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An exploratory study of children’s peer touch in a Swedish preschool: touch forms, bodily arrangements, and social constellations

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ABSTRACT
This study explores children’s peer touch in a Swedish preschool using video observations. Two main aspects of children’s touch in focus: (1) to what extent do children use touch within the peer group and with whom and (2) in what ways do children touch each other (i.e. what touch forms are used and what areas of other children’s bodies are touched). Data consists of 10 hours of video recordings, featuring 35 children aged 1–5 years. The results suggest that touch is available for children in a range of social arrangements: it was common in children’s peer-group interactions, and it was not limited to specific child constellations. The most prominent categories were affectionate touches (embraces, holding hands, or pats), but the children also used touch to control their peers’ conduct (grabbing, pulling, and pushing) as well as adult-like embodied directives (shepherding moves). The social and material context of a preschool may contribute to practices where touch is part of ordinary interactions and cultural practices within the peer group. The study demonstrates some differences between educator-child, and children’s peer touch thereby highlighting the importance for educators to consider children’s specific touch cultures when attending to, supporting, and shaping children’s peer – relations.

KEYWORDS
Touch; peer group; social interaction; embodied sociality; video observation; early childhood education; preschool

Introduction

Touch is a fundamental part of human communication, and it plays an important role in human social relations (Hertenstein and Weiss 2011). The way people touch each other has been shown to be strongly associated with the nature of their relation and the degree of their emotional bond (Suvilehto 2018). In preschool contexts, children spend a considerable amount of time in close proximity to each other, and physical contact has been reported to feature pervasively in children’s interactions – both with educators and peers (Bergnehr and Cekaite 2018; Cigales et al. 1996; Ben-Ari 2013; Ekström and
Thus far, however, research on physical contact in early childhood education settings has primarily focused on intergenerational adult–child touch (e.g. Bergnehr and Cekaite 2018; Cekaite and Bergnehr 2018; Fleck and Chavajay 2009; Keränen and Uitto 2023). A growing number of studies based on interviews with educators have examined the professionals’ notions of appropriate vs. inappropriate educator–child touch, reporting that intergenerational touch is considered potentially sensitive in a preschool context (e.g. Fletcher 2013; Keränen and Uitto 2023; Öhman and Quennerstedt 2015). Studies that used observations of real-life touch behavior between educators and children highlight that touch serves a variety of social functions such as managing children’s conduct, showing affection and assisting, among others (Bergnehr and Cekaite 2018; Cekaite and Bergnehr 2018; Fleck and Chavajay 2009).

To date, there is little observation-based knowledge about the extent and functions of physical contact involving young children in early childhood education. Despite the importance of peer interaction for children’s learning and development (e.g. Rubin, Bukowski, and Bowker 2015), and the fact that interactions in the peer group constitute a large proportion of the children’s experiences in early childhood institutions, little is known about how touch features as a social and communicative resource among peers (but see Cigales et al. 1996; Field et al. 1994; on the USA and Ekström and Cekaite 2020; Keränen, Viljamaa, and Uitto 2021 in a Nordic context).

This exploratory study aims to further understanding of how young children interact physically with each other, focusing on children’s bodily engagements within the social and material context of an early childhood educational institution. By using video observations of daily activities from a Swedish preschool, we explore children’s touch behavior in the peer group. The analysis is directed at the multiple features of communicative touch used by children, i.e. (i) forms and social functions of peer touch, (ii) social constellations engaged in touch contact in the peer group; and (iii) the body areas involved in children’s touch actions. The descriptive quantitative and qualitative results of the study contribute to contextually based knowledge about young children’s bodily conduct and bodily sociality.

