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Attachment Style and Homesickness in Children:

Is Attachment to Temporary Caregivers associated with
Homesickness?

Hechtingsstijl en Heimwee bij Kinderen:
Is Gehechtheid aan Tijdelijke Zorgverleners geassocieerd met
Heimwee?

Agnes Jansen

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s3171086

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Department of Psychology
University of Groningen

Supervisor / Examiner: Maaïke Nauta

Second reviewer: Anoeck Sluiter-Oerlemans

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Abstract

Homesickness (HS) is a common experience among children. However, little is known about the psychological underpinnings of HS. Attachment appears to play a role in HS, even though findings about the nature of this relationship are contradictory: both insecure and secure attachment seem to be related to HS. HS may be influenced by attachment between the child and the temporary caregiver. The present study investigated whether attachment is a central factor in HS, whether children with insecure, and highly secure attachment to primary caregivers experience more HS, and whether this relationship is influenced by attachment to the temporary caregiver. A sample of 32 children (mean age = 11.31, SD = 1.62; 65.6% female) participated in the online self-report survey, with 16 children with HS-experiences completing additional open questions about attachment to temporary caregivers in HS-situations. Even though results from the qualitative data highlighted the importance of attachment figures and trust, there were no significant associations between HS and attachment to primary nor to temporary caregivers found in the quantitative analyses. It is possible that attachment figures matter in HS, but attachment style does not, due to selection processes, e.g. not staying with unfamiliar people. The present study was underpowered. Therefore, a replication study with a larger sample is recommended.

Keywords: Childhood Homesickness, attachment style, primary caregiver, temporary caregiver, safety, trust

Samenvatting

Heimwee (HS) is een veel voorkomende fenomeen bij kinderen. Er is echter weinig bekend over de psychologische ondergronden van HS. Gehechtheid lijkt een rol te spelen bij HS, al is er onduidelijkheid over de aard van deze relatie: zowel onveilige als veilige gehechtheidsstijlen lijken verband te houden met HS. HS kan worden beïnvloed door gehechtheid tussen het kind en de tijdelijke verzorger. In deze studie is onderzocht of gehechtheid een centrale factor is bij HS, of kinderen met onveilige en/of zeer veilige gehechtheid aan primaire verzorgers meer HS ervaren en of deze relatie wordt beïnvloed door gehechtheid aan de tijdelijke verzorger. Een steekproef van 32 kinderen (gemiddelde leeftijd = 11,31, SD = 1,62; 65,6% vrouw) nam deel aan de online zelfrapportage-enquête, waarbij 16 kinderen met HS-ervaringen aanvullende open vragen invulden over gehechtheid aan tijdelijke zorgverleners in HS-situaties. Hoewel de resultaten van de kwalitatieve gegevens het belang van hechtingsfiguren en vertrouwen aantoonde, werden er in de kwantitatieve analyses geen significante associaties gevonden tussen HS en gehechtheid aan primaire of tijdelijke zorgverleners. Het is mogelijk dat hechtingsfiguren er toe doen in HS, maar hechtingsstijl niet, vanwege selectieprocessen, b.v. niet bij onbekende mensen logeren. De steekproefgrootte en power van de huidige studie waren laag. Daarom wordt een replicatiestudie met een grotere steekproef aanbevolen.

Sleutelwoorden: heimwee bij kinderen, hechtingsstijl, primaire verzorger, tijdelijke verzorger, veiligheid, vertrouwen

Introduction

For most children, spending a night away from home is a pleasant experience. Some children, however, experience homesickness during such activities. Homesickness (HS) has been defined as a “mini grief”: “a negative emotional state primarily due to separation from home and attachment persons, characterized by longing for and preoccupation with home, and often with difficulties adjusting to the new place” (Stroebe, Schut & Nauta, 2015a). HS can befall people of all ages, races and sexes (Stroebe, Schut & Nauta, 2015b). It is associated with physical complaints, such as nausea, aches throughout the body, poor appetite, and “feeling bad”, and with behavioral and emotional characteristics, such as talking about home, crying, feeling depressed or anxious, attention-seeking behavior, and unwillingness to participate in activities (Winland-Brown & Maheady, 1990).

HS is a very common experience. In some cases, however, HS can be a crippling experience with a serious impact on children, for example missing out on pleasurable activities with peers, or enduring such activities with extreme discomfort. There are a number of studies concerning HS in adults during longer separation. However, to our knowledge, little is known about the underlying mechanisms and characteristics associated with childhood HS during short sojourns from home. It is important to identify such factors, because it could aid in identifying possible targets for prevention and intervention for childhood HS.

One factor that has previously been linked to the development of HS is attachment (Shal, Sharbaf, Abdekhodae, Masoleh & Salehi, 2011). Attachment is defined as a “lasting psychological connectedness between human beings” (Bowlby, 1969, p. 194). Bowlby (1969) suggested that children are born with an innate drive for attachment relationships, and behave in specific ways characteristic to attachment, e.g. seeking comfort or safety from the primary caregiver in threatening situations, to enhance the chance of survival. Attachment can be assessed using a categorical approach dividing attachment into secure, anxious, and avoidant

attachment styles (Finzi, Har-Even, Weizman, Tyano, & Shnit, 1996), or dimensionally by measuring the degree of attachment (in)security (Gullone & Robinson, 2005). A secure attachment relationship with the primary caregiver promotes normal social and emotional development (Gullone & Robinson, 2005), while insecure attachment is related to a number of poor developmental outcomes (Cassidy & Shaver, 2016).

The ability to form a sense of security in attachment relationships, depends on the degree to which the primary caregiver is available and responsive to the child's needs (Bowlby, 1969). Early literature on attachment theory suggests that children develop an Internal Working Model based on interactions between the child and its primary caregiver (IWM; Bowlby, 1969; Ainsworth, 1989): a cognitive framework consisting of generalized beliefs about the self, the world, and others, which functions as a guide for future relationships with others (Bowlby, 1969; Ainsworth, 1989). However, empirical investigation of IWMs is difficult, because the underlying mechanisms explaining how attachment experiences are internalized into IWMs remain rather metaphorical (Thompson, 2016). Therefore, Bosmans et al. (2020) propose a Learning Theory of Attachment, in which principles of Attachment Theory and Learning Theory are combined, making empirical investigation more applicable (however, to date there are no empirical studies available). According to this theory, information about the responsiveness and availability of the attachment figure is stored in a Secure Base Script (SBS; Bosmans et al., 2020): a cognitive script that develops as the result of classical and operant conditioning processes. The SBS partly explains differences in attachment security, and is accompanied by a sense of state trust. The SBS serves as a context for future interpersonal relationships with a caregiving component (Bowlby, 1969; Bosmans et al., 2020). As such, when a child learns that the caregiver is reliable based on interactions with the primary caregiver, it creates a secure base for the child to explore the world and a secure attachment (Bowlby, 1969). However, when a

child receives inconsistent or unresponsive care, it will likely develop a maladaptive SBS and an insecure attachment.

