Psychologist, 27*(1), 65-90.

Kagan, J. (1984). *The nature of the child.* New York: Basic Books.

Kavanaugh, R. D., & Harris, P. L. (2000). Contrasting what did and did not happen: children's sensitivity to causally relevant contrasts. *Unpublished manuscript*.

Keller, M., & Edelstein, W. (1991). The development of socio-moral meaning making: Domains, categories, and perspective-taking. In M. Kurtines, & J. Gewirtz (Eds.), *Handbook of moral behavior and development: Vol. 2. Research* (pp. 89-114). Hillsdale, NJ: Lawrence Erlbaum Associates.

Keller, M., Lourenço, Malti, T., & Saalbach, H. (2003). The multifaceted phenomenon of 'happy victimizers': A cross-cultural comparison of moral emotions. *British Journal of Developmental Psychology, 21*(1), 1–18.

Kemple, K. M., David, G. M., & Hysmith, C. (1997). Teachers' interventions in preschool and kindergarten children's peer interactions. *Journal of Research in Childhood Education, 12*(1), 34-47.

Killen, M. (1990). Children's evaluations of morality in the context of peer, teacher-child, and familial relations. *The Journal of Genetic Psychology, 151*(3), 395-410.

Killen, M., Ardila-Rey, A., Barakkatz, M., & Wang, P. L. (2000). Preschool teachers' perceptions about conflict resolution, autonomy, and the group in four countries: United States, Colombia, El Salvador, and Taiwan. *Early Education and Development, 11*(1), 73-92.

Killen, M., McGlothlin, H., & Lee-Kim, J. (2002). Between individuals and culture: Individuals' evaluations of exclusion from social groups. In H. Keller, Y. Poortinga, & A. Schoelmerich (Eds.), *Between biology and culture: Perspectives on ontogenetic development* (pp. 159–190). Cambridge, England: Cambridge University Press.

Killen, M., & Smetana, J. G. (1999). Social interactions in preschool classrooms and the development of young children's conceptions of the personal. *Child Development, 70*(2), 486–501.

Killen, M., & Smetana, J. (2006). Preface. In M. Killen, & J. Smetana (Eds.), *Handbook of moral development* (pp. xi-xii). Mahwah, NJ: Lawrence Erlbaum Associates, Inc., Publishers.

Killen, M., & Sueyoshi, L. (1995). Conflict resolution in Japanese social interactions. *Early Education and Development, 6*(4), 317-334.

Kirschner, S. R., & Martin, J. (2010). *The sociocultural turn in psychology: The contextual emergence of mind and self.* New York: Columbia University Press.

Kitayama, S., & Markus, H. (1990). Culture and emotion: The role of other-focused emotions. *98th annual convention of the American Psychological Association.* Boston.

Kobayashi, C., Glover, G. H., & Temple, E. (2006). Cultural and linguistic influence on neural bases of 'theory of mind': An fMRI study with Japanese bilinguals*. Brain and Language*, *98*(2), 210-220.

Kobayashi, C., Glover, G. H., & Temple, E. (2007). Children's and adults' neural bases of verbal and nonverbal 'theory of mind'. *Neuropsychologia, 45*(7), 1522-1532.

Kochanska, G. (1997). Multiple pathways to conscience for children with different temperaments: From toddlerhood to age 5. *Developmental Psychology, 33*(2), 228-240.

Kohlberg, L. (1984). *Essays on moral development: Vol. 2. The psychology of moral development*. San Francisco, CA: Harper & Row.

Lagattuta, K. H. (2005). When you shouldn't do what you want to do: Young children's understanding of desires, rules, and emotions. *Child Development, 76*(3), 713–733.

Lamm, C., Batson, C. D., & Decety, J. (2007). The neural substrate of human empathy: Effects of perspective-taking and cognitive appraisal. *Journal of Cognitive Neuroscience, 19*(1), 42-58.

Lang, B. & Perner, J. (2002). Understanding of intention and false belief and the development of self-control. British Journal of Developmental Psychology. 20(1)**,** 67–76.

Laursen, B., Hartup, W. W., & Keplas, A. L. (1996). Towards understanding peer conflict. *Merril-Palmer Quarterly, 42*, 76–102.

Lecce, S., Caputi, M., & Hughes, C. (2011). Does sensitivity to criticism mediate the relationship between theory of mind and academic achievement? *Journal of Experimental Child Psychology, 110*(3), 313-331.

Lecce, S., Caputi, M., & Pagnin, A. (2014). Long-term effect of theory of mind on school achievement: The role of sensitivity to criticism. *European Journal of Developmental Psychology, 11*(3), 305-318.

Lemerise, E. A., & Arsenio, W. F. (2000). An integrated model of emotion processes and cognition in social information processing. *Child Development, 71*(1), 107-118.

Leslie, A. M., & Frith, U. (1988). Autistic children's understanding of seeing, knowing and believing. *British Journal of Developmental Psychology, 6*(4), 315-324.

Leslie, K. R., Johnson-Frey, S. H., & Grafton, S. T. (2004). Functional imaging of face and hand imitation: Towards a motor theory of empathy. *Neuroimage, 21*(2), 601-607.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*(2), 224-253.

Masangkay, Z. S., McCluskey, K. A., McIntyre, C. W., Sims-Knight, J., Vaughn, B. E., & Flavell, J. H. (1974). The early development of inferences about the visual percepts of others. *Child Development, 45*(2), 357-366.

Masuda, T., & Nisbett, R. (2001). Attending holistically versus analytically: Comparing the context sensitivity of Japanese and Americans. *Journal of Personality and Social Psychology, 81*(5), 922-934.

McFadyen-Ketchum, S. A., Bates, J. E., Dodge, K. A., & Pettit, G. S. (1996). Patterns of change in early childhood aggressive-disruptive behavior: Gender differences in predictions from early coercive and affectionate mother-child interactions. *Child Development, 67*(5), 2417-2433.