**Touch and human sociality**

Touch is pervasive in human interaction and can be used for a variety of communicative and social purposes. It serves as a foundation for prosocial behavior, contributing to forming and maintaining social bonds and as a nonverbal resource for communicating emotions, and reduce aggressive behavior (Field 2010). Touch has fundamental importance for children’s socio-emotional development, behavioral and emotion regulation (see mother–child studies, Stack and Jean 2011). Positive bodily contact plays a significant role in children’s well-being and development in that it communicates care, nurturance, trust and support, and can promote positive, and reduce aggressive behavior (Field 2010). Physical contact and embodied practices constitute a prevalent feature of young children’s lives in early childhood institutions, and various socializing practices regulate and shape children’s embodied conduct and learning (Bergnehr and Cekaite 2018; Tobin, Hsueh, and Karasawa 2009). Touch and bodily contact have an important function in showing emotional reciprocity and mutuality as for instance in comforting and soothing young children (Cekaite and Holm Kvist 2017; De Leon 2021; Holm Kvist 2020; but see
Bateman 2021 on how older children’s crying is managed by teachers verbally). Touch conduct, frequencies and acceptance vary culturally, and caregivers in some cultures use touch more frequently (Bergnehr and Cekaite 2018; De Leon 2021) while in early childhood education institutions in some Anglo-Saxon countries the use of adult–child touch is regulated and verbal means are preferred (cf. Bateman 2021).

The social meaning of various types of touch is intertwined with the context in which it is used, including the relation between the toucher and the person being touched. In studies on adults, based on self-reporting methods, touch has been reported to be more frequent in homes than in public spaces, or places of work and study (Suvilehto et al. 2015; Willis and Rinck 1983). The ways and to what extent touch is used are also closely linked to the strength of the emotional bond between the people involved (Suvilehto 2018; Tomita 2008). In close and intimate relationships such as those with family members or romantic partners, a large body area, including both ‘vulnerable’ (head, neck, torso, lower back, buttocks, legs, and feet) and ‘non-vulnerable’ (hands, arms, shoulders and upper back) body areas are available for touch (Jones and Yarbrough 1985). When touch is used between friends and extended family members, the parts of the body available for touch mostly involve non-vulnerable areas (the upper torso including hands and arms, Suvilehto 2018; Tomita 2008). In more distant social relations and strangers, touch behaviors are limited to mainly include ritualistic touches often as part of greetings and departures (Suvilehto 2018; Tomita 2008).

Recent research on interpersonal touch has used video-based ethnography and social interactional methodology to investigate the intertwinement of touch with other communicative modalities (e.g. Cekaite 2010, 2015; Cekaite and Mondada 2020; Goodwin 2017; Goodwin and Cekaite 2018). This line of research has, for example, revealed that in family and preschool interaction, similar touch forms can be used for multiple social purposes and various touch functions can overlay each other: affective touch (e.g. gentle stroking) can be used during reproaches and disciplining to mitigate negative emotional impact: hugs can be used for loving greetings, or for apologies in cases of moral infractions (Goodwin 2017; Goodwin and Cekaite 2018). Touch serves also as a key aspect in the design of embodied directives through the use of shepherd ing moves (Cekaite 2010). Parental shepherding moves were assembled through tactile engagement with the child aimed at monitoring the child’s body for compliance. Such touch actions are suggested to be ‘indexical of the dialectics of care and control […] demonstrating that both taken-for-granted and reflective forms of trust are evident at the level of situated family interactions’ (Cekaite 2010, 21).

Touch behaviors do not only affect the people directly involved in the interaction, but can also convey relational information to observers. Through the use of tie-signs or with-markers that involve body contact such as grooming, stroking, patting or holding hands, people can display to others the nature and emotional intensity of their relationship (Goffman 1972). These findings highlight the relevance of considering a relationship-specific perspective in the exploration of social uses of touch.

**Touch in preschool interaction**

Compared to the number of studies on mother-infant touch, relatively little is known about the use and functions of touch towards and between children beyond infancy.
Studies of touch in preschool settings have indicated that intergenerational physical contact is a sensitive and debatable issue for preschool educators (e.g., Fletcher 2013; Hedlin, Åberg, and Johansson 2019; Keränen and Uitto 2023; Öhman and Quennerstedt 2017). Preschool educators can find it difficult to know when it is appropriate to use touch and in what ways touch can and should be used. Studies based on video observations of mundane situations have shown that touch serves multiple social and educational functions in preschools (Bergnehr and Cekaite 2018; Cekaite and Bergnehr 2018; Fleck and Chavajay 2009). For example, educators use touch for controlling and managing the peer group during teacher-organized activities such as circle time, book reading, or snack time. Touch has also been shown to be frequently used for affectionate purposes when, for example, consoling children and showing affection (Cekaite and Bergnehr 2018; Holm Kvist 2018). In addition, affectionate touches, such as half-embraces and strokes were used to mitigate controlling or disciplining action, and mildly control and direct children’s bodily conduct thereby accomplishing affectionate-controlling management of children’s actions (Cekaite and Bergnehr 2018).