As such, it seems plausible that attachment is crucial in the development of HS. Since attachment security provides the child with a secure base to explore the wider social and physical environment (Ainsworth, 1969; Bosmans et al., 2020), it seems plausible that insecurely attached children would not attempt to explore this environment, for example in sleepovers, or endure such situations with great distress. Thus, insecurely attached children could develop (anticipatory) feelings of HS. Accordingly, missing attachment figures and objects appeared to be a central theme in HS, as reported in interviews with adults who had relocated (Scharp, Paxman & Thomas, 2016).

Even though multiple authors have stated that attachment is important in the development of HS (e.g. Sharp et al., 2016; Brewin, Furnham & Howes, 1989), the empirical evidence of this statement is limited, and there is still uncertainty about the nature of this relationship. To our knowledge, there are six survey studies examining the relationship between HS and attachment, namely one with children in residential care ($N = 68$; Shechory & Sommerfield, 2007), four with first-year student populations after relocation ($N = 80$, Brewin et al., 1989; $N = 482$, $N = 670$, Nijhof & Engels, 2007; $N = 150$, Shal et al., 2011; Stroebe, Van Vliet, Hewstone & Willis, 2002) and one with homesick conscripts ($N = 111$, Eurelings-Bontekoe, Vingerhoets & Fontijn, 1994). The findings of these studies were rather contradictory.

First of all, in a first-year psychology student sample, students who came from warm, loving and accepting families (indicating more secure attachment bonds) reported more feelings of HS (Nijhof & Engels, 2007). Accordingly, Eurelings-Bontekoe et al. (1994) found that homesick conscripts with strong emotional ties to their parents experienced more HS. Additionally, the absence of a trusted person has been found to play a role in the development

of HS (Van Vliet et al., 1998). These studies imply that being apart from attachment figures is associated with more feelings of HS. Consequently, HS could be seen as a normal response from securely attached children when they are away from home. On the contrary, a study among children in residential care found insecure attachment to be a positive predictor of HS (Schechory & Sommerfield, 2007). Accordingly, insecure attachment, predominantly anxious attachment styles, and low general self-efficacy were found to be related to higher levels of HS in a student sample (Shal et al., 2011). Additionally, anxious attachment and dependency on others were said to play a role in the development of HS among first-year psychology students, because these characteristics appeared to be associated with intense reactions to separations (Brewin et al., 1989; Thurber, 1999). Thus, these studies suggest that attachment does play a role in the development of HS, but findings on the nature of this relationship are inconsistent. Therefore, the question remains why both children with secure and insecure attachment seem to be at risk for developing HS during temporary sojourns from home?

It is possible that the quality of the relationship with the temporary caregiver, indicated by secure or insecure attachment to this person, plays a role in the development of HS. The attachment model of children forming a secure base and feeling of trust in relationships is not limited to parents, but has also been applied to other relationships with a caregiving component (Bosmans et al., 2020). Therefore, it may also be relevant in the context of temporary caregivers.

As stated, interactions between the child and primary caregiver are said to function as a guide for future relationships with a caregiving component, through internalization in the SBS (Bosmans et al., 2020; Bowlby, 1969). Therefore, attachment to temporary caregivers could possibly be affected by attachment to the primary caregiver. If a child receives inconsistent care, it may develop a maladaptive SBS consisting of generalized beliefs that

caregivers are inconsistent and untrustworthy (Bosmans et al., 2020; Ainsworth, 1989), making it difficult for them to form secure attachment bonds to other caregivers.

Alternatively, children with highly secure attachment to primary caregivers could also have difficulty forming secure attachment to temporary caregivers. When support seeking behavior is routinely rewarded, the child will likely develop strong attachment to the caregiver, in which it likely relies on the caregiver to cope with distressing situations (Bosmans et al., 2020). Because of this dependency, the child may prefer to stay in the surroundings of the primary caregiver, not confiding in others as a secure base (Bosmans et al., 2020; Ainsworth, 1969). It may, therefore, avoid exploring the environment altogether, thus avoiding situations that could elicit HS. Support for this theory can be found in the finding that strong dependency on others is associated with high levels of HS and intense reactions to separation (Thurber, 1999; Brewin et al., 1989). It is possible that these children react strongly to separation, because they have difficulty trusting other caregivers, which could prevent them from forming secure attachment bonds to temporary caregivers.

The lack of secure attachment to temporary caregivers could lead to increased feelings of HS, in line with the findings of Van Vliet (1998) that the absence of a trusted person is related to HS. Therefore, insecure attachment to temporary caregivers may determine whether children experience HS above and beyond attachment to parents. The risk of HS may be higher in children with highly secure primary caregiver and insecure temporary caregiver, and especially high in children who are insecurely attached to both the primary and temporary caregiver.

Thus, there is still uncertainty about the nature of the relationship between HS and attachment. Additionally, the previous studies have mainly focused on adult populations concerning separations of a longer duration. However, little is known about the relationship between attachment and childhood HS during temporary sojourns. It is also unclear whether

the development of HS is affected by attachment (in)security to the temporary caregiver at the sojourn. Because HS is such a common phenomenon, it is highly important to gain more insight into the underlying mechanisms in childhood HS.

The goal of the present study is to gain insight into the relationship between childhood HS and attachment (in)security. In this study we explore this relationship through an online survey about HS-experiences. We expected attachment figures and -objects to be a central theme in descriptions of HS-experiences by children. Additionally, we assumed children with insecure attachment, as well as children with highly secure attachment, to report higher levels of HS, than securely attached children. We also hypothesized that insecure attachment to temporary caregivers is associated with higher HS-levels. Last, we hypothesized that HS is highest in children who have a combination of very secure or insecure attachment to primary, and insecure attachment to temporary caregivers.