McGrew, W. C. (1972). *An ethological study of children's behavior.* New York: Academic Press.

McIntosh, D. N., Reichmann-Decker, A., Winkielman, P., & Wilbarger, J. L. (2006). When the social mirror breaks: Deficits in automatic, but not voluntary, mimicry of emotional facial expressions in autism. *Developmental Science, 9*(3), 295-302.

Meltzoff, A. N. (2007), 'Like me': A foundation for social cognition. *Developmental Science, 10*(1), 126–134.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. 2d edition. Thousand Oaks, CA: Sage Publications.

Milligan, K., Astington, J., & Dack, L. A. (2007). Language and theory of mind: meta-analysis of the relation between language ability and false-belief understanding. *Child Development, 78*(2), 622-646.

Ministry of Education, Culture, Sports, Science and Technology, *e-Stat*. Surveys on social welfare institutions (Database in Japanese). Retrieved April 17, 2016 from http://www.e-stat.go.jp/SG1/estat/List.do?bid=000001066160&cycode=0

Ministry of Health, Labour, Welfare, *e-Stat*. Basic Surveys on schools (Database in Japanese). Retrieved April 17, 2016 from http://www.e-stat.go.jp/SG1/estat/List.do?lid=000001141016

Mizokawa, A. (2013). Relationships between maternal emotional expressiveness and children's sensitivity to teacher criticism. *Frontiers in Psychology, 4*, 807. http://doi.org/10.3389/fpsyg.2013.00807

Mizokawa, A. (2015). Theory of mind and sensitivity to teacher and peer criticism among Japanese children. *Infant and Child Development, 24*(2), 189-205.

Mizokawa, A. & Lecce, S. (2016). Sensitivity to criticism and theory of mind: A cross cultural study on Japanese and Italian children. *European Journal of Developmental Psychology*, 1-13. doi:10.1080/17405629.2016.1180970

Munby, H. (1982). The place of teachers' beliefs in research on teacher thinking and decision making, and an alternative methodology. *Instructional Science, 11*(3), 201-225.

Nelson, D. A., & Coyne, S. M. (2009). Children's intent attributions and feelings of distress: Associations with maternal and paternal parenting practices. *Journal of Abnormal Child Psychology, 37*(2), 223-237.

Nisan, M. (1987). Moral norms and social conventions: A cross-cultural comparison. *Developmental Psychology, 23*(5), 719-725.

Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, 108, 291-310.

Nishitani, N., Avikainen, S., & Hari, R. (2004). Abnormal imitation-related cortical activation sequences in Asperger's syndrome. *Annals of Neurology, 55*(4), 558-562.

Nucci, L. P. (1996). Morality and personal freedom. In E. Reed, E. Turiel, & T. Brown (Eds.), *Values and knowledge* (pp. 41–60). Mahwah, NJ: Erlbaum.

Nucci, L. P. (2001). *Education in the moral domain.* Cambridge, England: Cambridge University Press.

Nucci, L. P., & Nucci, M. S. (1982). Children's responses to moral and social conventional transgressions in free-play settings. *Child Development, 53*(5), 1337–1342.

Nucci, L. P., & Turiel, E. (1978). Social interactions and the development of social concepts in preschool children. *Child Development, 49*(2), 400–407.

Nunner-Winkler, G., & Sodian, B. (1988). Children's understanding of moral emotions. *Child Development, 59*(5), 1323–1338.

Oberman, L. M., Hubbard, E. M., McCleery, J. P., Altschuler, E. L., Ramachandran, V. S., & Pineda, J. A. (2005). EEG evidence for mirror neuron dysfunction in autism spectrum disorders. *Cognitive Brain Research, 24*(2), 190-198.

Ogbu, J. U. (1981). Origins of human competence: A cultural-ecological perspective. *Child Development, 52*(2), 413-429.

Olson, D. R., & Bruner, J. S. (1996). Folk psychology and folk pedagogy. In D. Olson, & N. Torrance (Eds.), *Handbook of education and human development* (pp. 9-27). Oxford, England: Blackwell Publishing.

Onishi, K. H., & Baillargeon, R. (2005). Do 15-month-old infants understand false beliefs? *Science, 308*(5719), 255-258.

Ontai, L. L., & Thompson, R. A. (2002). Patterns of attachment and maternal discourse effects on children's emotion understanding from 3 to 5 years of age. *Social Development, 11*(4), 433-450.

Organization for Economic Co-operation and Development, OECD.*Stat*. Labor force statistics by sex and age indicators: Employment and population ratios (Database). Retrieved April 17, 2016 from http://stats.oecd.org/Index.aspx?QueryId=64196#

Organization for Economic Co-operation and Development, OECD.*Stat*. Student-teacher ratio and average class size: Ratio of students to teaching staff by type of institution, 2013 (Database). Retrieved December 5, 2016 from http://stats.oecd.org/

Overton, W. F. (2006). Developmental psychology: Philosophy, concepts, methodology. In R. M. Lerner (Ed.), *Handbook of Child Psychology, Vol. 1* (6 ed., pp. 18-88). New York: Wiley.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307-332.

Perner, J., Ruffman, T., & Leekam, S. R. (1994). Theory of mind is contagious: You catch it from your sibs. *Child Development, 65*(4), 1228-1238.

Perner, J. & Wimmer, H. (1985). "John thinks that Mary thinks that…" attribution of second-order beliefs by 5-to 10-year-old children. *Journal of Experimental Child Psychology*, *39*(3), 437-471

Perry, D. G., Perry, L. C., & Rasmussen, P. (1986). Cognitive social learning mediators of aggression. *Child Development, 57*(3), 700-711.

Peterson, C. C. and Siegal, M. (1995). Deafness, conversation and theory of mind. *Journal of Child Psychology and Psychiatry, 36*(3), 459–474.

Piaget, J. (1965). *The moral judgement of the child. (M. Gabain, Trans.).* New York: Free Press.

