



universität
wien

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

„The impact of culture on mother-child attachment: a comparison between France and Austria“

verfasst von / submitted by

Mag.rer.soc.oec. Galatée Rème, BSc

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of
Master of Science (MSc)

Wien, 2022 / Vienna 2022

Studienkennzahl lt. Studienblatt /
degree programme code as it appears on
the student record sheet:

UA 066 840

Studienrichtung lt. Studienblatt /
degree programme as it appears on
the student record sheet:

Masterstudium Psychologie UG2002

Betreut von / Supervisor:

Ass.-Prof. Mag. Dr. Harald Werneck

Table of contents

The impact of culture on mother-child attachment: a comparison between France and Austria	3
1. Theory	3
Measures of Attachment	4
2. Motherly Factors that influence Attachment	5
Parental Cultural Beliefs about Child-Caregiver Relationships.....	7
The Psychology of the Caregiver.	11
Attachment Critics: Culture Differences	14
Multiple Attachments.....	15
3. Hypotheses.....	18
For the Dyadic Attachment.....	19
For the Multiple Attachment	20
4. Method	20
Participants.....	20
Materials.....	23
Procedure	28
Data Diagnostics	28
Analytic Strategy	30
5. Results	31
Missing Data	31
Dyadic Attachment	32
Results for Multiple Attachments.	38
6. Discussion	45
Dyadic Attachment	45
Multiple Attachments.....	48
7. Conclusion and Limitations	50
8. References	54

Abstract in English	61
Abstract in German.....	62
Appendix A	64
MRQ, 6 Month MS (Non-Responsiveness scale only 2015 version) (Leerkes & Qu, 2017).....	64
Appendix B	66
The Maternal Attachment Inventory (MAI) (López-Fernández et al. 2021)	66
Appendix C	67
Parental Cultural beliefs.....	67
Annex D.....	69
Multiple Attachments	69

The impact of culture on mother-child attachment: a comparison between France and Austria

To date, the attachment theory from Bowlby and Ainsworth (K. Grossmann et al., 2013) is the paradigm that applies in the mother-child bond research field. But critics have grown and questioned the theory's universality. While western countries have often been englobed together, there are substantial differences in behaviors and opinions on child-rearing between them. The aim of this study was to investigate the role of culture on the dyadic mother-child attachment within the western world. Litterarutre on mother-child attachment comparison between two western European countries with the same instruments and research leaders is scarce. In this study, the focus was on France and Austria. First, the differences in dyadic attachment between France and Austria were investigated, followed by the role of parental cultural beliefs. The second part aimed was to see if multiple caregiver attachments could compensate for a low dyadic attachment between mother and child.

1. Theory

The bond between mother and child has been the research subject for a long time. In the 1950s and 1960s, a paradigm change occurred as John Bowlby went against the behaviorists' theory that was prevalent at this time. They suggested that children should not be held when crying (Bilgin & Wolke, 2020). Bowlby revolutionized the field of the parent-child bond as he assessed that parents should treat their children more humanly and be allowed to comfort their infant when crying (Ahnert, 2006; Hinde, 2007; Hrdy, 2011).

In the 1950s, Bowlby observed the mother-child relationships in rhesus monkeys and deducted that a dyadic relationship between a human mother and her child was crucial for the child's development (Hinde, 2007). He described the close bond between parent and child as biologically, and evolutionary determined (Röttger-Rössler, 2014) and suggested that the ultimate human goal was to reproduce oneself and that attachment to the caregiver promotes this (Van IJzendoorn et al., 2006).

Mary Ainsworth joined forces with him, and they developed the attachment theory. They looked into the dyadic relationships between mother and child. They focused primarily on how a caregiver would respond to their child's expression of distress, like crying or clinging, and how a child would react to these responses. They observed that humans and primate children alike, when confronted

with danger, tended to go closer to their mothers. If the parent reacted adequately, they would form a secure bond with their child. From this, the attachment is defined as the bond between a caregiver and their child in stressful situations (Stevenson-Hinde, 2007).

