# Mediating Effects on the Internalization of Emotional Expression in Self-Regulation

Petra Hartmann, Westfälische Wilhelms-Universität Münster

## Theoretical Background

### Internalization model of emotional development
(Holodynski & Friedlmeier, 2006)

Miniaturization effect in emotional development:

1. Development starts with a predominance of interpersonal regulation in which the child's expression has an appeal function for the caregiver.
2. During preschool age, children become capable of self-regulation.
3. During Childhood, emotional expression decreases in situations in which emotions serve only self-regulation.
4. This miniaturization is an effect of establishing a mental level of emotional processing
5. This is part of a general developmental internalization of action regulation as it can be observed also in the cognitive domain (shift from private to inner speech)

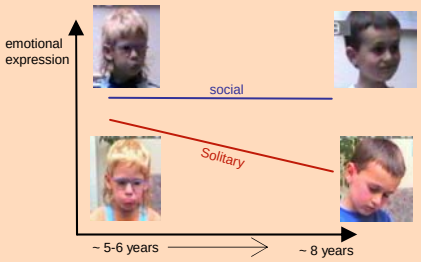


Figure 1: Expected development of emotion expression during childhood.

## Possible Mediators Of the Miniaturization Effect

cognitive variables

Which developmental processes may cause the miniaturization of expression?

1. emotion comprehension: The better children's ability to discriminate between expression and feeling on a conceptual level the stronger the miniaturization.
2. general cognitive intelligence: The better children's intelligence the stronger the miniaturization.
3. use of inner speech (Vygotskij): The better the shift from private to inner speech the stronger the miniaturization.

methodological aspects

How is emotional internalization operationalized?

1. Miniaturized expression in a solitary situation
2. Difference in intensity of expression between interpersonal and solitary situation. The social situation has to be a situation in which the protagonist overtly shows his emotion.
3. People refer to mental expressions signs when feeling an emotion (they experience expressive sensations without perceivable expressive behaviour)

## Empirical Evidence

1. Impact of intelligence and use of inner speech on emotional internalization:
   No data are available up to now.
2. Impact of emotion comprehension:
   → inconsistent findings:

   *Study 1:* Holodynski (2004): As expected, negative correlation between emotion comprehension and intensity of expression in solitary situation.

   *Study 2:* Holodynski, Hartmann & Hirte (2008): The negative correlation could not be replicated in a longitudinal study.

Possible reasons for the zero correlation in Study 2:

Characteristics of the sample: On average, children in Study 2 possess higher emotion comprehension than children in Study 1.

→ This might be due to the circumstance that the teacher of the analyzed children may have taught them in emotion comprehension.

But, a higher emotion comprehension should be related with a weaker emotional expression in solitary situations. This was not the case. Therefore, emotion comprehension cannot serve as the generating factor of miniaturization.

Question: Does emotion comprehension or more general cognitive competencies like intelligence or use of inner speech cause miniaturization?

This requires a study in which

(1) the miniaturization effect is elicited and is correlated with these three factors.

(2) Only emotion comprehension (but not intelligence and use of inner speech) is raised [e.g. by an emotion training at school]. If such a training leads to a reduction of the correlation between emotion comprehension and miniaturization, than emotion comprehension cannot generate miniaturization.

How could this be tested?

Experimental variation of emotion comprehension e.g. by conducting an emotion-training for one part of children and no training for the other part.

Possible restrictions of the validity of these operationalizations:

1. Measurement of emotional intensity:

- Does a weak expression in solitary situations represent only a weak feeling or a strong feeling?
- Could miniaturized expression in solitary situation also be explained by a decreased intensity of feeling with increasing age e.g. the older the children were the fewer their joy about the gifts?

  => Intensity of feeling was assessed and it was stable across age (Holodynski, 1997, 2004). However, the stability of feeling intensity could be caused also by an insensitive assessment of the intensity of feeling: Children of this age have problems with the use of Likert scles.
  => This requires a more precise assessment tool for the intensity of feeling.

2. Nature of the social context: Do participants overtly show their felt emotion?

- In all recent studies, an adult experimenter was present. This might elicit the following consequences:
  a) His presence might have elicited state shyness and have forced children to obey social expectations: They expressed joy when getting the gifts because they thought the experimenter wants them to feel happy (display rules). In such a case, a difference between solitary and social expression is due to display rules in the social context and not due to a miniaturization effect in solitary situation.
  b) Children with high trait shyness show reduced emotional expressions in the presence of an unfamiliar adult. In such a case, the difference between solitary and social expression disappears and a possible miniaturization effect cannot be measured.
- Empirical findings:
  a) State shyness: no studies available
  b) Trait shyness: Holodynski (unpublished) -> no correlation between trait shyness and intensity of emotional expression in social situation. However, difference of expressive intensity between social and solitary situation was .56 for non-shy children and .22 for shy children aged five to eight years (non-shy/ shy was defined as under/ over median-split).
  Melfsen (2003): children with social phobia show lower emotion expression if joy was induced, but not if anger or frustration was induced -> it seems to be easier to control positive expression than negative ones.

Conclusions for future research

- Create a situation in which children overtly show their emotions, perhaps by reducing state shyness through the presence of a familiar peer or adult instead of an unfamiliar experimenter
- Develop of a more sensitive method for measuring intensity of feeling in children
- Choose another measurement of trait-shyness, e.g. an observational method

## Hypotheses


**$H_C$:** Intelligence (and/or use of inner speech) mediates the correlation between emotion comprehension and the miniaturization effect.

**$H_S$:** The higher a child's trait shyness, the lower his expression in a social with an unfamiliar adult and the lower the miniaturization effect. This relation holds true especially for the expression of joy. These hypotheses count also for state shyness.

## Research Plan

Experiment 1:

Emotion induction of joy and disappointment by a slot machine (see Holodynski, 2004):

*independent variables:*
- [continuous] age (6 to 8 years old)
- [2] emotion quality (joy/ disappointment)
- [2] context (solitary, experimenter present)
- [2] emotion comprehension (training of emotion comprehension, control group)
- [continuous] trait shyness

*dependent variables:*
- quality and intensity of feeling (new assessment tool with a lever switch)
- quality and intensity of expression
- emotion comprehension, intelligence, use of inner speech

Experiment 2:

Emotion induction of joy and disappointment by a slot machine (see Holodynski, 2004):

*independent variables:*
- [continuous] age (6 to 8 years old)
- [2] emotion quality (joy/ disappointment)
- [3] context (solitary, experimenter present, peer present)
- [continuous] trait shyness

*dependent variables:*
- quality and intensity of feeling (new assessment tool with a lever switch)
- quality and intensity of expression
- state shyness

contact: petra.hartmann@uni-muenster.de