Piaget, J., & Inhelder, B. (1967). *The child's conception of space.* New York: W. W. Norton.

Pons, F., & Harris, P. L. (2005). Longtitudinal change and longitudinal stability of individual differences in children's emotion understanding. *Cognition and Emotion, 19*(8), 1158-1174.

Pons, F., Harris, P. L., & De Rosnay, M. (2004). Emotion comprehention between 3 and 11 years: Developmental periods and hierarchical orgaonization. *European Journal of Developmental Psychology, 1*(2), 127-152

Pons, F., Lawson, J., Harris, P. L., & De Rosnay, M. (2003). Individual differences in children's emotion understanding: Effects of age and language. *Scandinavian Journal of Psychology, 44*(4), 347-353.

Pramling Samuelsson, I., & Johansson, E. (2009). Why do children involve teachers in their play and learning? *European Early Childhood Education Research Journal, 17*(1), 77-94.

Premack, D., & Woodruff, G. (1978). Does the chimpanzee have a theory of mind? *Behavioral and Brain Sciences, 4*(4), 515-526.

Prout, A. (2000). Children's participation: control and self-realisation in British late modernity. *Children & Society, 14*(4), 304-315.

Rubin, K. H., & Krasnor, L. R. (1986). Social-cognitive and social behavioral perspectives on problem solving. In M. Perlmutter (Ed.), *The Minnesota symposia on child psychology: Vol. 18. Cognitive perspectives on children's social and behavioral development* (pp. 1-68). Hillsdale, NJ: Erlbaum.

Saarni, C. (1990). Emotional competence: How emotions and relationships become integrated. In R. A. Thompson (Ed.), *Nebraska Symposium on Motivation, 1988: Socioemotional development. Current theory and research in motivation* (Vol. 36, pp. 115-182). Lincoln, NE: University of Nebraska Press.

Saarni, C., Campos, J. J., Camras, L. A., & Witherington, D. (2006). Emotional development: Action, communication, and understanding. In *Handbook of child psychology, Vol. 3: Social, emotional, and personality development* (6 ed., pp. 226-299). Hoboken, NJ: Wiley.

Sampson, E. E. (1988). The debate on individualism: Indigenous psychologies of the individual and their role in personal and societal functioning. *American Psychologist, 43*(1), 15-22.

Sampson, E. E. (1981). Cognitive psychology as ideology. *American Psychologist, 36*(7), 730-743.

Sampson, E. E. (1989). The challenge of social change for psychology: Globalization and psychology's theory of the person. *American Psychologist, 44*(6), 914-921.

Saxe, R., & Baron-Cohen, S. (2006). Editorial: The neuroscience of theory of mind. *Social Neuroscience, 1*(3-4), 1-9.

Schultz, D., Ambike, A., Logie, S. K., Bohner, K. E., Stapleton, L. M., VanderWalde, H., . . . Betkowski, J. A. (2010). Assessment of social information processing in early childhood: Development and initial validation of the Schultz test of emotion processing—Preliminary version. *Journal of Abnormal Child Psychology, 38*(5), 601-613.

Scott, R. M., & Baillargeon, R. (2009). Which penguin is this? Attributing false beliefs about identity at 18 months. *Child Development, 80*(4), 1172-1196.

Selman, R. L. (1980). *The growth of interpersonal understanding.* New York: Academic Press.

Senju, A. (2012). Spontaneous theory of mind and its absence in autism spectrum disorders. *The Neuroscientist, 18*(2), 108-113.

Shweder, R. A., & LeVine, R. A. (Eds.). (1984). *Culture theory: Essays on mind, self and emotion.* Cambridge, England: Cambridge University Press.

Silvern, S. B., & Isenberg, J. P. (1990). Reviews of research: Teachers' thinking and beliefs and classroom practice. *Childhood Education, 66*(5), 322-327.

Skinner, B. F. (1938). *The behavior of organisms: An experimental analysis.* Oxford, England: Appleton-Century.

Slomkowski, C., & Dunn, J. (1996). Young children's understanding of other people's beliefs and feelings and their connected communication with friends. *Developmental Psychology, 32*(3), 442-447.

Smetana, J. G. (1981). Preschool children's conceptions of moral and social rules. *Child Development, 52*(4), 1333–1336.

Smetana, J. G. (1984). Toddlers' social interactions regarding moral and conventional Transgressions. *Child Development, 55*(5), 1767–1776.

Smetana, J. G. (1985). Preschool children's conceptions of transgressions: Effects of varying moral and conventional domain-related attributes. *Developmental Psychology, 21*(1), 18-29.

Smetana, J. G. (1994). Morality in context: Abstractions, ambiguities and applications. In R. Vasta (Ed.), *Annals of child development: A research annual, Vol. 10, 1994. , (pp. 83-130)* (pp. ix, 208). London, England: Jessica Kingsley Publishers.

Smetana, J. G., Killen, M., & Turiel, E. (1991). Children's reasoning about interpersonal and moral conflicts. *Child Development, 62*(3), 629–644.

Smith, C. E., Chen, D., Harris, P. L. (2010). When the happy victimizer says sorry: Children's understanding of apology and emotion. *British Journal of Developmental Psychology, 28*(4), 727-746.

Smith, C. E. & Harris, P. L. (2012). He didn't want me to feel sad: Children's reactions to disappointment and apology. *Social Development, 21*(2), 215-228.

Song, M.-j., Smetana, J. G., & Kim, S. Y. (1987). Korean children's conceptions of moral and conventional transgressions. *Developmental Psychology, 23*(4), 577-582.

Spodek, B. (1987). Thought processes underlying preschool teachers' classroom decisions. *Early Child Development and Care, 29*(2), 197-208.

Stipek, D., Recchia, S., McClintic, S., & Lewis, M. (1992). Self-Evaluation in Young Children. *Monographs of the Society for Research in Child Development, 57*(1), i–95.