Method

Participants

The present study consisted of $N = 32$ participants (21 girls and 10 boys, 1 unspecified). The participants ranged from 9 to 14 years in age ($M = 11.31$, $SD = 1.62$). All participants were from the Netherlands. The school grade of the participants, according to Dutch classification, was as follows: Groep 6 = 25.0%, Groep 7 = 15.6%, Groep 8 = 15.6%, Klas 1 = 21.9%, and Anders = 21.9%. Fifty percent of the participants scored positive for HS on a one-item check: "Have you ever experienced homesickness when you spent a night away from home?". Therefore, $N = 16$ participants (12 girls and 4 boys) for the additional questionnaires and open questions.

An a priori power analysis was performed using G*Power3 (Faul, Erdfelder, Lang, & Buchner, 2007) for the ANOVA-test comparing the difference between six group means in

attachment on HS-scores, desiring a medium effect size ($d = .25$), and an alpha of $\alpha = .05$.

Results showed a total sample size of $N = 158$ was required to achieve a power of .80.

Materials and procedure

To recruit participants, we reached out to parents via social media (e.g. Facebook, Whatsapp and LinkedIn). For each participant, informed consent forms were filled in online, first by parents, then by the child, informing the participants and their parents about the aim of the study, confidentiality of the data and their right to withdraw from the experiment at any time without any further consequences. Next, self-report questionnaires were administered via Qualtrics. Children scoring positive on HS received additional open questions. It took approximately 20-30 minutes to fill in the questionnaire. Per ten participants we raffled Bol.com vouchers of €10,- for participating in the study. Data was collected between June 14th and July 13th, 2020.

Socio-demographic information. Participants were asked demographic questions about their age, gender and what grade they are in. E-mail addresses were collected in a separate database for payment purposes.

Open questions. Children who reported having felt homesick received eight additional questions to identify central themes in HS (see Appendix A). The questions consisted of six open questions and two structured questions ranking what emotions and thoughts are most prominent in HS (based on the study of Scharp et al., 2016). An example of the open questions is: “What do you miss most when experiencing homesickness?”. The open questions served as an extension of the information provided by the IPPA-scores, and were analyzed to identify if attachment and trust factors appeared to be most prominent in HS, to answer the first research question. This was done by reviewing all answers and categorizing them into themes (e.g. parents/family consisted of answers such as ‘mother, father, brother/sister’). For each open question, percentages were calculated per categorized theme

indicating how many percent of the participants mentioned that theme (therefore, percentages in the results do not add up to 100%). For the ranking questions, children could rank the degree to which they agreed with certain statements on a seven-point Likert scale, ranging from 0 = 'strongly disagree' to 7 = 'strongly agree'. Means and standard deviations were calculated to illustrate what thoughts and feelings were most common in HS-experiences.

Utrechtse Homesickness Scale. The Utrecht Homesickness Scale (UHS; Stroebe, Van Vliet, Hewstone & Willis, 2002) consists of 48 items aiming to assess the degree of HS. For the present study, we only used the 'Missing family' and 'Missing friends' subscales to measure HS, which consists of eight items in total. These items were scored on a five-point Likert scale, with (1) "Never" tot (5) "Very often". Examples of the item are: "When I spend a night away from home, I miss my family" (missing family item) and "When I spend a night away from home, I miss people that I trust and with whom I can talk very deeply" (missing friends item). The reliability of the scale was high ($\alpha = .92$). The items were combined to form an item mean score variable measuring HS.

Inventory of Parent and Peer Attachment. To assess attachment security the 'Parent' and 'Other' scales of the Inventory of Parent and Peer Attachment for Children (IPPA; Nada Raja, McGee & Stanton, 1992) were administered for assessing: 1) (in)secure attachment to parents ('parent' scale), and 2) (in)secure attachment to the temporary caregiver ('other' scale). The items were rated on a four-point Likert scale, ranging from (1) "Almost always" to (4) "Almost never". An example of the items is "My parents accept me as I am". The items were combined into a mean score for each participant, which indicated the level of attachment security, with a higher score indicating a more secure attachment to the caregiver. Some items were reverse scored, namely items 3, 4, 5, 8, 10 and 12 for the 'parent' scale, and items 3, 4, 5, 7, 9 and 11 for the 'other' scale. Prior to the 'other' scale, participants were asked to describe a situation where they experienced HS and think of the caregiver(s) at the

location. They then had to fill in the questionnaire with that caregiver in mind. The reliability of both scales was high ($\alpha = .81$ for the 'parent' scale, $\alpha = .85$ for the 'other' scale).

Coping Strategieën Lijst voor Kinderen. The Coping Strategieën Lijst voor Kinderen (CSLK; De Boo & Wicherts, 2008) was used to measure coping. However, coping is beyond the scope of the research presented in this paper.

Statistical analyses

The open questions were analysed to explore central themes in HS-prone children. Based on IPPA-scores for parental attachment, three groups were created: children scoring one SD below the mean ($M = 3.39$, $SD = 0.38$; <3.01 ; $n = 4$) fell into the 'insecure' group, children scoring within one SD below and one SD above the mean (3.01 thru 3.77 ; $n = 24$) fell into the 'secure' group, and children scoring one SD above the mean (>3.77 ; $n = 4$) fell into the 'highly secure' group. To create two equal groups to investigate the effect of the attachment to the temporary caregiver, we divided the group into children scoring below the mean score on the 'other'-scale comprising the 'insecure' group (≤ 3.23 ; $n = 8$) and children scoring above the mean fell into the 'secure group' (>3.23 ; $n = 8$). The scores on HS were compared using a 3 (insecure – secure – highly secure to parent) x 2 (insecure – secure to temporary caregiver) two-factorial ANOVA design.

Results

Missing data

Out of a total of 33 participants who took part in the study, one participant was excluded (this participant did not complete the study). The total sample size used for the analysis consisted of 32 participants for the first part of the study, and 16 participants for the second part.

