

SUPPLEMENTARY MATERIALS

Young Children's Self-Concepts Include Representations of Abstract Traits and the Global Self

Child Development

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STUDY 1

Analytic Strategy

To model children's responses across the four failure scenarios, we conducted a multilevel model in MPlus 7.2 (Muthén & Muthén, 1998-2012). The multilevel model was necessary to account for the dependence relations among the observations within the dataset: A given participant's responses to the different scenarios are more strongly correlated with one another relative to responses made by other participants (see Hox, 1998; Muthén & Muthén, 1998-2012; Peugh, 2010, for more detail). Accordingly, children's responses to the four scenarios were nested within participants.

The scenario-level (level 1) equation in the multilevel model is as follows:

$$GSW_{sy} = b_{0y} + b_{1y}(\textit{importance} \text{ manipulation for scenario } s) + b_{2y}(\textit{request} \text{ manipulation for scenario } s) + e_{sy}$$

In the above equation, the reported global self-worth (*GSW*) for individual *y* in scenario *s* is a function of an intercept (b_0 for individual *y*), the presence vs. absence of the *importance* manipulation (b_1) for that scenario, the presence vs. absence of the *request* manipulation (b_2) for that scenario, and an error term (e_{sy}).

At the person level (level 2), we modeled the intercept and error term. In the subsequent analyses that tested the main and moderating effects of contingent self-worth, these additional variables were modeled at level 2. Similar multilevel models were used in Studies 2–4.

References Additional to Manuscript

- Hox, J. J. (1998). Multilevel modeling: When and why. In I. Balderjahn, R. Mathar, & M. Schader (Eds.). *Classification, data analysis, and data highways* (pp. 147-154). New York: Springer Verlag.
- Peugh, J. L. (2010). A practical guide to multilevel modeling. *Journal of School Psychology, 48*, 85-112.

Supplementary Table 1
The four pretend scenarios presented to children in Study 1

Important tasks

1) Name

One day, you're at home and your mom is out grocery shopping. You walk into the kitchen and see some paper and a pen on the table. You sit down and, after a moment, you start to write your name on the paper.

If adult-request scenario: Before she left, your mom told you she really wants you to write out your name. She really wants you to write out your name.

If self-initiated scenario: You really want to write out your name. You really want to write out your name.

But, even though you try really hard, you forget a bunch of letters in your name. You forget a bunch of letters, and your name just doesn't look right.

2) Numbers

One day, you get to school early. Your teacher and your classmates are not there yet. You walk into class and notice that there is some paper on your desk and some crayons too. You sit down and, after a moment, you start to write the numbers from 1 to 10 on the paper.

If adult-request scenario: Yesterday, your teacher told you she really wants you to write out all the numbers from 1 to 10. She really wants you to write out all the numbers from 1 to 10.

If self-initiated scenario: You really want to write out all the numbers from 1 to 10. You really want to write out all the numbers from 1 to 10.

But, even though you try really hard, you forget many of the numbers in between. You forget many of the numbers, and the list just doesn't look right.

Recreational tasks

3) Puzzle

One day, you're at home and your mom is outside. You walk into the living room and see a puzzle on the table. You sit down and look at the puzzle box: It has a nice picture on it. After a moment, you start working on the puzzle.

If adult-request scenario: Before she went outside, your mom told you she really wants you to finish the puzzle. She really wants you to finish the puzzle.

If self-initiated scenario: You really want to finish the puzzle. You really want to finish the puzzle.

But, even though you try really hard, you just can't finish it. The puzzle is still split up in lots of pieces.

4) Drawing

One day, you're at school and you walk into your classroom. Nobody else is there yet. You sit at your desk and notice there is paper and some colored pencils. You also notice that there is a basket of apples on the teacher's desk. After a moment, you start drawing the apples.

If adult-request scenario: Yesterday, your teacher told you she really wants you to draw a good picture of the apples. She really wants you to draw a good picture of the apples.

If self-initiated scenario: You really want to draw a good picture of the apples. You really want to draw a good picture of the apples.

But, even though you try really hard, your drawing just does not look like apples. Your drawing looks nothing like apples.

Supplementary Table 2

Sample justifications provided by children in Study 1

Adult-disapproval justifications

Because I'm not doing what my mother tells me to.

Because I forgot the letters, so she would be angry or a little mad at me.

Because my teacher said to do it, and if I didn't, I might have a punishment or something like that.

Because I don't know how to spell it, and once my mom comes back in, I haven't spelled it yet, and I will be in trouble.