Surian, L., Caldi, S., & Sperber, D. (2007). Attribution of beliefs to 13-month-old infants. *Psychological Science, 18*(7), 580-586.

Sutton, J., Smith, P. K., & Swettenham, J. (1999). Social cognition and bullying: Social inadequacy or skilled manipulation? *British Journal of Developmental Psychology, 17*(3), 435-450.

Termine, N. T., & Izard, C. E. (1988). Infants' responses to their mothers' expressions of joy and sadness. *Developmental Psychology, 24*(2), 223-229.

Tobin, J., Hsueh, Y., & Karasawa, M. (2009). *Preschool in three cultures revisited: China, Japan, and the United States.* Chicago: University of Chicago Press.

Tremblay, R. E. (2000). The development of aggressive behaviour during childhood: What have we learned in the past century? *International Journal of Behavioral Development, 24*(2), 129-141.

Triandis, H. C. (1994). *Culture and social behavior.* New York: Mcgraw-Hill Book Company.

Turiel, E. (1978). Social regulations and domains of social concepts. In *New Directions for Child and Adolescent Development: Vol. 1. Social cognition* (pp. 45–74). San Francisco: Jossy-Bass.

Turiel, E. (1983). *The development of social knowledge: Morality and convention.* Cambridge, England: Cambridge University Press.

Turiel, E. (2002). *The culture of morality: Social development, context, and conflict.* Cambridge, England: Cambridge University Press.

Turiel, E. (2008). Thought about actions in social domains: Morality, social conventions, and social interactions. *Cognitive Development, 23*(1), 136–154.

Turiel, E., & Wainryb, C. (1998). Concepts of freedoms and rights in a traditional, hierarchically organized society. *British Journal of Developmental Psychology, 16*, 375–395.

Vaish, A., Missana, M., & Tomasello, M. (2011). Three-year-old children intervene in third-party moral transgressions. *British Journal of Developmental Psychology, 29*(1), 124–130.

Vartuli, S. (1999). How early childhood teacher beliefs vary across grade level. *Early Childhood Research Quarterly, 14*(4), 489-514.

Verbeek, P., & de Waal, F. B. (2001). Peacemaking among preschool children. *Peace and Conflict: Journal of Peace Psychology, 7*(1), 5-28.

Vestal, A., & Jones, N. A. (2004). Peace building and conflict resolution in preschool children. *Journal of Research in Childhood Education, 19*(2), 131-142.

Vygotsky, L. S. (1986). *Thought and language (A. Kozulin, trans.).* Cambridge, MA: MIT Press.

Watson, A. C., Nixon, C. L., Wilson, A., & Capage, L. (1999). Social interaction skills and theory of mind in young children. *Developmental Psychology, 35*(2), 386-391.

Weigel, S. (2008, January 1). *Preschoolers' social information processing and aggression*. Lincoln, NE. Retrieved from http://digitalcommons.unl.edu/dissertations/AAI3336685

Wellman, H. M. (2014). *Making minds: How theory of mind develops*. New York: Oxford University Press.

Wellman, H. M., Cross, D., & Watson, J. (2001). Meta-analysis of theory-of-mind development: The truth about false belief. *Child Development, 72*(3), 655–684.

Wimmer, H., & Perner, J. (1983). Beliefs about beliefs: Representation and constraining function of wrong beliefs in young children's understanding of deception. *Cognition, 13*(1), 103-128.

Yarrow, M., & Waxler, C. (1976). Dimensions and correlates of prosocial behavior in young children. *Child Development, 47*, 118-125.

Yau, J., & Smetana, J. G. (2003). Conceptions of moral, social-conventional, and personal events among Chinese preschoolers in Hong Kong. *Child Development, 74*(3), 647–658.

Yoro, T. (2003). *Baka no kabe (The wall of fools).* Tokyo, Japan: Shinchosha.

Youngblade, L. M., & Dunn, J. (1995). Individual differences in young children's pretend play with mother and sibling: Links to relationships and understanding of other people's feelings and beliefs. *Child Development, 66*(5), 1472-1492.

Zahn-Waxler, C., Radke-Yarrow, M., & Brady-Smith, N. (1977). Perspective taking and prosocial behavior. *Developmental Psychology, 13*(1), 87-88.

Appendices

Appendix 1. Five stories presented for four groups

Group / Story	A	B	C	D
1) Warming up (Sandbox)	Neutral	Neutral	Neutral	Neutral
2) Block	Transgression No Blame	Transgression Blame	No Transgression No Blame	No Transgression Blame
3) Bicycle	Transgression Blame	Transgression No Blame	No Transgression Blame	No Transgression No Blame
4) Ball	No Transgression No Blame	No Transgression Blame	Transgression No Blame	Transgression Blame
5) Biscuit	No Transgression Blame	No Transgression No Blame	Transgression Blame	Transgression No Blame

Note that stories 2-5 were shuffled into a new random order for each child.

Appendix 2. Stories for the interview

1) Neutral warming up story (sandbox)

Picture #1:
Boy version   **Girl version**

You are playing in the sandbox.
(IS: Þú ert að leika þér í sandkassa. JP: 砂場で遊んでいるところです。)

Picture #2:

The teacher walks to you.
(IS: Kennnarinn labbar til þin. JP: 先生がきみのほうに歩いてきます。)

2) Block Story
Picture #1:
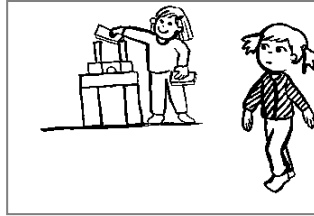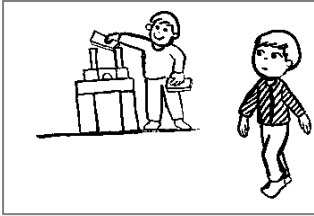
You are on the way to your seat. In the block corner, your friend is building a big castle and you walk by.