Preliminary analysis

To run the ANOVA-model, the assumptions of independence, homogeneity of

variance, and normality were checked (Lomax & Hahs-Vaughn, 2012). The assumption of independence was met through a careful research design. The assumption of homogeneity of variance was not met, as Levene's Test of Equality of Variances was significant, $F(2, 13) = 4.56, p = .03$. The assumption of normally distributed data was checked through histograms and QQ-plots. The dependent variable 'HS' was not normally distributed, but rather positively skewed (see Appendix B). However, because nonparametric tests are rarely used with factorial ANOVA models, because sufficient nonparametric alternatives are lacking (Lomax & Hahs-Vaughn, 2012), we decided to compute the planned ANOVA tests. Therefore, the results from tests were interpreted with precaution (Lomax & Hahs-Vaughn, 2012).

Descriptive statistics. The descriptive statistics of the measured variables are shown in Table 1 and 2 below to obtain an overview of the key features of the data. Interestingly, the mean score on HS in the HS-subsample was not much higher than the mean score on HS in the total sample.

Table 1

Means, Standard Deviations, and Range of the Variables in general situation (N = 32)

	<i>M</i>	<i>SD</i>	Range
Homesickness	2.31	0.84	1.13 - 4.00
Parent attachment	3.39	0.38	2.50 - 4.00

Table 2

Means, Standard Deviations, and Range of the Variables in HS-subsample (n = 16)

	<i>M</i>	<i>SD</i>	Range
Homesickness	2.49	0.89	1.50 - 4.00
Parent attachment	3.50	0.27	3.08 - 4.00
Temporary caregiver attachment	3.24	0.54	2.36 - 3.91

Main analysis

Open questions. To investigate our research question what children miss most during HS, we analyzed the answers to the open questions to identify central themes in HS-experiences. On average, children mentioned 1.53 things to this question (range 1 – 3). When asked what they miss most during HS-experiences, the most prominent factor was parents/family (93.8%). Additionally, children mentioned factors as their own bed/place (37.5%), friends (12.5%), pets (12.5%), home (12.5%), a safe environment (6.25%), and people they can trust (6.25%). Thus, attachment figures and -objects are indeed a central theme in HS-experiences.

When asked what they found most distressing when spending a night elsewhere, the most common themes were being away from parents/home (25%), sleeping (12.5%) and things being different than at home (18.8%). Additional factors that were mentioned once were: dinner, having to be social for a long amount of time, being afraid of getting into an argument, and being afraid that something bad would happen. One child answered two factors to this question, the rest of the children mentioned only one factor.

When asked what factors make it easier for the children to spend a night elsewhere, the most prominent factors were: a soft toy from home (e.g. teddy bear) (56.3%), presence of a parent/family member at the location (18.8%), staying with people you know and trust (18.8%), distracting oneself (e.g. by happy thoughts or reading) (25%), and being able to contact home (6.3%). On average, children mentioned 1.4 conditions that made it more difficult to spend a night elsewhere: being without parents (18.8%), being with unfamiliar people/in an unfamiliar environment (18.8%), things being very different from home (e.g. routines) (12.5%), not being able to sleep (12.5%), if the temporary caregiver is unkind/unpleasant (6.3%), feeling uneasy at the new place (6.3%), when the temporary

environment is very busy (6.3%), and when the child feels like it has nobody to talk to at the new place (6.3%).

Children indicated that they missed home because they felt more at ease and safe and ($M = 3.94$, $SD = 2.01$, range = 1.00 - 7.00) and because they found it annoying that things were different from what they are used to ($M = 4.88$, $SD = 2.29$, range = 0.00 - 7.00).

When asked if there was anything else children thought to be important in HS-experiences, some children mentioned that they experienced less HS when they knew their parents were safe and when they felt understood by the temporary caregiver(s), and when they felt at ease at the temporary place.

The ranking questions about experienced feeling in HS showed that most children feel comfortable and safe at the location of the sleepover. See Table 3 for a complete description of the experienced feelings.

Table 3

Means, and Standard Deviations for Experienced Feelings During a Sleepover (n = 16)

	<i>M</i>	<i>SD</i>	Range
At ease	5.06	1.51	2.00 - 7.00
Sad	1.50	1.37	0.00 - 5.00
Comfortable	4.72	2.14	0.00 - 7.00
Happy	5.61	0.98	4.00 - 7.00
Anxious	2.25	1.95	0.00 - 7.00
Safe	5.61	1.61	2.00 - 7.00

Homesickness and attachment to primary caregivers. The results of the present study revealed a very small nonsignificant correlation between HS and attachment style to primary caregivers in the overall sample. The correlations between all measured variables of the present study are shown in Table 4 below. None of the correlations were significant.

Table 4

Correlations between HS and Attachment Styles

	Primary caregiver attachment	Temporary caregiver attachment
HS	.03	.04
Primary caregiver attachment	1.00	.42

Note. None of the correlations were significant at the $p < .05$ level.

Based on IPPA-scores, three subgroups were created indicating the level of attachment security to the primary caregiver (see Methods). The spread of attachment scores was low ($SD = 0.38$). Consequently, the three groups did not differ much in attachment levels. The range and of HS-scores in the three groups did not differ much (see Table 5). To investigate whether attachment to primary caregivers affects levels of HS, a One-way ANOVA was performed on HS-scores, comparing the insecure ($n = 4$), secure ($n = 24$) and highly secure ($n = 4$) attached groups. Even though the highly secure attached group seems to have the highest scores on homesickness relative to the other groups, the difference between the groups did not reach significance, $F(2, 29) = 0.63$, $p = .542$.

Table 5

Means, Standard Deviations and Range of HS-scores among Groups of Attachment to Primary Caregivers in the General Sample

	<i>M</i>	<i>SD</i>	Range
Insecure ($n = 4$)	2.28	1.16	1.13 - 3.75
Secure ($n = 24$)	2.23	0.77	1.38 - 4.00
Highly secure ($n = 4$)	2.75	1.09	1.75 - 3.88

Homesickness and attachment to temporary caregivers. From this point on, we worked with the subsample that fulfilled both parts of the study, so $n = 16$. Remarkably, there

were no children with insecure attachment to primary caregivers who indicated that they had experienced HS according to our single-item HS-measure. Therefore, the group with insecure attachment to the primary caregiver is not represented in the second part of the study. The One-way ANOVA test comparing group means of children with insecure versus secure attachment to the temporary caregiver, showed that the insecurely and securely attached group did not differ significantly in mean level of HS, $F(1, 14) = 0.095, p = .763$, see Table 6.