Standard-violation justifications

'Cause you're supposed to know your name.

Because, like, you're supposed to know how to spell your name.

Because I should remember how to write my name, and when I go to school I will just forget a bunch of letters and stuff.

Because I'm supposed to know all the letters in my name.

Supplementary Table 3

Script for the product-rating measure of contingent self-worth used in Study 1 (adapted from Heyman, Dweck, & Cain, 1992)

Okay, so now we're going to act out a story with dolls. [*Take out wooden dolls, offer one to the child.*] This one is going to be you, and this one is going to be a teacher called Teacher Debbie. Teacher Debbie is in her office right now. [*Walk teacher doll over to the side of the table.*]

You spend a lot of time building a house out of blocks to give to your teacher. You carefully pick out which blocks you should use and how to fit them together to make the house look really nice. After it is built you say to yourself, "Uh oh, there are no windows in the house." But you worked really hard on the house and want to give it to her. You say, "Teacher, I made a house for you." [*Walk teacher doll over to child doll.*] When Teacher Debbie saw the house you made, she said: "There are no windows on that house. That's not what I call building a house the right way. I'm disappointed in you." Ok, so now I'm going to ask you a few questions about the house you just made.

Do you like your house, or do you not like it?

Supplementary Table 4

The four pretend scenarios presented to children in Study 2

Important tasks

1) Writing one's first and last names

One day, you're at home and your mom is out grocery shopping. You walk into the kitchen and see some paper and a pen on the table.

You sit down and, after a moment, you start to write your first and last names on the paper. You really want to write out your first and last names.

You really want to write out your first and last names. But even though you try really hard, you forget a bunch of letters in your names. You forget a bunch of letters, and your first and last names just don't look right.

2) Writing the numbers from 1 to 20

One day, you get to school early. Your teacher and your classmates are not there yet. You walk into your class and notice that there is some paper on your desk, and some crayons too. You sit down and, after a moment, you start to write the numbers from one to twenty on the paper.

You really want to write out all the numbers from one to twenty. You really want to write out all the numbers from one to twenty.

But even though you try really hard, you forget many of the numbers in between one and twenty. You forget many of the numbers, and the list just doesn't look right.

Recreational tasks

3) Making a Play-Doh ball

One day, you're at home and your mom is outside. You walk into the kitchen and see some Play-Doh on the table. You sit down and, after a moment, you start to make a ball out of the Play-Doh.

You really want to make a ball out of that Play-Doh. You really want to make a ball out of that Play-Doh.

But even though you try really hard, your Play-Doh just does not look like a ball. Your Play-Doh looks nothing like a ball.

4) Drawing a sun

One day, you're at school, and you walk into your classroom. Nobody else is there yet. You sit at your desk and notice there is paper and some colored pencils. After a moment, you start drawing a sun.

You really want to draw a sun. You really want to draw a sun.

But even though you try really hard, your drawing just does not look like a sun. Your drawing looks nothing like a sun.

Supplementary Table 5

The four pretend scenarios presented to children in Study 3

1) Making Something out of Play-Doh

One day, you're at home. You walk into the kitchen and see some Play-Doh on the table. You sit down and, after a moment, you start to make a ball (EASY) / car (HARD) out of the Play-Doh.

You think to yourself: "This is going to be pretty easy/hard, but I want to do it anyway." You really want to make a ball/car out of that Play-Doh, even though it is going to be easy/hard.

So you sit down and start working on your ball/car. But even though you try and try, your Play-Doh just does not look like a ball/car. Your Play-Doh looks nothing like a ball/car. You thought it was going to be easy/hard to make, but/and you weren't able to make it.

2) Building a Tower

One day, you're at home. You walk into the living room and notice that there are some blocks on the floor. You sit down and, after a moment, you start to build a tower out of the blocks. You're thinking you will keep it pretty small (EASY) / make it really big (HARD).

You think to yourself: "This is going to be pretty easy/hard, but I want to do it anyway." You really want to build a small/really big tower out of the blocks, even though it is going to be easy/hard.

So you sit down and start working on your small/really big tower. But even though you try and try, you can't get the blocks to stack right. You can't get the blocks to stack right, and the small/really big tower just keeps falling over. You thought it was going to be easy/hard to build, but/and you weren't able to build it.

3) Putting Together a Puzzle

One day, you're at home. You walk into the dining room and see a puzzle on the table. It is pretty small – it's only got a few pieces. (EASY) / It's pretty big – it's got lots and lots of pieces. (HARD) You sit down and, after a moment, you start working on it.