(ISgirl: Þú ert á leiðinni í sætið þitt. Þú sérð að vinkona þín er að kubba í kubbakróknum. Hún er að byggja stóran kastala. ISboy: Þú ert á leiðinni í sætið þitt. Þú sérð að vinur þinn er að kubba í kubbakróknum. Hann er að byggja stóran kastala. JP: 自分の席に行くところです。積み木コーナーで、お友達が大きなお城を作っています。)

Picture #2:
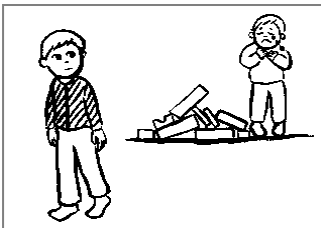
Moral Transgression Story
You want to break this castle. You take one block from the middle of the castle. The whole castle falls down. Your friend starts crying.

(ISgirl: Þig langar að stríða henni. Þú tekur einn kubb úr miðjum kastalanum. Allur kastalinn dettur niður. Vinkona þín fer að gráta. ISboy: Þig langar að stríða honum. Þú tekur einn kubb úr miðjum kastalanum. Allur kastalinn dettur niður. Vinur þinn fer að gráta. JP: お城を壊したくなっちゃって、お城の真ん中の積み木をとります。お城は全部たおれてしまいます。お友達が泣き出します。)

No Moral Transgression Story
Your friend accidently bumps into the castle. The whole castle falls down. Your friend starts crying.

(ISgirl: Vinkona þín rekst óvart í kastalann. Allur kastalinn dettur niður. Vinkona þín fer að gráta. ISboy: Vinur þinn rekst óvart í kastalann. Allur kastalinn dettur niður. Vinur þinn fer að gráta. JP: お城を建てているお友達の

足が間違ってお城に当ってお城は全部たおれてしまいます。お友達が泣き出します。)

Picture #3:
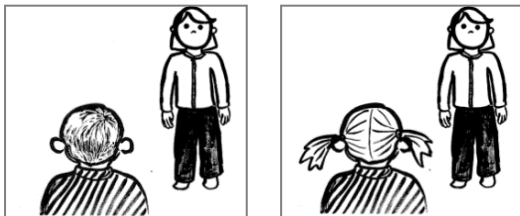
<u>Blame Story</u>

The teacher walks to you. She thinks that it's your fault.

(IS: Kennnarinn labbar til þín. Hún heldur að þetta sé þér að kenna. JP: 先生がきみのほうに歩いてきます。先生は、きみのせいだと思っています。)

<u>No Blame Story</u>

The teacher walks to you.

(IS: Kennnarinn labbar til þin. JP: 先生がきみのほうに歩いてきます。)

3) Bicycle Story
Picture 1:
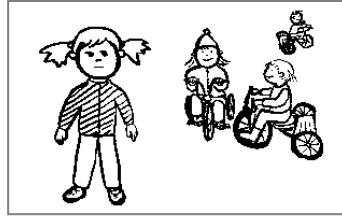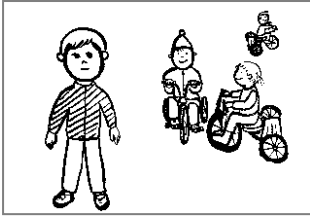
You are outside and you want to bicycle. All the tricycles are taken by other children.
(IS: Það er útivera og þig langar að hjóla. Öll hjólin eru upptekin. JP: お外に出て、三輪車に乗りたいなーと思っています。三輪車は全部他の子が使っています。)

Picture 2:
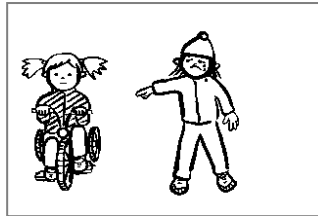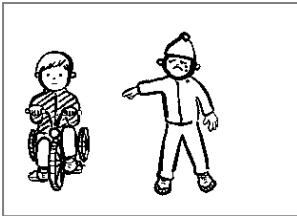
Moral Transgression Story
You really want to ride on a tricycle. So, you grab one from your friend. Your friend says, "That's mine!" Your friend starts crying.
(ISgirl: Þig langar mjög mikið til að hjóla. Þú tekur hjól af vinkonu þinni. Vinkona þín segir 'ég er með hjólið'. Vinkona þín fer að gráta. ISboy: Þig langar mjög mikið til að hjóla. Þú tekur hjól af vini þínum. Vinur þinn segir 'ég er með hjólið'. Vinur þinn fer að gráta. JP: 三輪車に乗りたくって乗りたくって、お友達が使っていた三輪車をとります。私の自転車ー！お友達が泣き出します。)

No Moral Transgression Story
After a short while, you find one tricycle that nobody is using. You start riding it. Your friend comes back from the bathroom. Your friend says, "That's mine!" Your friend starts crying. (ISgirl: Eftir smá stund, finnur þú hjól sem enginn er að nota. Þú ferð að hjóla. Vinkona þín kemur til baka af klósettinu. Vinkona þín segir 'ég er með hjólið'. Vinkona þín fer að gráta. ISboy: Eftir smá stund, finnur þú hjól sem enginn er að nota. Þú ferð að hjóla. Vinur þinn kemur til baka af klósettinu. Vinur þinn segir 'ég er með hjólið'. Vinur þinn fer að gráta. JP: ちょっと経ってから、だーれも使っていない三輪車を見つけて、のりだしま

す。お友達がトイレから戻ってきて、この３輪車はだれも使っていなかった三輪車なのに、これ私の３輪車！って言って、泣き出します。）

Picture 3:
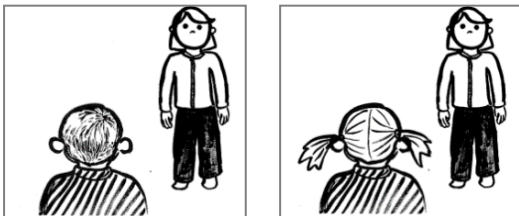
<u>Blame Story</u>

The teacher walks to you. She thinks that it's your fault.