Table 6

Means, Standard Deviations and Range of HS-scores among Groups of Attachment to the Temporary Caregivers in HS-subsample

	<i>M</i>	<i>SD</i>	Range
Insecurely attached to temporary caregiver (<i>n</i> = 8)	2.42	0.86	1.50 - 3.88
Securely attached to temporary caregiver (<i>n</i> = 8)	2.56	0.97	1.63 - 4.00

Homesickness and attachment to primary and temporary caregivers. As

mentioned, none of the children with insecure attachment to primary caregivers qualified for the second part of the study. Additionally, no children fell into the group ‘highly secure attached to primary caregiver’ and ‘insecurely attached to temporary caregiver’.

Consequently, these groups were not represented in the results, since there were no means available for these groups to compare in the ANOVA-test (see Table 7). The 2 x 3 ANOVA-design indicated that there were no significant differences in HS-scores between the groups, $F(2, 15) = .193, p = .827$. There was no interaction effect between attachment to the primary caregiver and attachment to the temporary caregiver on HS-scores. There was, however, a moderate correlation between attachment to the primary caregivers and attachment to temporary caregivers ($r = .42$), although it did not reach significance.

Table 7

Means and Standard Deviations of HS-scores among Groups of Attachment to Primary and Temporary Caregivers in HS-subsample

		Attachment to temporary caregiver	
		Insecure	Secure
Attachment to primary caregiver	Insecure	.a <i>n</i> = 0	.a <i>n</i> = 0
	Secure	2.42 (0.89) <i>n</i> = 8	2.46 (0.92) <i>n</i> = 6
	Highly secure	.a <i>n</i> = 0	2.88 (1.41) <i>n</i> = 2

- a. This level combination of factors is not observed, thus the corresponding mean is not estimable.

Discussion

The goal of the present study was to examine the association between attachment and HS in children during a short sojourn from home. In the open questions, participants described that attachment figures and -objects were a central theme in HS-experiences, confirming our hypothesis. Additionally, trust and a sense of safety appeared to be central themes in HS-experiences. Even though results from the qualitative data highlighted the importance of attachment figures and trust, no significant associations between HS and attachment style were found in the quantitative analyses. Contrary to our hypothesis, children with insecure and highly secure attachment to primary caregivers did not report higher levels of HS in the general sample. In the second part of the study, analyses were performed on the subsample that indicated they had experienced HS. Children with insecure attachment styles to primary caregivers were not included in the subsample. Insecure attachment to temporary caregivers was not significantly associated with higher HS-scores in the HS-subsample, contradicting our hypothesis. Furthermore, we hypothesized that a combination of very secure or insecure attachment to primary caregivers and insecure attachment to temporary caregivers

would be associated with higher HS-levels. None of the children that fell into the insecurely attached group completed the second part of the study focusing on HS-experiences.

Consequently, we were unable to test this hypothesis. In conclusion, the overall picture obtained from the results of the present study suggests that attachment figures were reported as a central theme in HS in the qualitative analyses, even though there were no significant differences in levels of HS amongst different groups of attachment (in)security in the quantitative analyses.

Central themes in HS-experiences

Analysis of the open questions confirmed that attachment figures were indeed a central theme in HS-experiences; nearly all children answered that they missed their parents/family most during HS. These results support the findings of Scharp et al. (2016), which showed that attachment figures and objects were missed most during HS-experiences in an adult population, and suggest that attachment figures are also a central theme in childhood HS during temporary sojourns. Also in accordance with Scharp et al. (2016), the present study suggests that a sense of comfort and safety in the temporary environment, or rather the lack thereof, are of importance in HS.

In addition, the present study highlights the importance of trust in the development of HS, as safety and trust were recurrent themes amongst the answers. Also, post hoc analyses showed that safety and trust seemed to be of greater importance in HS-experiences described by children with more severe HS-levels (i.e. higher than 3.50). Additionally, in line with previous findings of Van Vliet et al. (1998) that the absence of a trusted person is associated with HS, most children answered that a lacking sense of safety and trust made it more likely they would experience HS. The importance of trust in the development of HS is also supported by findings of Benn et al. (2005), showing that difficulties with interpersonal trust are associated with more HS.

Attachment to primary caregivers in relation to HS

Even though the qualitative data highlights the importance of attachment figures in HS, the quantitative data revealed that groups with insecure, secure and highly secure attachment patterns did not differ significantly in levels of HS. This contradicts our hypothesis that insecure and highly secure attachment would be associated with higher HS-levels, and is also in contrast to previous findings (Nijhof & Engels, 2007; Shal et al., 2011; Brewin, 1989). Interestingly, analysis of our dataset also revealed a small non-significant correlation between attachment style and HS. This is a remarkable contrast with the findings of our qualitative data, that attachment figures appear to be the most prominent factor in descriptions of HS-experiences by children. It also contradicts previous findings that attachment style is associated with HS (Brewin et al., 1989; Shal et al., 2011).

A possible explanation for this finding is that the questionnaire we used, the IPPA, may not be an appropriate measurement for attachment in relation to HS, as the IPPA assesses attachment dimensionally indicating a certain level of attachment security. However, attachment is typically assessed in different types of attachment styles, namely anxious attachment style and avoidant attachment style (which represent insecure attachment), and secure attachment style (Finzi et al., 1996). Previous studies have measured attachment styles per dimension in relation to HS. The results of these studies mainly revealed an association between anxious attachment styles and HS (Schechory et al., 2007; Shal et al., 2011; Brewin et al., 1989; Thurber, 1999). It is possible that different styles of insecure attachment lead to different reactions in HS-eliciting situations, as differences in attachment styles are found to be related to differences in coping styles (Nijhof & Engels, 2007). A dimensional operationalization of the level of attachment (in)security, such as the IPPA, would then lead to a generalized representation of insecure attachment in relation to HS, and would neglect to portray differences in HS-reactions amongst different types of insecure attachment styles.

