

Holger Brandes, Markus Andrae, Wenke Roeseler, Petra Schneider-Andrich (2014).

Comparing female and male ECE workers in a standardized pedagogical situation. Final Results of the German “Tandem-Study”

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Abstract

The German “Tandem study” (2010-2014), supported by the German Ministry of Family Affairs, Senior Citizens, Women and Youth, pursues the objective of investigating and comparing the behaviour of male and female ECE workers. The study is related to previous research on men in ECE by Cameron (2006), Owen (2003), Rohrmann (2008, 2009). Moreover, it draws on research on the role of the father in child development (Lamb 1997, Day/Lamb 2004), attachment theory (Grossmann/Grossmann 2004) and the concept of “doing gender” (West & Zimmermann 1987). The tandem study is based on a combined methods design. ECE workers are videotaped in a standardized everyday-like pedagogical situation with multiple materials, in interaction with, in each case, one child from their group. These sequences were rated by a trained rating group and thus transformed into quantitatively comparable data. Comparisons are carried out on several dimensions of pedagogical behavior, e.g. empathy, challenge, dialogical interaction, type of cooperation, and content of communication. Moreover, the use of materials and the resulting products were analyzed. The involved children, the parents and the ECE-workers gave their agreement to be filmed.

On respect to professional standards of pedagogical behavior there are no differences between female and male ECE workers. An influence of gender only becomes apparent regarding which activities, themes and materials professionals incline, and which interests and inclinations of girls and boys they take up. Moreover, workers interact different with boys and girls. Differences are most obvious in gender-homogenous constellations. The results support initiatives for a more gender-balanced work force but point out that links between gender and pedagogic quality should be more examined in practice as well as in research.

Keywords

men in early childhood education, behaviour against boys and girls, gender balance in ECE, adult-child-relation, experimental research

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Comparing female and male ECE workers in a standardized pedagogical situation

Final results of the German “Tandem-Study”

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 **tandem** Forschungsprojekt zu Frauen und Männern in der Elementarpädagogik

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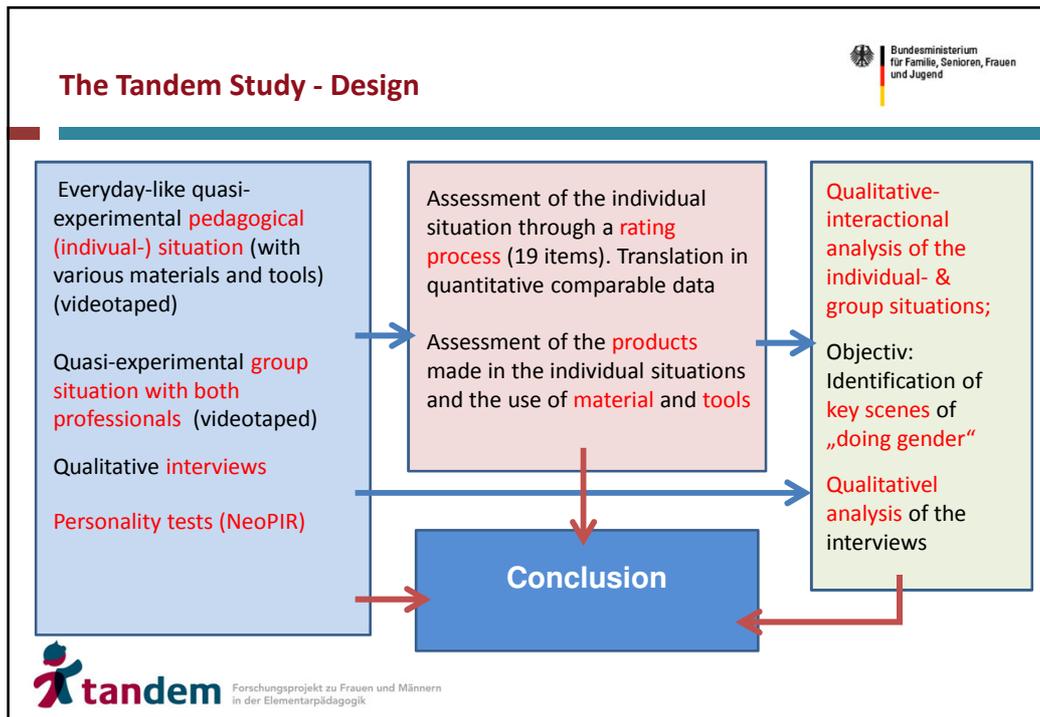
The Tandem Study