Thus far, studies of how children themselves use touch and engage in physical contact with peers are largely absent. Previous research has indicated that touch behavior in the peer group may differ from that between children and adults (Cigales et al. 1996; Ekström and Cekaite 2020; Field et al. 1994; Fleck and Chavajay 2009; Keränen, Viljamaa, and Uitto 2021). It has been shown that children’s use of touch in terms of frequency and location of touch differs with age; toddlers used and received more touch both from peers and educators (Fleck and Chavajay 2009). Toddlers were involved in a considerable amount of affectionate touch, compared to pre-schoolers, and they more often touched ‘vulnerable’ body parts of their peers. It is also suggested that touch is more often used for communicative purposes among older children, compared to the more frequent incidental touches observed between younger children (Cigales et al. 1996).

A recent study by Ekström and Cekaite (2020) explored children’s touch conduct in peer groups in a Swedish preschool. Here, affectionate and control touches were frequent, and played an important role in children’s organization of their social relations. Children frequently formed smaller social groups (typically two to four children), and both affectionate and control touches were used to sustain and protect these smaller social units within the larger group of children. Children also used control touch to prevent outsiders from entering play groups and play areas, as well as to gain access to play objects (Ekström and Cekaite 2020). Similar ways of using touch have been reported by Keränen, Viljamaa, and Uitto (2021) in their study of children’s peer touch in ECEC in Finland. The authors stress that analysis of the social function of touch must attend to the larger activity and the children’s unfolding interaction. Katila and Niemi (2022) in their study of primary school boys’ social practices show that touch was frequent in peer interactions, and it played an important role as a way of being-with the others (see Goffman 1972; Goodwin 2017).

The ways children’s peer touch is described in the studies by Ekström and Cekaite (2020) and Keränen, Viljamaa, and Uitto (2021) can be contrasted to educators’ touch practices that play a central part in the management of children’s participation in preschool practices (Bergnehr and Cekaite 2018; Burdelski 2010; Holm Kvist 2018; Kern 2018). For instance, teachers use controlling touch to orchestrate children’s movement and attention towards educational activities, whereas children use control touch to gain or deny access to play groups, toys, and play space. Also children’s affectionate touch behavior in preschool was different.
from that of adults’ (Ekström and Cekaite 2020). While educators use affectionate touch in intensive caring situations, for example, by comforting a child or caressing a child in one’s lap (Bergnehr and Cekaite 2018), children often used affectionate touch as a sub-activity conducted in parallel with some other engagement, like stroking or patting a peer while they were engaged in play or during circle time (Ekström and Cekaite 2020; see also Katila and Niemi 2022). Following these results, we further address children’s embodied interactions with each other; we examine how, where and with whom children use touch in an early childhood educational setting in Sweden.

Materials and methods

Setting and participants

In Sweden, preschools are the main early childhood educational institution, and the majority (84%) of children between the ages of one and five are enrolled in this form of education (Skolverket 2013). Children are usually divided into age-based groups for 1–3 and 3–5 year olds. Swedish preschools combine care activities and educational activities, and a preschool day usually consists of both educational, teacher-organized activities and play activities. Non-instructed playtime, so-called ‘free play’ where the children organize their play more or less independently of the educators, comprises a significant share of preschool time for children of all ages. In this kind of activity, it is common that children of all ages (1–5 year olds) share the same play areas.