Additionally, the spread of attachment scores was low in the current sample. Consequently, the groups we created did not differ much in attachment levels. Therefore, it is unsure whether the current classification accurately reflects three different groups of attachment security in the general population, as participants may not have been classified as insecurely attached if we used a classification based on measures of attachment style per dimension (i.e. anxious, avoidant or secure). Therefore, it may be better to operationalize and measure attachment per attachment styles in relation to HS, for example with the Attachment Style Classification Questionnaire (ASCQ; Finzi et al., 1996) to see how this association upholds.

Attachment to temporary caregivers in relation to HS

First of all, it is important to state that from this point on, the study focused on the subsample that had experienced HS. It is noteworthy that none of the children with insecure attachment to primary caregivers indicated they had experienced HS. Based on the assumption that children who have not developed an adaptive SBS are less likely to explore the wider social and physical world (Bosmans et al., 2020), it is possible that insecurely attached children have not yet experienced HS because they have not been exposed to situations that could elicit HS. Consequently, the results of the second part of the study could contain a survivorship bias: a type of selection bias that occurs when a sample only focuses on subjects that passed a certain pre-selection process and ignores subjects that did not (Garcia & Gould, 1993). The use of a single-item lifetime check for HS as a pre-selection, could have resulted in the exclusion of insecurely attached children from the second part of the study, because they have avoided HS-experiences so far. Children with insecure attachment patterns may, however, differ from the included securely attached children in their abilities to form secure attachment bonds to temporary caregivers, as we assumed based on the ideas of Bosmans et al. (2020). Consequently, as the subsample is missing data-points of insecurely attached childrens, the results may be biased towards higher scores on attachment to

temporary caregivers. Accordingly, it is noteworthy that children scored relatively high on attachment to temporary caregivers on average with low spread among scores (see Results). Additionally, no children fell into the group ‘highly secure attached to primary caregiver’ and ‘insecurely attached to temporary caregiver’. A possible explanation for these findings is that the current research design may have missed data in a covariate, as it is possible that children are selective in their choice of temporary sojourns and only stay over with people they already have more secure attachment bonds with. Therefore, the results may be biased towards higher scores on attachment to temporary caregivers, because we omitted initial attachment levels to temporary caregivers as a covariate in the design. It may therefore be interesting to control for initial levels of attachment to temporary caregivers in a replication study.

The results of the present study imply that the level of attachment security to temporary caregivers is not relevant in childhood HS, contradicting our hypothesis based on the implications of the Learning Theory of Attachment (Bosmans et al., 2020). Additionally, because two of the groups did not contain any participants in the two-way ANOVA design, we were unable to perform the planned analyses. Consequently, there was no interaction effect between attachment security to primary caregivers and attachment security to temporary caregivers, contradicting our hypothesis. This could indicate that attachment to the temporary caregiver is not affected by attachment to the primary caregiver, and, therefore contradicts the implications of Bosmans et al. (2020) and Ainsworth (1969) that attachment to primary caregivers functions as a guide for future relationships with a caregiving component. However, the results did reveal a moderate correlation (although nonsignificant) between attachment style to primary caregivers and attachment to the temporary caregiver. Unfortunately, the sample size was too small to detect a big effect. However, provided it reaches significance when replicated in a bigger sample, this association should indicate that attachment to the primary caregiver functions as a guide for other relationships, as supported

by the results of the meta-analysis of Ahnert, Pinquart and Lamb (2006) which revealed a modest but significant correlation between children's attachment security with their primary caregivers and with nonparental care providers.

It is possible, however, that the nature of the relationship between the child and a temporary caregiver is not accurately reflected in terms of attachment security. Because, to our knowledge, we were the first to examine the effects of said relationship in regard to HS, literature on sufficient measures for attachment security between a child and temporary caregiver was lacking. Based on the idea that children also form attachment relationships with nonparental caregivers (Bosmans et al., 2020), we chose to operationalize said relationship in terms of the degree of attachment security, indicated by children's scores on the 'Other'-scale of the IPPA. Due to the short duration of placement with the temporary caregiver, however, it is possible that the child does not develop a relationship with an attachment component to the temporary caregiver. As such, the IPPA may not have been an applicable measure for said relationship. The nature of the relationship between the child and temporary caregiver may, however, still be of importance in relation to HS, as the qualitative data indicated that children found sojourns easier when they were with trusted, familiar caregivers.

Limitations

The current study had some methodological limitations. Firstly, the present study consisted of a small sample size. Based on a priori power analysis, we aimed to include 158 children to achieve a power of .80. Therefore, the present study was underpowered, making it more difficult to meet the assumptions of the tests and to detect hypothetical effects (Lomax & Hahs-Vaughn, 2012). Due to Corona measures, we could not collect data in school classes as planned, and collected data online. Unfortunately, the number of responses was limited.

Particularly, the assumption of normally distributed data was violated, as scores on our dependent variable 'HS' were not normally distributed, but rather positively skewed. This

makes inferences about the population more difficult (Lomax & Hahs-Vaughn, 2012), since scores would likely be more normally distributed in the population. Additionally, we question the use of the USH-8 and a single-item lifetime check to assess HS, as mean scores on HS hardly differed in the general sample and the subsample that indicated they experienced HS. It would be interesting to see how the association between HS and attachment upholds when replicated in a larger sample with a normal distribution.

As previously discussed, the study may have contained a bias due to a missed covariate in the design. To prevent the occurrence of said bias in a replication study, researchers could ask questions about HS-experiences in situations without trustees in the direct environment (e.g. through an imaginary scenario or by administering the questionnaire during a summer camp), or they could take the presence of a trustee into account as a covariate in the relationship by including a question in the research design to check for the presence of a trustee.

At last, we scrutinize the use of the IPPA to measure attachment style in relation to HS, because of the previously discussed limitations. The use of a different measure to assess the nature of the relationship between the child and temporary caregivers may be best, for example interpersonal trust by administering the Interpersonal Trust Questionnaire (ITQ; Forbes and Roger, 1999).