The Tandem Study (Nov. 2010 -June 2014) pursues the objective of investigating and comparing the behaviour of male and female ECE worker in kindergarten (children between three and six years of age).
Ad-hoc sample: 106 female and male ECE-worker: 41 man/woman-tandems, 12 woman/woman-tandems (tandems are used to control the influence of pedagogical concepts and working conditions)

Main research questions:

- Do male and female ECE workers differ in their behavior toward children, according to pedagogical standards?
- Are boy and girls treated differently by female and male ECE workers?
- Do ECE workers serve different themes and inclinations, with girls than with boys?

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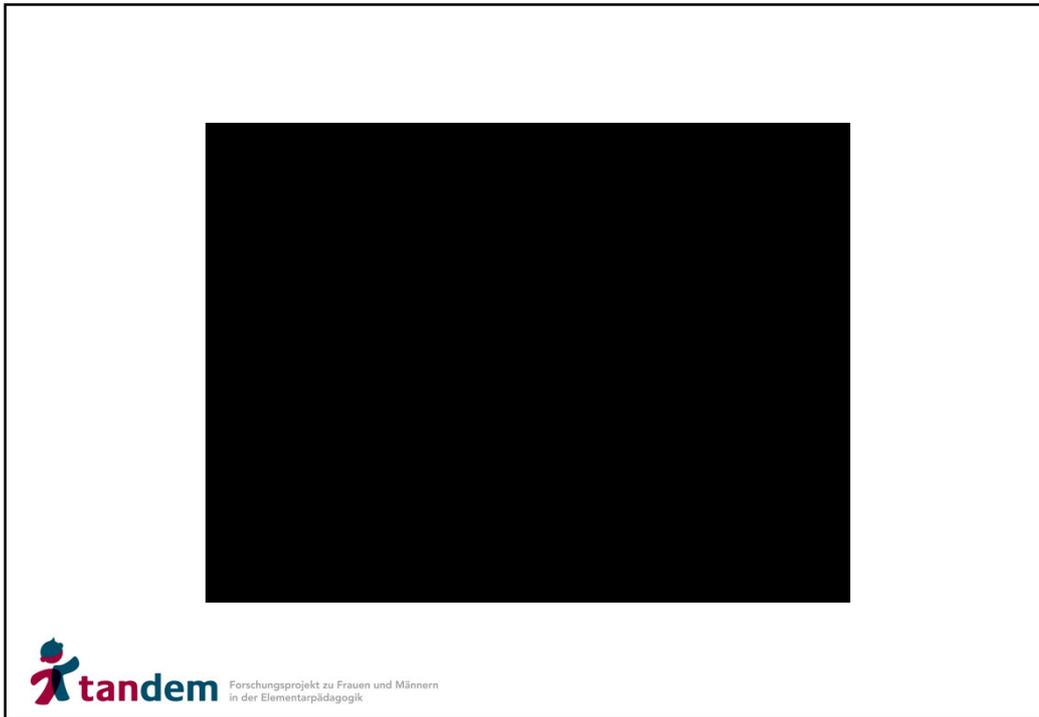
Standardised (quasi-experimental) individual situation



Male or female ECE worker with one child
 Two cases with a range of various materials and tools)
 Time frame of 20 min.



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Rating results - individual situation

Comparison of the ratings results of the standardised individual situation (man/woman tandems: n = 41/41)

Empathy
Challenge
Dialogical interaction
Manner of cooperation
Content of communication

Team of 6 Raters (Students, 3 male & 3 female)

Interraterreliability: ICC_{MW} unjust, random; Modell:Two-Way-Random; Typ: Absolut Agreement; the values for all items were clearly within the range above ICC = .70 (except 2.4, ICC = .69), with which, according to Wirtz & Caspar (2002), they are reliable.