The study was carried out in a public preschool (for children aged 1–5) located in a middle-class area in Sweden. The data consists of 10 hours of video recordings during a period of 6 months. 35 children feature in the recordings: 15 children aged 1–3 years (9 girls and 6 boys), and 20 children aged 3–5 years (10 girls and 10 boys). The recordings documented activities that occurred during the regular preschool days. The recordings were part of ethnographic observations of preschool life with a focus on embodied practices and interactions relevant for children’s emotional and moral socialization. The recordings were conducted using the principle of ‘unmotivated looking’, and they targeted the recurrent social practices of the preschool. The prominence of interpersonal touch in everyday embodied interactions was discovered during the inductively based analysis of a broad range of preschool interactions.

The recordings included both free play when the children were able to choose with whom and what to play (5.5 hours), and teacher-led activities (educational activities such as book reading, arts and crafts, circle time and mealtimes) (4.5 hours). From this video material, instances of children’s peer touch were identified (see description of analysis).

Prior to conducting video observations, the researcher visited the preschool repeatedly to get to know the children and the staff and to establish a trusting relation with them. During observations, the researcher ensured that the children were comfortable being filmed by engaging in initial conversations, and she responded if the children initiated contact.

Ethical considerations

The project and data collection procedures have been approved by a regional ethical review committee. Both staff and parents received written and oral information, and
those who wished to take part in the project gave their written consent. For parents, this consent also included their children. During the data collection, the researcher recurrently asked the children before recording activities, and was attentive to signs if the children showed discomfort. This was especially important considering the power asymmetry that exists between adults and children. To anonymize the data, pseudonyms and anonymized sketches are used in the presentation of results.

**Analytical procedure**

The first step of the analysis was to identify relevant instances of physical contact between children by repeatedly viewing the video data and logging all situations where children interacted using touch. In this study, our focus concerned how children use touch as a way of organizing social activities in the peer group, i.e. touch that was used to achieve communicative purposes (also referred to as ‘purposeful’ touch, Fleck and Chavajay 2009, 50). Incidental touches, i.e. physical contact when ‘a person appears to accidentally, inadvertently or unintentionally touch another person without any particular clear meaning or inherent purpose’ (Fleck and Chavajay 2009, 50), were excluded from the collection. Three main strategies were used to identify purposeful touches. Touch was considered purposeful and was included in the collection if it met one of those criteria: (1) touch had a specific, recognizable form and function (e.g. a hug, holding hand, stroking, or grabbing); (2) touch was extended in time – it lasted more than just a brief moment (1–2 seconds); (3) touch was accompanied with an elaborating verbal expression (e.g. saying ‘look’ when tapping on someone’s arm). The touch categories and video-examples of purposeful and incidental touches were discussed during several data sessions in the research group, where collegial analyses were used to develop and fine-tune our inductive understanding of the phenomena.

We were interested in two main aspects of children’s touch in the peer group: (1) to what extent children used touch within the peer group and with whom (i.e. was touch only used in specific child constellations or was touch a common practice between various members of the peer group), and (2) in what ways children touched each other (i.e. which touch forms were used by children and which areas of other children’s bodies they touched).

The first step of the analysis was to identify all instances of ‘purposeful touches’ in the data. The children sometimes touched each other several times and used several touches during the same social activity for similar communicative purposes. For instance, a consoling activity could include both an embrace and a stroke performed with little time in between, and a play activity could include both tickling and wrestling at the same time. In our data analysis, such situations were categorized as one single touch episode, to adequately capture to what extent children used touch and with whom. This analysis resulted in a collection of 114 touch episodes, where a touch episode consists either of a single touch act or a sequence of socially related touches performed during a short period of time between two children (see also Jones and Yarbrough 1985; Keränen, Viljamaa, and Uitto 2021). Each touch episode was categorized regarding the specific children involved including their age and gender, as well as who was initiating the touch. In some activities, more than two children were involved (e.g. three children participated
in a chasing game). In these cases, multiple touch episodes were registered, one for each dyad engaged in physical contact. (This information was used to construct Figure 1.)

To understand in what ways children touch each other, a further analysis of the 114 touch episodes was performed, focusing on touch forms. All touch episodes were scrutinized, to identify the number of individual touch acts used and the forms of touch acts used (i.e. pats, hugs, pushes, etc). As noted earlier, some touch episodes involved more than one touch act. The analysis of 114 touch episodes showed 137 touch acts that involved various touch forms.