Clinical implications and recommendations

It is possible that attachment style is not as relevant in short stay HS-experiences, as it is in longer residence HS-experiences, on which most existing literature of HS is based. Short stay HS could, therefore, be seen as a reflection of missing attachment figures, unrelated to the attachment style, as suggested by Nijhof & Engels (2007). In line with the findings of Van Vliet et al. (2002), the present study provides support that it may be interesting to further explore the relationship between HS and the abilities of the child to place trust in temporary

caregivers, as it may lead to the identification of targets for interventions for childhood HS related to a sense of trust and safety. Additionally, it is possible that the level of trust between the child and temporary caregiver is affected by attachment between the child and its primary caregiver, based on the assumption of Bosmans et al. (2020) that children develop an adaptive SBS and a sense of state trust when they are securely attached to the primary caregiver. Therefore, future research could focus on the relationship between HS and interpersonal trust, and should take into consideration the effects of attachment (in)security to the parents in testing this relationship. Lastly, Benn et al. (2005) have previously investigated the relationship between HS and interpersonal trust by administering the Interpersonal Trust Questionnaire (ITQ; Forbes and Roger, 1999), which led them to conclude that difficulties with interpersonal trust were related to HS. It could be interesting to use the ITQ in the investigation of the relationship between HS, attachment and the relationship between the child and temporary caregivers.

Conclusion

The present study consisted of a small sample size. Qualitative analyses revealed that attachment figures are a prominent factor in childhood HS. However, quantitative analyses revealed no significant associations between HS and attachment styles to primary caregivers nor temporary caregivers. Interestingly, none of the children with insecure attachment to primary caregivers indicated they had experienced HS, which could indicate there was a strong selection bias due to the avoidance of HS-eliciting situations from insecurely attached children. It may, however, also be the case that attachment to temporary caregivers is not a relevant measure in relation to HS, because it does not accurately reflect the nature of the relationship between a child and a temporary caregiver. Qualitative analyses also revealed that a sense of safety, comfort and trust seem to be important for children to have a successful experience during a sleepover. Therefore, research in a bigger sample with a different measure

for attachment (for example the ASCQ; Finzi et al., 1996) and more attention for trust in relation to childhood HS is recommended, as it may lead to the identification of new targets for prevention and intervention of childhood HS.

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Appendix A

Open questions

Je hebt aangegeven dat je weleens last hebt gehad van heimwee. Wij willen je hier graag nog wat vragen over stellen. De volgende vragen gaan dus over momenten waarop jij last had van heimwee. We willen je vragen om zo eerlijk mogelijk te antwoorden.

Q359

Wat of wie mis je het meest als je last hebt van heimwee?

Q369

Wat vind jij het spannendst als je gaat logeren?

Q360

Hoe voel je je op de plek waar je gaat logeren? Geef bij elk van de onderstaande zinnen aan in hoeverre jij het ermee eens bent:

	Helenaal oneens	Oneens	Een beetje oneens	Niet eens, niet oneens	Een beetje mee eens	Mee eens	Helenaal mee eens
	0	1	2	4	5	6	7
Ik voel me daar op mijn gemak	<input type="range"/>						
Ik voel me daar somber	<input type="range"/>						
Ik voel me daar vertrouwd	<input type="range"/>						
Ik voel me daar blij	<input type="range"/>						
Ik voel me daar angstig	<input type="range"/>						
Ik voel me daar veilig	<input type="range"/>						

Q366

Wat helpt jou tegen heimwee?

Denk hierbij bijvoorbeeld aan een bepaalde knuffel die je meeneemt, bij familie/vrienden logeren waar je vaak komt of als je vader en/of moeder erbij is.

Q210

Wat maakt het voor jou juist moeilijker om ergens anders te slapen?

Q368

Geef aan in hoeverre jij het met de onderstaande zinnen eens bent:



Q211

Als je daar eventueel nog een toelichting op wilt geven, kun je dat hieronder typen:

Q212

We willen graag weten hoe het voor kinderen is om heimwee te hebben. Wat is voor jou nog meer belangrijk als het om heimwee gaat?

Appendix B

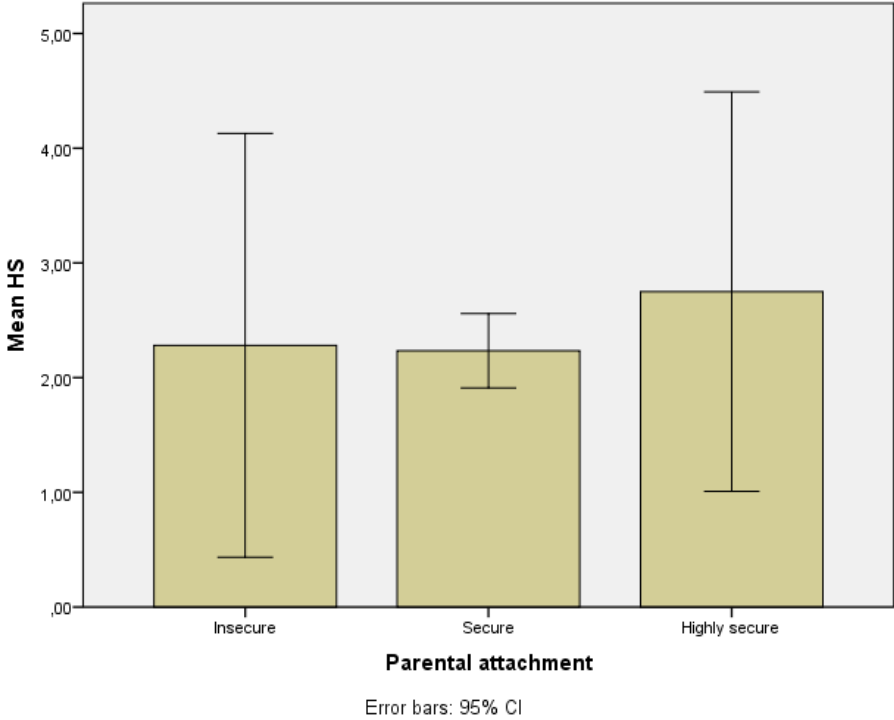


Figure 1. Boxplots with 95% CI's for average scores on HS in parental attachment groups.