Dimension „empathy“: comparison of the ratings results

Item (1 = does not apply at all, 5 = applies completely)	Women M (Median; SD)	Men M (Median; SD)	P-Value MWU-Test
ECE worker reacts to expressions & impulses of the child appropriately & promptly (1.1)	3.74 (3.83; 0.69)	3.63 (3.83; 0.79)	.74
ECE worker supports the child appropriately (without unrequested interference & rules/regulations) (1.3)	3.24 (3.33; 0.87)	3.32 (3.67; 1.02)	.47
ECE worker gives appropriate positive & appreciative feedback (1.4)	3.38 (3.50; 0.80)	3.19 (3.17; 0.78)	.29

When one compares the median values for the male and female educators, for all three items, only minimal differences appear. These prove to be statistically not significant. Therefore, in relation to this dimension, no gender effect is apparent. Here, also, the assumption made by attachment research, that women (mothers) are more empathetic in activity with children, is not confirmed in connection to the ECE workers from the sample.



Dimension “dialogical interaction”: comparison of the ratings results

Item (1 = does not apply at all, 5 = applies completely)	Women M (Median; SD)	Men M (Median; SD)	P-Value MWU-Test
ECE worker takes up suggestions &/or initiatives of the child (2.1)	3.76 (4.00; 0.75)	3.66 (3.83; 0.99)	.96
ECE worker waits patiently for decisions of the child (2.2)	3.24 (3.17; 0.89)	3.48 (3.67; 1.11)	.18
ECE worker is facing the child and seeks eye contact (2.8)	3.80 (3.83; 0.64)	3.72 (3.67; 0.80)	.80

This dimension includes items developed by König (2009), which orient to aspects of dialogical interaction as a professional criterion for appropriate pedagogical behaviour with children.

The comparison of the median values for male and female ECE workers also results here not in significant differences. The men do appear to be somewhat more patient with respect to decisions made by the child (item 2.2), but this difference is also not significant.



Summary: comparison of the ratings results for all five Dimensions

- In summary, in all evaluated items, no significant difference results between the groups of male and female ECE workers. With respect to empathy, challenge, dialogical communication, the manner of cooperation, and the content of communication, there is hardly any difference between the behaviour of the male and female ECE workers in the standardised individual situation.
- When one compares the results of the man/woman-tandems with those of the control group of 12 woman/woman-tandems, no statistically meaningful differences are revealed. The results of the woman/woman tandems correspond to the values of the women in the man/woman tandems.
- With regard to professional qualities of the manner of interaction with the children no influence of the gender of the ECE workers can be recognized.



Ratings results taking into account the gender of the child I

Treatment of girls and boys by female ECE workers (n=41)

Item (1 = does not apply at all, 5 = applies completely)	Girls (n = 21) M (Median; SD)	Boys (n = 20) M (Median; SD)	MWU-Test P-Value
ECE worker expresses him/herself primarily objectively-concretely & functionally about the activity, or takes this up when this comes from the child (2.5)	3.55 (3.50; 0.81)	4.03 (4.25; 0.70)	.05
ECE worker accompanies the activity with associative fantasies & narrations, or takes these up when this comes from the child (2.6)	2.56 (2.50; 1.08)	1.89 (1.67; 0.69)	.06
ECE worker addresses the relationship or the personal (attributes, experiences, emotions) or takes these up when this comes from the child (2.7)	2.31 (2.33; 0.99)	1.83 (1.75; 0.78)	.07
ECE worker & child pursue different sub-projects in parallel activity & only partial cooperation (3.3)	2.18 (1.83; 1.23)	1.35 (1.00; 0.70)	.01



Ratings results taking into account the gender of the child II

Treatment of girls and boys by male ECE workers (n=41)

Item (1 = does not apply at all, 5 = applies completely)	Girls (n = 20) M (Median; SD)	Boys (n = 21) M (Median; SD)	MWU Test <i>P-Value</i>
ECE worker expresses him/herself primarily objectively-concretely & functionally about the activity, or takes this up when this comes from the child (2.5)	3.65 (4.00; 0.88)	4.10 (4.33; 0.58)	.06
ECE worker & child pursue different sub-projects in parallel activity & only partial cooperation (3.3)	2.04 (1.67; 1.22)	1.33 (1.17; 0.54)	.04