Finally, the collection of 137 touch acts was analyzed in relation to the areas of the body being touched. Some touch forms engaged the receiving child’s body more extensively and involved several distinct body areas: an embrace would typically involve the receiving child’s upper back, upper arms, and chest. Therefore, the number of touches to separate body areas in the data set is larger – 167 – than the number of touch acts identified (137 touch acts) (see Table 1).

**Results**

The results are presented in three sections that focus on: (1) the social touch patterns in the peer group, i.e. the use of touch in different child constellations, (2) the touch forms used by the children and their characteristics, and (3) the body areas of the touch recipient.

**Touch contacts between children**

To illustrate how touch was used in the peer group, a map of all 114 identified touch episodes in the video data (10 hours) was created (see Figure 1). The map was constructed from a table where all touches between specific child constellations had been registered.

![Figure 1. Children's touch contacts in the peer group.](image-url)
The map visualizes which children were involved in the touch episodes, and the frequency of touch contacts between specific children. Names in white on a dark gray background represent girls, and names in black on a light gray background represent boys. Older children’s (>2–5 years old) names are represented in circles, and younger children’s (1–2 years old) names in rounded squares. The number of touch contacts between specific constellations of children is indicated with a number in the smaller squares.

The analysis of the children’s use of touch in the peer group (Figure 1) suggests that physical contact is widespread among children. The graphic representation demonstrates that touch was used in a variety of social constellations, and all the 35 children featured in the data material were involved in at least one touch episode. The majority of the children (26) were involved in three or more touch episodes and half of children engaged physically with four or more other children in the peer group. Initiative to physical contact was distributed among the children: 28 children initiated touch contact once or several times. Physical contact was common both in single-gender girls’ and boys’ groups, as well as in mixed girl and boy constellations. Most touches were accepted by the child being touched, and only occasionally touch acts were rejected (by, for instance, complaining verbally).

Children’s age also seems to impact the ways in which they engage in physical contact with peers. Most touch episodes (110) involved at least one older child (post-toddler age, 2–5 years old), either in combination with another older child (71 episodes) or with a toddler (younger than 2 years) (39 episodes). Only occasionally (4 episodes) was touch found in peer constellations consisting only of toddlers, i.e. between children younger than 2 years.

The analysis of peer constellations suggests that the 114 touch episodes are not related to a small number of individuals with frequent touch behaviors or frequent touch interaction between a limited number of specific child constellations. Instead, touch seems to be a social interactional modality used by all children and in a variety of social arrangements. The children’s touch contacts were also analyzed in relation to frequency of unique child constellations, i.e. how many times a specific combination of children was engaged in physical contact (Figure 1). We have identified 65 unique child combinations where touch was used. The large number of unique social constellations show that children at the preschool interact physically with several other children and do not necessarily reserve physical contact for a limited number of close relations. This strengthens the suggestion that touch is a ubiquitous way for children to engage with each other in preschool.

Two specific constellations of children were identified more frequently in the collection of touch episodes (see Figure 1). These constellations are (i) two boys Aron (4.5 y.) and Emil (4 y.) (7 occurrences) and (ii) Wendy (girl, 5 y.) and Owen (boy, 1. y) (8 occurrences).

<table>
<thead>
<tr>
<th>Collections of touches</th>
<th>Total number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Touch episodes:</td>
<td>114</td>
</tr>
<tr>
<td>Touch acts</td>
<td>137</td>
</tr>
<tr>
<td>Touches of specific body areas</td>
<td>167</td>
</tr>
</tbody>
</table>
As shown in Figure 2(a and b), Aron’s and Emil’s ways of engaging physically with each other seemed to provide for co-experience of closeness and togetherness, as well as functioned as ‘tie-signs’ (Goffman 1972) that manifested their close social bond within the larger peer group (see Ekström and Cekaite 2020 for an extensive discussion).