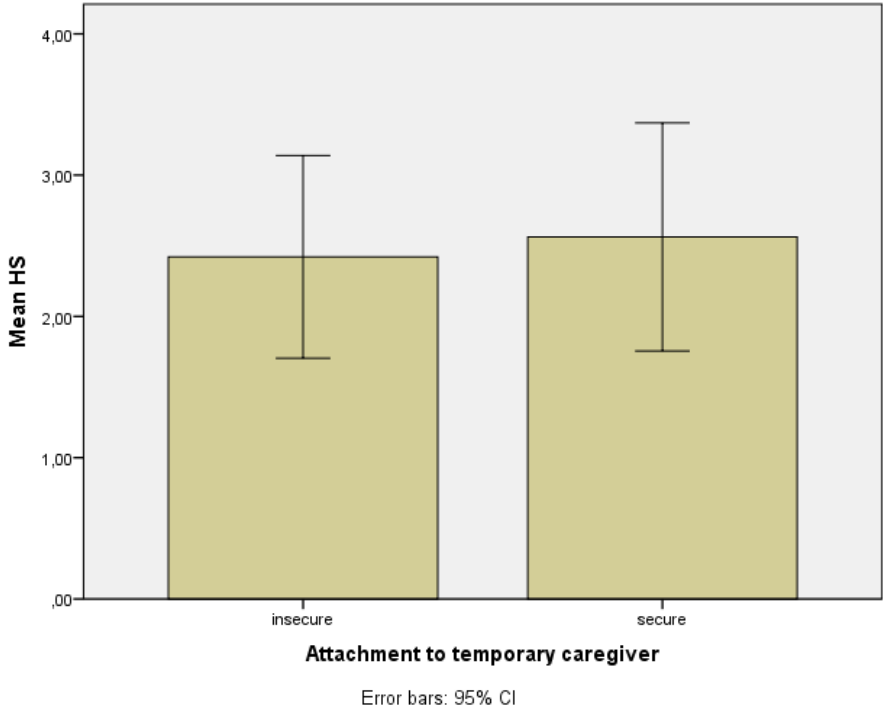


Figure 2. Boxplots with 95% CI's for average scores on HS in temporary caregiver attachment groups.

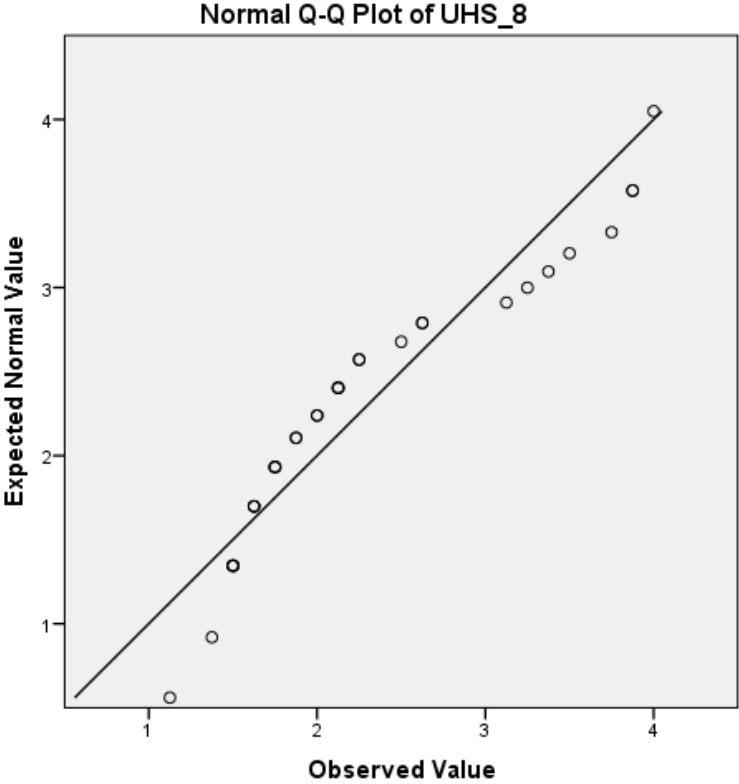


Figure 3. Q-Q Plot of Scores on the Dependent Variable HS

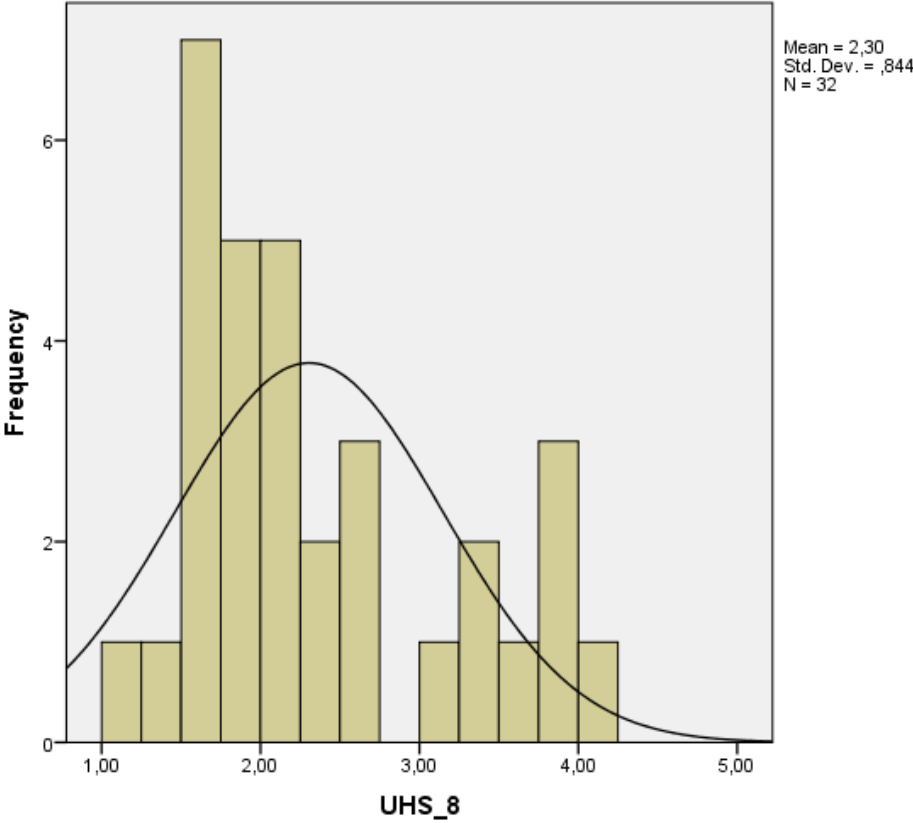


Figure 4. Histogram and Normality Curve of HS-scores