(IS: Kennnarinn labbar til þín. Hún heldur að þetta sé þér að kenna. JP: 先生がきみのほうに歩いてきます。先生は、きみのせいだと思っています。)

<u>No Blame Story</u>

The teacher walks to you.

(IS: Kennnarinn labbar til þin. JP: 先生がきみのほうに歩いてきます。)

4) Ball Story

Picture 1:

You are waiting in line to get a ball from the sports room.
(IS: Þú ert í röð, að bíða eftir að ná í bolta úr boltakörfunni. JP: 体育館へボールを取りに行きました。列に並んで、自分の順番が来るのを待っています。)

Picture 2:
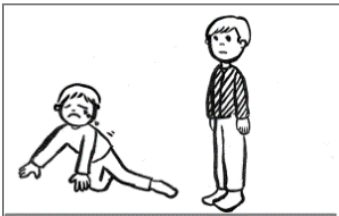
<u>**Moral Transgression Story**</u>
Your friend is in front of you. You want to get your favorite ball, so you push your friend to get past. She falls down. Your friend starts crying.
(ISgirl: Vinkona þín er fyrir framan þig. Þú vilt ná upphálds boltanum þínum. Þú ýtir vinkonu þinni svo þú getir komist framhjá henni. Hún dettur. Vinkona þín fer að gráta. ISboy: Vinur þinn er fyrir framan þig. Þú vilt ná upphálds boltanum þínum. Þú ýtir vini þínum svo þú getir komist framhjá honum. Hann dettur. Vinur þinn fer að gráta. JP: お友達が、前に立っています。大好きな色のボールを取りたくって、取りたくって、前にいるお友達を押します。お友達が転びます。お友達が泣き出します。)

<u>**No Moral Transgression Story**</u>
Your friend is in front of you. She trips over by accident. Your friend starts crying.
(ISgirl: Vinkona þín er fyrir framan þig. Hún dettur. Vinkona þín fer að gráta. ISboy: Vinur þinn er fyrir framan þig. Hann dettur. Vinur þinn fer að gráta. JP: お友達が、前に立っています。お友達が、つまづいて転んじゃいます。お友達が泣き出します。)
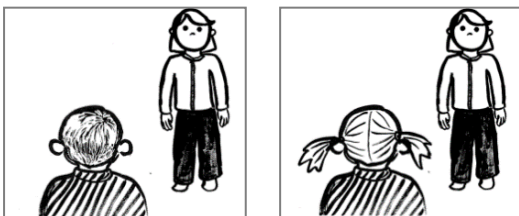
176

Picture #3:

Blame Story

The teacher walks to you. She thinks that it's your fault.

(IS: Kennnarinn labbar til þín. Hún heldur að þetta sé þér að kenna. JP: 先生が
きみのほうに歩いてきます。先生は、きみのせいだと思っています。)

No Blame Story

The teacher walks to you.

(IS: Kennnarinn labbar til þin. JP: 先生がきみのほうに歩いてきます。)

5) Biscuit Story
Picture 1:
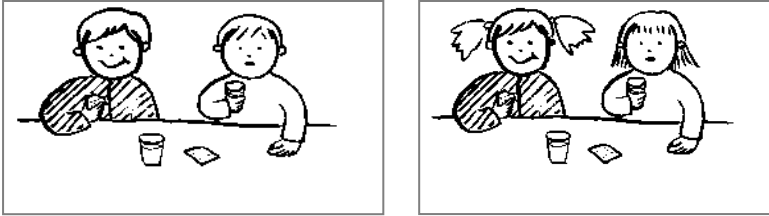
You are eating a cookie during snack time. You love this cookie so much.
(IS: Þú ert að borða kex í kaffitímanum. Þér finnst kexið mjög gott. JP: おやつ
の時間に、クッキーを食べています。クッキーが大好き、美味しい
な。)

Picture 2: Moral Transgression Story

Your friend is sitting next to you. You take your friend´s cookie. Your friend
starts crying.
(ISgirl: Vinkona þín situr við hliðina á þér. Þú tekur kexið hennar. Vinkona þín
fer að gráta. ISboy: Vinur þinn situr við hliðina á þér. Þú tekur kexið hans.
Vinur þinn fer að gráta. JP: お友達が隣に座っています。お友達のクッキー
を取ります。お友達が泣き出します。)

Picture 2: No Moral Transgression Story

Your friend is sitting next to you. Your friend does not see his/her cookie
behind his/her glass of milk. Your friend starts crying.

178

(ISgirl: Vinkona þín situr við hliðina á þér. Hún sér ekki kexið sitt sem er bak við glasið. Vinkona þín fer að gráta. ISboy: Vinur þinn situr við hliðina á þér. Hann sér ekki kexið sitt sem er bak við glasið. Vinur þinn fer að gráta. JP: お友達が隣に座っています。お友達のクッキーは、コップの後ろにちゃんとあるのに、お友達はそのクッキーが見えていないみたいです。お友達が泣き出します。)

Picture #3:
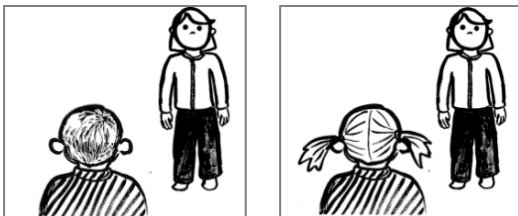
<u>Blame Story</u>
The teacher walks to you. She thinks that it's your fault.
(IS: Kennnarinn labbar til þín. Hún heldur að þetta sé þér að kenna. JP: 先生がきみのほうに歩いてきます。先生は、きみのせいだと思っています。)
<u>No Blame Story</u>
The teacher walks to you.
(IS: Kennnarinn labbar til þin. JP: 先生がきみのほうに歩いてきます。)