Touch interactions between Wendela and Owen (8 touch episodes) represent a common pattern of physical engagement at the preschool where an older child specifically nurtures and cares for the very young children, interacting in a caring and ‘teacher-like’ manner, e.g. offering assistance or managing the younger child’s bodily conduct by embracing, lifting and carrying the youngest children (Figure 3(a,b)).

For instance, Wendela lifted, carried, and embraced toddlers Owen (1 y.) eight times, Rory (1.4 y.) four times and Emmy (1.2 y.) four times, through such acts indicating her nurturing and caring role at the preschool, and a social bond between the children. Some of these touches also had controlling functions that resembled caregiver directives and shepherding moves aimed at managing the child’s compliance and movements (Cekaite 2010).

These two cases of frequent touch child constellations tentatively indicate that while touch seems to be a ubiquitous interactional resource between children at the preschool, it is probably used more frequently in certain social constellations in relation-specific ways, for example between children that have formed close friendship relations. Our data for this study, however, do not allow us to investigate such questions in detail.

**Forms of touch**

The analysis of various touch forms shows that there was a large variety of ways in which children interacted physically in the preschool (Table 2). The analysis of 137 touch acts shows that the largest categories of touch forms involved embraces (a hug or holding one arm around a peer, 24 cases) and pats and/or strokes (24), i.e. touch forms conventionally used to show affection. More controlling touches such as hold/grab (21), lift/carry (15) and push/shove (15) were also frequent.

**Figure 2.** Manifestations of Social Bond between Two Children.
Affectionate touches, here represented mainly by embraces (including half-embraces) (24) and patting/stroking (24), also lean on (6) and kiss (3), played an important role for forming, sustaining, and displaying social relations, both between children and adults, and in children’s peer groups (see also Bergnehr and Cekaite 2018; Ekström and Cekaite 2020; Keränen, Viljamaa, and Uitto 2021). They occurred both when children played in smaller social constellations (Figure 2(a, b) and Figure 4) and during teacher-led group activities such as circle time (Figures 5 and 6).

Children’s physical interactions also involved holding hands and grabbing each other (21), for example grabbing someone’s arm. One function associated with these touch forms concerned displays of togetherness and belonging (cf. Goffman 1972, on ties-signs; see also Katila and Niemi 2022) as they allowed to initiate, support, and demonstrate social bonds among the children (both towards each other, and other members of the peer group) (Figure 7). Holding and grabbing were also used for controlling purposes, for example, when a child tried to gain access to play objects and guided the other to move in a specific direction similar to what has previously been described as shepherd-ing (Cekaite 2010) (Figures 8 and 9).

Children also engaged physically with their peers by pulling parts of their peer’s body, e.g. pulling the other’s arm (13). Pulling constituted a distinct category from holding/
grabbing because it was always responded to with some sort of resistance from the other child. Pulling occurred in a variety of social activities and involved exercising control over the other child’s body when trying to relocate the child’s position (Figure 10) and placement in the room (Figure 11) by pulling parts of the body (cf. Ekström and Cekaite 2020). Notably, also this type of touch was largely accepted by the receiving child. Pulling also occurred in play activities in, for example, chasing games where children could engage with each other’s bodies in strong and forceful ways (Figure 12).

Another touch form used for exercising some bodily control was instances between children of different ages, when older children lifted/carried (15 cases) younger children (toddlers). An older child cared for and helped a younger child (e.g. helping reach something or get somewhere, see Figure 3), or prevented the younger child from going somewhere (e.g. through a door), and relocated the younger child to a specific place/activity (e.g. circle time, Figure 13). Lift/carry were complex touches in that they were associated with exercising control, displaying affection, and caring for the younger children much like practices described as affectionate-control touches in adult–child interaction (Cekaite and Bergnehr 2018).

**Figure 4.** Patting.

**Figure 5.** Stroking.
Another touch form used to control other children was to push/shove another child (15) as a way to disengage the peer from unwanted interaction by directing the peer’s body away from an ongoing activity. Pushes and shoves were mainly used during children’s play (Figure 14), but sometimes also during teacher-led circle time activities, for example, if a child sat too close to another, or if a child sat in the ‘wrong’ place. Sometimes pushes were used to ensure progressivity of play by directing the other child to a next step in the play activity (Figure 15).