You think to yourself: "This is going to be pretty easy/hard, but I want to do it anyway." You really want to finish this small/big puzzle, even though it is going to be easy/hard.

So you sit down and start putting together your small/big puzzle. But even though you try and try, you don't know where to put many of the pieces. You don't know where many of the pieces fit, and the small/big puzzle just doesn't look right. You thought it was going to be easy/hard to finish, but/and you weren't able to finish it.

4) Drawing a Picture

One day, you're at home. You walk into your room and notice there is paper and some colored pencils on the bed. After a moment, you start drawing a sun (EASY) / horse (HARD).

You think to yourself: "This is going to be pretty easy/hard, but I want to do it anyway." You really want to draw a sun/horse, even though it is going to be easy/hard.

So you sit down and start working on your sun/horse. But even though you try and try, your drawing just does not look like a sun/horse. Your drawing looks nothing like a sun/horse. You thought it was going to be easy/hard to draw, but/and you weren't able to draw it.

Supplementary Table 6
The four pretend scenarios presented to children in Study 4

1) Play-Doh

One day, you're at home and your mom is outside. You walk into the kitchen and see some Play-Doh on the table. You sit down and, after a moment, you start to make a ball out of the Play-Doh.

If adult-request scenario: Before she left, your mom told you she really wants you to make a ball out of that Play-Doh. She really wants you to make a ball out of that Play-Doh.

If self-initiated scenario: You really want to make a ball out of that Play-Doh. You really want to make a ball out of that Play-Doh.

So you sit down and start making the ball. But even though you try really hard, your Play-Doh just does not look like a ball. Your Play-Doh looks nothing like a ball

2) Tower

One day, you get to school early. Your teacher and your classmates are not there yet. You walk into your class and notice that there are some blocks on the desk. You sit down and, after a moment, you start to build a tower out of the blocks.

If adult-request scenario: Earlier, your teacher told you she really wants you to build a tower out of the few blocks. She really wants you to build a tower out of the blocks.

If self-initiated scenario: You really want to build a tower out of the few blocks. You really want to build a tower out of the blocks.

So you sit down and start to build the tower. But even though you try really hard, you can't get the blocks to stack right. You can't get the blocks to stack right, and the tower just keeps falling over.

3) Puzzle

One day, you're at home and your mom is out grocery shopping. You walk into the living room and see a puzzle on the table. You sit down and, after a moment, you start working on the puzzle.

If adult-request scenario: Before she left, your mom told you she really wants you to finish the puzzle. She really wants you to finish the puzzle.

If self-initiated scenario: You really want to finish the puzzle. You really want to finish the puzzle.

So you sit down and start working on it. But even though you try really hard, you don't know where to put many of the pieces. You don't know where many of the pieces fit, and the puzzle just doesn't look right.

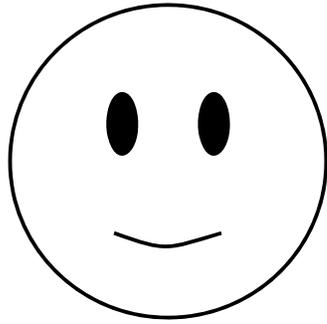
4) Drawing

One day, you're at school, and you walk into your classroom. Nobody else is there yet. You sit at your desk and notice there is paper and some colored pencils. After a moment, you start drawing a sun.

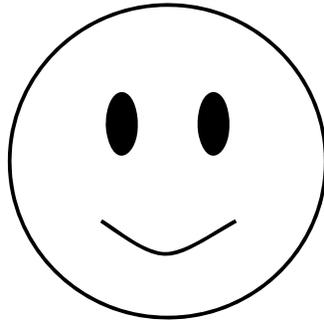
If adult-request scenario: Yesterday, your teacher told you she really wants you to draw a sun. She really wants you to draw a sun.

If self-initiated scenario: You really want to draw a sun. You really want to draw a sun.

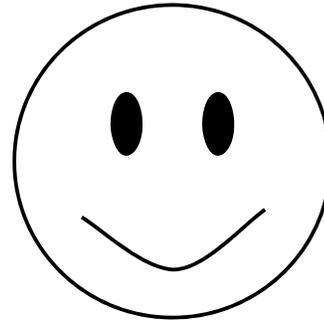
So you sit down and start drawing the sun. But even though you try really hard, your drawing just does not look like a sun. Your drawing looks nothing like a sun.