From their observations of stressful situations, Bowlby and Ainsworth recognized different attachment patterns (Otto & Keller, 2014). The attachment that Bowlby and Ainsworth thought of as the one to attain was the secure attachment. In a secure attachment situation, the mother responds to the child promptly and in a caring manner. This theory is still, to date, vastly accepted as the leading theory. In most cases, the mother-child attachment is considered stable over time (Levy et al., 1998).

Within the frame of the theory, the consequences of the different mother-child attachment patterns determine some aspects of the child's development. Securely attached children explore their surroundings in security, knowing that their parents will be there in case of danger (Otto & Keller, 2014). Children with ambivalent and avoidant attachment to their mothers can face more difficulties during their development. This includes potential low self-reliance and low resilience. It can also bring low enthusiasm for school and integration difficulties in their social circles (Ainsworth, 1985; Kraemer, 1992). Van IJzendoorn and Sagi-Schwartz (2008) also stated that children's attachment patterns to their caregivers impacted their emotions and emotion regulation.

Measures of Attachment

To compare attachment patterns, there must be some instrument to measure them. Today, there are many different. In the 1960s, however, the strange situation from Mary Ainsworth was the first instrument to study attachment patterns. It is still vastly accepted today. In short, the child is put in a stressful situation, and their reaction is observed. The child is placed in a room with a stranger, and the parent leaves. The test leader observes their behavior pattern toward their parents during and after the stressful situation. A secured child should feel distressed by the caregiver's absence and be able to come down relatively fast when the parent comforts them.

However, the strange situation appeared to be a tedious way to study attachment, requiring extensive training, a room to conduct the experiment (Leerkes & Qu, 2017), and the parents having to come to the study center. In this regard, Waters and Deane (1985) created a new attachment Q-Sort method, which was easier to transport and conduct. Nevertheless, it still involved observations

and needed to be done by meeting the family (O'Connor & Gerard Byrne, 2007; Waters et al., 1995). Another instrument introduced by Müller in 1994 substantially reduced the obstacle of meeting the family by creating a self-report questionnaire, the Maternal Attachment Inventory (MAI). Not only were the resources for this considerably lower, but it also enabled the researchers to reach more people. Mothers could complete the survey from home or online and rate their feelings about their children. Nowadays, there are several instruments to measure attachment. An example is a recent scale created by Leerkes and Qu (2017) called the Non-Responsiveness scale, which has proven a valid measure for attachment.

2. Motherly Factors that influence Attachment

Following Bowlby and Ainsworth's theory, this section aims to identify character traits and behavior patterns that correlate with a secure attachment. Mary Ainsworth stated that securely attached children generally have mothers who are more sensitive, cooperative, and emotionally available to them (Kraemer, 1992). Since Ainsworth's claims, numerous studies have linked sensitivity to attachment security (K. E. Grossmann et al., 2007; Seifer & Schiller, 1995). Furthermore, Schneider and Lindenberg (2018) advocated that being an empathic and responsive mother could also be linked to secure attachment. They added that responsive mothers reacted to their child's distress with reliability and in a friendly and open manner. Finally, Ainsworth emphasized that sensitivity and responsiveness were two bases of the attachment theory (Kraemer, 1992).

On the contrary, the mothers in other forms of attachment often answer inadequately to their child's distress: either too strong or not strong enough and in a less sensitive manner (Ainsworth, 1985). For example, mothers of insecure-avoidant children can expect them to regulate their emotions independently and depreciate their strong feelings. Mothers in insecure-ambivalent attachment are more volatile in their responsiveness pattern, reacting only sporadically and unpredictably to their child's distress. Finally, disorganized attachment is on the opposite spectrum of attachment security. The parent can yell at a crying child, ignore them, or avoid physical contact. It is sometimes the product of a complicated family environment, such as violence in the household or psychological problems of one family member.