In contrast to most of the observed touch forms (embracing, holding/grabbing, stroking/patting, dragging/pulling and lifting/carrying), pushes/shoves directed the recipient away from the initiating child and were used to limit or terminate social interaction.
between the children. The children created distance between the peers, rather than strengthening their social engagement (which they usually did through other touch forms). The exception was when pushes/shoves were used to secure progressivity of play activities (Figure 15).

The children also used a number of more unusual, but clearly recognizable, touch forms in their play. These included wrestling (7 cases. Figure 16), tickling (3 cases, Figure 17), and kissing (3 cases, Figure 18). They were often reciprocally performed and accepted in close, non-confrontational play encounters.

Similar to the majority of touches identified in the study, these touch forms were also used to show appreciation and togetherness between the peers, to promote children’s social relations, and to create a social framework of closeness and embodied intimacy.

Figure 8. Holding to control.

Figure 9. Holding to control.
Body areas in touch contacts

The analysis of which of their peer’s body areas children touched (identified within the 137 touch acts, see Table 1) shows that most commonly, the children touched their peers’ hands and arms (Table 3), that according to Jones and Yarbrough (1985) classification, considered as ‘non-vulnerable’ body parts (generally more accessible for others to touch, Suvilehto 2018). Together, hands and arms were targeted in almost half (77) of the touch acts identified in the data. Children touched their peer’s arms and hands in all types of activities: when seeking attention, assisting, showing affection; when controlling the others’ actions and movements; and when playing together. Children also rather frequently touched the peer’s back (24). Such touches occurred, for example, during friendly social activities when a child put an arm around another child’s back/shoulders, in embraces and hugs, and when gently guiding the other to move somewhere. A child’s back was also touched as part of play, both in chasing games and rough-and-tumble play.

Figure 10. Pulling to control.

Figure 11. Pulling to control.
While the children more often touched non-vulnerable body parts of their peers (101 cases), there was a considerable number of touches involving what Jones and Yarbrough (1985) describe as vulnerable body parts (66) (areas mainly accessible for family members and close friends/intimate partners, Suvilehto 2018). The torso (24), the legs/feet (19) and the head (15) were touched on numerous occasions in the peer group. Most times a child was physically engaged with another child’s torso during hugs/embraces and when lifting/carrying a younger child (Figures 3 and 13). Some of these touches occurred as part of play wrestling activities (Figure 16). A child’s legs/feet were involved during wrestling, but more often when an older child was carrying a younger child (Figure 3). Occasionally, children’s legs/feet were stroked/patted or held/grabbed by another child. Children’s heads were almost exclusively touched when showing affection, for example, when stroking the other’s head/hair or cheek, or when kissing.

The analysis suggests that the children tend to orient to what is considered relevant and appropriate body areas in adult relations. However, the specific character of their activities such as play and caretaking provided for more extensive bodily contact in so-called ‘vulnerable’ body areas.

**Table 3.** Frequency of touch areas*.

<table>
<thead>
<tr>
<th>Body Parts</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Non-vulnerable body parts</strong></td>
<td></td>
</tr>
<tr>
<td>arms</td>
<td>48</td>
</tr>
<tr>
<td>Hands</td>
<td>29</td>
</tr>
<tr>
<td>(upper) back</td>
<td>24</td>
</tr>
<tr>
<td><strong>Vulnerable body parts</strong></td>
<td></td>
</tr>
<tr>
<td>torso</td>
<td>24</td>
</tr>
<tr>
<td>legs and feet</td>
<td>19</td>
</tr>
<tr>
<td>Head</td>
<td>15</td>
</tr>
<tr>
<td>upper chest/neck</td>
<td>6</td>
</tr>
<tr>
<td>buttocks</td>
<td>2</td>
</tr>
</tbody>
</table>

*Classification of body areas according to Jones and Yarbrough (1985).
Concluding discussion

By examining children’s bodily engagements with each other within the social and material context of a Swedish preschool, this study aimed to further the understanding of children’s bodily practices, and to contribute to the larger body of knowledge regarding social, developmental, and learning affordances of ECEC. The analysis was directed toward touch practices in children’s peer groups, specifically focusing on (i) forms and social functions of touch, (ii) social constellations engaged in touch contact, and (iii) the body areas involved in touch actions. The descriptive quantitative calculations suggest that touch is a modality available for children in a whole range of social arrangements: it was common in children’s peer-group interactions, and it was not limited to few specific child constellations (see Figure 1).