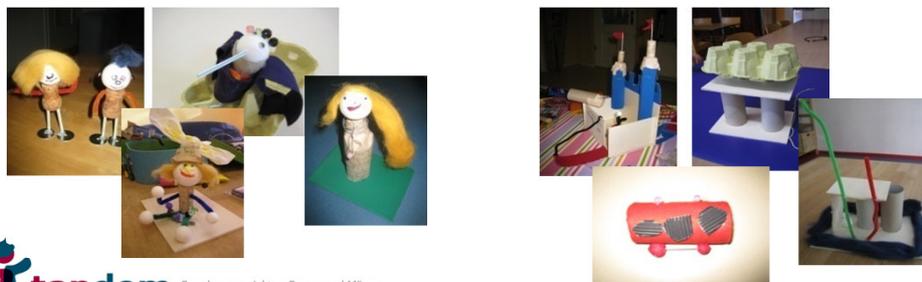
These findings yield that male as well as female ECE workers behave differently toward boys and girls: communication with boys is rather more in an objective-concrete relation; communication with girls is rather more personal and fantasy-related. Also, with respect to the manner of cooperation ECE worker of either gender operate with similar differences toward boys and girls.

These differences are more marked on the part of the women than on that of the men.



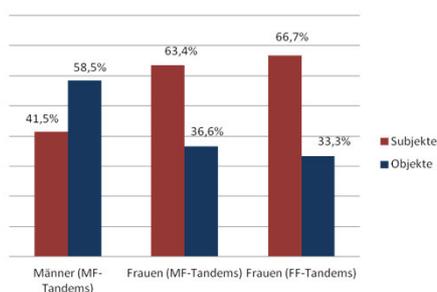
Products made

The products made in the individual situations can be distinguished with respect to whether they symbolise ‘**subjects**’, in the sense of living creatures, such as humans or animals (operationalized as ‘having eyes’), or ‘**objects**’ such as cars, buildings or aeroplanes (‘not having eyes’).

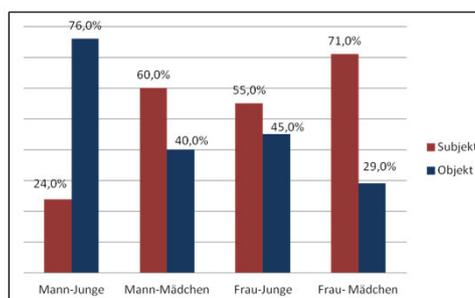


Products made

Products made in relation to the gender of the professional



Products made in relation to the gender of the professional and of child (m/f-tandems)



Women are more often involved in the construction of subjects, men in that of objects. While it is more likely that ECE workers of both genders products subjects with girls, in the situation with boys it is more likely to be objects. This effect is significant.

Use of materials/tools (m/f-Tandems)

material	Male ECE worker	Female ECE worker	boys	girls
felt wool	34.1 %	51.2 %	31.7 %⁺	53.7 %⁺
pipe cleaners	56.1%	75.6 %	53.7 %⁺	78.0 %⁺
beads/pearls	22.0 %⁺	43.9 %⁺	26.8 %	39.0 %
Styrofoam balls	61.0 %	65.9 %	51.2 %⁺	75.6 %⁺
nails	31.7 %	24.4 %	41.5 %⁺⁺	14.6 %⁺⁺
coloured paper	46.3 %	51.2 %	34.1 %⁺⁺	63.4 %⁺⁺
washers	17.1 %⁺	2.4 %⁺	9.8 %	9.8 %
hammer	26.8%	29.3%	39.0%⁺	17.1%⁺
Hot glue gun	68.3%	63.4%	75.6%	56.1%
Coloured pencils	78.0%	80.5%	68.3%⁺	90.2%⁺
Scissors	68,3%	85,4%	70,7%	82,9%

bold = tendentially significant $p \leq 0.1$ **bold⁺** = significant $p \leq 0.05$ **bold⁺⁺** = significant $p \leq 0.01$

Summary and more...

- In summary, in our sample male and female ECE workers did not differ on **how** they behave towards children. But they behave differently towards boys and girls.
- Differences between male and female ECE workers became apparent when the issue is **what** the professionals do with the children, to which themes and materials they incline, and which interests and inclinations of girls and boys they take up.
- The standardised situation reflects only a small facet of the everyday routine in children's daycare institutions. But in the **interviews**, on the whole the ECE workers confirm gender stereotypical inclinations, such as they appear in the standardised situation with respect to use of materials and products.
- Beyond this, in the additional analysis of **group situations** (Twister™), it became apparent that whereas male ECE workers encourage competitiveness, female ECE workers contrastingly facilitate choreographic presentation. In doing this they serve boys and girls differing preferred principles of game playing.



Thank you for your attention.



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