Appendix 3. Interview questions

Warming up story
Question: Why is she coming? (asked once per child)
(IS: Af hverju er hún að koma? JP: どうして、先生こっちに来たんだろう？)

Questions for this study's four stories (each child were asked these questions repeatedly for the four stories)

Measure #1: Children's interpretation of the teacher's emotional state (*Teacher*)

Above: Emotion scale used for this question
Question (*Teacher*): How does the teacher feel? Does she feel: Angry, just OK, or fine?
(IS: Hvernig líður kennaranum? Hún er reið, alveg sama eða henni líður vel. JP: 先生はどんなきもちかな。おこっている気持ち、普通の気持ち、いいきもち？)
Question (*Justification Teacher*): Why does she feel angry/ just OK/ fine?
（IS: Af hverju er hún reið/ Af hverju er henna alveg sama?/ Af hverju líður henna vel? なんで、先生は怒っている/普通の/いい気持ちなんだと思う？

Measure #2: Children's expected emotional response (*Self*)

Above: Emotion scale used for this question
Question (*Self*): How would you feel? Would you feel: Bad, just OK, or fine?
(IS: Hvernig myndi þér líða? Myndir þér líða illa, alveg sama eða vel? JP: --ちゃん／くんが、もしこの子だったら、どんな気持ちかな？嫌な気持ち、普通の気持ち、いい気持ち？)
Question (*Justification Self*): Why do you feel bad/ just OK/ fine?

(IS: Af hverju líður þér illa/ Af hverju er þér alveg sama?/ Af hverju líður þér vel? JP: なんで、嫌な気持ち/ 普通の気持ち/いい気持ちになるとおもう？)

Measure #3: Children's immediate action choice (*Action*)
Below: Choices used for this question for each story (each choice appears independently as an animation with the voice presenting the corresponding answer choice before all the three pictures are presented to the child.)

Block Story
Boy version

Girl version

Bicycle Story

Ball Story

Biscuit Story

Question (*Action*): Would you be
-not bothered by what has just happened, and continue doing what you are doing?
-bothered by what has just happened, and stop completely?
-bothered by what has just happened and stop for a short while, and then start doing what you were doing?
(IS: Finnst þér þetta allt í lagi og þú heldur áfram./ Finnst þér þetta ekki allt í lagi og þú stoppar. / Finnst þér þetta ekki allt í lagi og þú stoppar smá stund og heldur svo áfram?   JP:
大丈夫！別に気にしないで、今までどおり続ける。/大丈夫じゃない！

182

今までやっていたことを、全部やめる。/大丈夫じゃない！今までやっていたことをちょっとやめて、そしてまた今までどおり続ける。

Question (*Justification Action*): Why would you be

-not bothered by what has just happened, and continue doing what you are doing?

-bothered by what has just happened, and stop completely?

-bothered by what has just happened and stop for a short while, and then start doing what you were doing?

(IS: Af hverju er þetta allt í lagi og þú heldur áfram/ þetta ekki allt í lagi og þú stoppar/ þetta ekki allt í lagi og þú stoppar smá stund og heldur svo áfram? JP: なんで、別に気にしないで、今までどおり続ける/大丈夫じゃない、今までやっていたことを、全部やめる/大丈夫じゃない、今までやっていたことをちょっとやめて、そしてまた今までどおり続ける？)

Measure #4: Children's expected interaction with teacher (*Interaction*)

Question (*Interaction*): What would you do and say to the teacher?

(IS: Hvað myndir þú gera og segja við kennarann? JP: --ちゃん／くんがもしこの子だったら、先生に、なにかしたりお話したりする？)

Measure #5: Children's opinions about what adults and teachers should do to avoid false blame (*Advice*)

Question (*Advice*): People should not blame other people when they did not do anything bad, but sometimes people make mistakes. When teachers or grownups blame a child when s/he did not do anything bad, what would you like them to do?

(IS: Stundum er fólki kennt um eitthvað sem það gerði ekki. Það er ósanngjarnt. Þega fullorðnir eða kennarar kenna barni um eitthvað sem það gerði ekki, hvað finnst þér að kennarar eða fullorðnir eiga að gera? JP: なんにも悪いことしなかった人に、まちがって叱ったりしないように、大人や先生はどうすればいいかな？なにか良い考えある？)

183

Appendix 4. Classification tables for the open-ended questions

Appendix 4.1. Justification categories for expected teacher's feeling (*Justification Teacher*), protagonist's feeling (*Justification Self*), and protagonist's subsequent action choice (*Justification Action*)

	Description	Example
Wrongdoing	Describing the child's wrongdoing, or stating that the child was bad or naughty.	• Because (the child) knocked the blocks. • Because it is not ok to take the bike that was used by others. • She was naughty. • Because one breaks the blocks, the teacher of course gets angry (later part just repeating his/her prior choice of the teacher's feeling).
No wrongdoing	Stating that the child did not do anything wrong. Also, implying the child's innocence by describing the friend's mishaps* (in Block and Ball stories).	• This child did not do anything. • Because it is ok to use the bike when it was not used. • Because, (the friend) bumped by own leg. Own fault.

---

* Indication of the friend's mishaps were interpreted as one's concern for the friend's trouble in some of the stories. In Block and Ball stories, the friend's mishaps (e.g., the friend breaking the castle by himself/herself, the friend falling down on his/her own) are used to justify children's positive attributions, suggesting that children linked the friend's mishaps with the child's innocence (or the friend's personal responsibility for his/her situation). On the other hand, in the bicycle and the biscuit stories, some children justified their negative attributions with the friend's mishaps (e.g., not seeing the biscuit, or not being able to use the bicycle after coming back from the bathroom), indicating one's concern for the friend's unfortunate situation.