Figure 13. Older child lifts younger child.

Figure 14. Pushing during play.
A variety of touch forms was identified in children’s peer interactions (Table 2). Interestingly, the most prominent categories were affectionate touches such as embraces, holding hands, or pats that are important in the formation of close social relations (Goodwin 2017; Goodwin and Cekaite 2018). The children also used multiple ways of physically controlling and managing their peers’ conduct, including shepherding moves and affectionate-controlling touches previously described in adult–child interaction (Bergnehr and Cekaite 2018; Cekaite 2010). They grabbed, pulled the others by the hands when aiming them to engage in social encounters and play, and pushed the other when disengaging from an ongoing activity. Play-specific, recognizable forms of touch were used in wrestling and other activities (cf. Ekström and Cekaite 2020). These findings indicate that while many communicative functions and forms of peer touch were similar to
those between educators and children, there are also significant differences, such as children’s use of touch to play and to secure progressivity in play activities (cf. Bergnehr and Cekaite 2018, where educators’ controlling touches were used to manage children’s participation in preschool activities and routines).

Previous research has argued that the use of touch is sensitive to children’s age, suggesting that by the age of four, children have acquired adult-like touch conventions (Cigales et al. 1996, 102). In the present study, toddlers were mainly receivers of older children’s adult-like touch practices and did not often themselves feature as initiators of touch. Older children appeared to imitate teachers’ embodied ways (Bergnehr and Cekaite 2018; Cekaite and Bergnehr 2018) of interacting with younger children. Older
children used, for example, *shepherding moves* to control younger children’s bodies (cf. Cekaite 2010). The present study shows that children across different age groups (including 3–5 year olds) touched each other in both vulnerable and non-vulnerable body areas (Table 3). Most commonly, they touched non-vulnerable areas (peers’ hands and arms) when seeking attention, assisting, showing affection, controlling the others’ actions, and when playing together. Vulnerable areas featured during affectionate bodily practices, play, and caretaking.

The findings can be interpreted in several ways. Previous studies on adults have linked touch behavior to the level of intimacy, closeness, and quality of the relation (Suvilehto 2018). We can tentatively suggest that the social and material context of a preschool may contribute to practices where touch is part of ordinary peer interactions. Because the children spend a considerable amount of time with their peers, they may form close social bonds within the group, and can therefore engage in physical interactions across the peer group (Figure 1). The observed touch behaviors can be viewed as a part of children’s peer cultural practices (Corsaro 2005, 2020; Goodwin 2006) where touch is readily available and mundane. For children, preschools constitute a social setting, that is both institutional and rather informal, where close relations can be developed and sustained.

The current study is important for educators in ECEC because knowledge about children’s touch cultures can serve as a well-informed and novel ground for educators’ ways of attending to, supporting, and shaping children’s peer relations, manifested as their embodied, and not only verbal, interactions. Notably, the study demonstrates some differences between educator-child, and children’s peer touch (cf. Bergnehr and Cekaite 2018), thus highlighting the importance for educators to consider children’s touch cultures as specifically adapted to young children’s communicative and relational purposes, rather than being a lesser version of adult touch.

Concluding, we suggest that further observation-based studies and greater attention needs to be directed towards functions and the developmental nature of children’s physical interactions with others. This knowledge can inform and support educators’ professional practices regarding children’s physical engagement, furthering the understanding of the social and educational parameters of ECEC.

**Notes**

1. The recordings were carried out by Disa Bergnehr.
2. Regionala etikprövningsnämnden i Linköping, Avdelning för prövning av övrig forskning. (Regional ethical review board in Linköping, Section for review of general research).

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