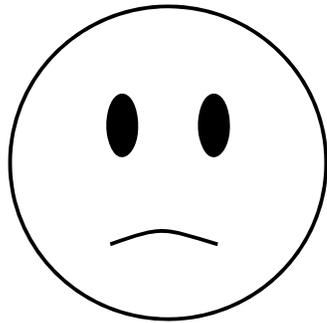
sort of good



good



really good



sort of not good

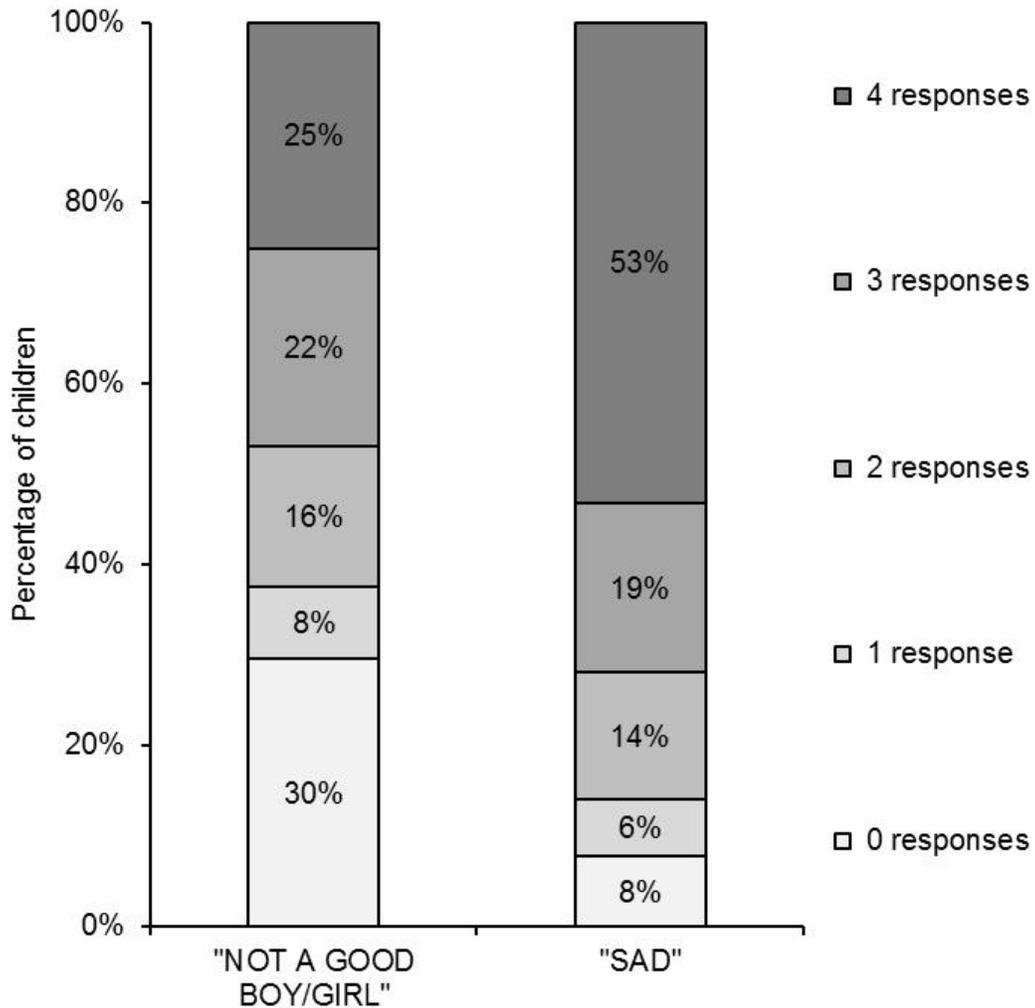


not good



really not good

Supplementary Figure 1. The scale of schematic faces used in the two-step rating scales. For example, for the measure of global self-worth, children were first asked whether the failure made them feel like “good” or “not good” boys/girls. Children then indicated how “good” or “not good” they felt on the corresponding three-point scale of schematic faces.



Supplementary Figure 2. The percentages of children in Study 1 who responded with “not a good boy/girl” (left) or “sad” (right) on 0, 1, 2, 3, or 4 of the 4 failure scenarios. The measure of affect was included to ensure that children did not misunderstand the global self-worth question as a question of *feeling* good vs. not good (i.e., affect). As expected, children’s answers to the self-worth and affect questions were distinct (see the distributions above). For example, children responded to task failure with significantly more descriptions of being *sad* than being *not-good children* ($p < .001$ by a sign test). Further, the *request* and *importance* manipulations did not influence children’s feelings of being happy/sad ($ts < 1.44, ps > .15$).