Teacher's criticism	Stating that the teacher is blaming/scolding at the child, showing negative feelings (e.g., anger), or describing teacher's thought/belief about the child's wrongdoing.	• Because (the teacher) thinks that I did it. • Because I was suspected (by the teacher) even though (I) did not do anything. • Well, it is scary when the teacher gets angry. • Because although (the child) did not do it, the teacher would think so, and (the teacher) would feel angry.
Absence of teacher's criticism	Stating that the teacher is not blaming nor showing negative feelings toward the child	• Because (the teacher) is not angry. • Because I was not scolded (by the teacher).
Concern for the friend	Showing sympathy by stating the friend's negative situation (in Biscuit and Bicycle stories) or implying or describing the friend's negative feelings. Also describing ways to ease the friend's pain/loss.	• She does not see the biscuit well. • I would feel bad because it will be a problem if the friend gets mad. • Because that is my friend. • Because others would like to use the bike (I am using). • Because (the child) would feel sorry and let (the friend) stand up.
Teacher's approach	Stating that the teacher is coming toward the child.	• Just because the teacher came. • Because I would feel bad when the teacher comes although it is not me to blame.
Apology	Describing the child apologizing.	• Because I want to apologize.
Personal goal/fulfillment	Reasoning with child's personal goals or desires (e.g., wanting to get his/her	• Because she want to ride the bike. • Because would not get

	favorite ball, wanting to ride the bicycle, wanting to eat more biscuits).	hungry after eating. • It is more fun to do so.
Better choice	Reasoning a certain action as a better way or suggesting ways to avoid creating a negative situation.	• Because it is better to take turn. • Because, it is better to stop. Otherwise, (the child) would break it again. • So I don't push her.
Talk with the teacher	Mentioning that the child would have a talk with the teacher.	• I would tell the teacher, 'did not do anything' and to the friend, "it is here." • Because I talk to the teacher.
Other	Any other reasons that do not fit to the above categories.	• Tears will come (to my eyes). • Because she is the teacher.
Not applicable	Not answering to the question. Also repeating one's previous response. Responses that were clearly unrelated to the question or the context of the given story.	• Just (because). • Because the teacher is feeling better (answering to a question why the teacher would feel as such?)

Appendix 4.2. Children's expected interaction with teacher (*Interaction*)

	Description	Example
Apology	Mentioning apology to the friend or the teacher.	• Say sorry to the friend and the teacher. • I would not lie and say that I made a mistake. • Sorry. It is bad to take (the bike) without asking.
Clarification	Clarifying the child's no involvement in wrongdoing or confessing that the child made a mistake.	• Because the teacher also thought that this child did it, so (the child) says that it is wrong. Say that it is a mistake. • Did not do anything. • I did not do that.
Affection	Expressing the child's affection toward the teacher	• I love you, the teacher. • I would like to play with the teacher.
I will be good	Stating that the child will avoid or will not make a mistake again.	• I should not joke. • I will not do this again.
Provocative comments/actions	Making strong statements or showing provocative behaviors toward the teacher.	• Hit the teacher. • Run away.
Play/Activity	Stating that the child want to or would engage in some activities.	• I would like to ride on the bike. • Do something else.

Other	Any other actions/comments that do not fit to the above categories.	• Does not matter what ball I get. • You are saying some nonsense. • Do not be confused. • Ok/Yes • Close the mouth and sit. • Sit in the corner. Teacher feeling bad, and I want to say, lalalalala.
Not applicable	**Not answering** to the question. **Responses** that were simply the repetition of the choice made by the child in the previous question. **Also responses** that were clearly unrelated to the question or the context of the given story.	• I don't know. • Just (because). • Stop/Stop for a while/Just continue (repeating one's previous response). • Because the teacher is feeling as such (response to a question why the teacher would feel as such?)

Appendix 4.3. Children's advice for adults and teachers to stop blaming children by mistake (*Advice*)

	Description	Example
Better attention	**Mentioning** that teachers/adults should pay better attention by watching children and listening to children better. **Including advice** that mentioned teachers/adults being attentive to what children are doing and feeling.	• Ask (children) who was doing it. • Do not forget. • Better to be beside the child. • Watch well. • Listening more carefully. • Remember. • Everyone needs to help each other to remember this. • Teachers need to see it so that they know who was doing it. Watch better who was doing it.
Positive attitude	**Simply stating** that teachers/adults should be good (learn, be kind, happy, and playful). **Also comments** that state that teachers/adults should not make mistakes or be bad fall into this categories.	• Better not to do anything wrong. • Do not be confused. • Do not make mistakes. • Don't blame. • Just be kind. • To control oneself. • Play.
Apology	Mentioning that teachers/adults should apologize children.	• Apologize. • Say sorry.
Other	**Other reasons** that do not fit to the above categories.	• Get angry with someone who did something bad, not the one who did something not too bad. • Because she is a teacher.
Not applicable	**Not answering** to the question. **Also responses** that were unrelated to the question.	• I don't know. • Just (because). • Go to the airplane.

Appendix 4.4. Children's responses for why the teacher was approaching the child in the warm-up story

	Description	Example
Negative cause	**Reasoning** that the teacher was approaching because of some negative reasons such as the child's bad behavior. **Responses** that included descriptions of the teacher's negative emotion or her attempt to correct or prohibit the child's behavior.	• I was not behaving. • (The teacher is) angry. Maye not allowed. • (Children were) not allowed to play.
Neutral cause	**Reasoning** that the teacher is approaching because of neither overly positive nor negative reasons such as coming to see children or talk with children. **Responses** that included teacher's non-negative directive comments (e.g., cleaning up, coming inside).	• Putting things away. • To invite (children) to come in and play. • Maybe going home. • To see kids playing. • Maybe needing to talk?
Positive cause	**Reasoning** that the teacher is approaching because of positive reasons such as to invite children to play or to join children's play.	• Came to play. • Say, "Let's play!"
Not applicable	**Children not answering**, or saying "I don't know." **Responses** that were not relevant and responses that could not be transcribed.	• I don't know. • Just (because). • Pudding.