Besides character traits, negative and positive behavior patterns that are linked to attachment are, among others, breastfeeding, letting a child cry, and corporal punishment. In their study, Britton et al. (2006) did not find a direct correlation between breastfeeding and attachment in the first year of the child's life. However, mothers that breastfed were also more sensitive, and more sensitive mothers were more securely attached. Thus, their conclusion suggested a correlation between breastfeeding and attachment. A recent study from Abuhammad and Johnson (2021) confirmed this probable correlation. They investigated the correlation between breastfeeding and attachment from 258 mothers and used the Maternal Attachment Inventory (MAI) to measure attachment. They concluded that breastfeeding mothers were more often securely attached to their children.

Another matter that has been the center of many attachment discussions is: should one leave their children to cry? To this day, psychologists don't agree on this matter. Attachment theorists have stated their strong opinions against leaving their children crying, while behaviorists argued that always comforting their children conditioned them to cry (Kraemer, 1992). Ainsworth and Bell (1977) responded to the behaviorist's criticism and asserted that Non-Responsiveness was correlated to lower maternal sensitivity and, through this, attachment. More recently, some studies have gone against this claim. Van IJzendoorn and Hubbard (2000) tried to replicate Ainsworth and Bell's 1972's Baltimore experiment and could not find a correlation between letting their children cry and mother sensitivity. Instead, using the strange situation, they found that mothers' Non-Responsiveness was correlated with a more secure attachment. This might seem contra intuitive, but they hypothesized that mothers of avoidant children responded too promptly and thereby didn't help their child self-regulate. Bilgin and Wolke (2020) also found no correlation between attachment at 18 months and letting their children cry. They argued that, when the child was 18 months, more sensitive mothers would leave the children crying more often than less sensitive mothers. On the other side, in 2017, Leerkes and Qu moderated previous results. They argued that it was possible that mild Non-Responsiveness could be considered as good or at least not bad for the children to adapt to their environment, but that a higher Non-Responsiveness was damaging to the child's development. To test this, they created a Non-Responsiveness questionnaire that only measured high levels of Non-Responsiveness, where the caregiver would let their children cry for 10 minutes or more. They found

it correlated negatively with attachment measured by the strange situation. Indeed, avoidant children had mothers more highly unresponsive than securely attached children.

Another behavior pattern influencing attachment is using physical punishment such as spanking. Ainsworth and Bell (1977) argued that abusive caregiver presents a threat to their attachment to their children. In their 2006 findings, Britton et al. supported this argument as their results revealed a direct link between negative interactions, like spanking or slapping, and attachment. Moreover, in 2009, Kochanska et al. studied the correlation between forceful physical control of parents during the first year and later antisocial behaviors of the children. They found that avoidant attachment was a catalyst for children-parents coercion and later anti-social behaviors (Kochanska et al., 2009). And finally, Leerkes and Qu also reported that non-responsive mothers were less sensitive and engaged in more punitive responsive than more responsive mothers.

Parental Cultural Beliefs about Child-Caregiver Relationships

Mothers' character traits and behavior patterns cannot be separated from the environment in which they developed. Levine (1974) stated that cultural beliefs played as much of a role as biology in child-rearing goals and beliefs. He argued that different child care customs resulted from history and multiple generations' answers to possible environmental obstacles to child growth and education. According to Harkness and Super (2006), the environment in which the child develops relies on three interacting subsystems: the physical and social setting in which they grow, i.e., the socio-demographic status of their family; their cultural childcare and childrearing customs; and the psychology of the caregiver, like cultural customs of child-rearing. Family policies and background history frame social settings and childcare practices. And together, they form the cultural basis that anchors the child caregiver's psychology. In the following paragraphs, those three subsystems are explained in more detail.

Social Setting. Socio-demographic factors play an essential role in the quality of attachment. So far, the research field hasn't agreed on which one relates to attachment: education, employment, income, or maternal and children's age. Leerkes and Qu (2017) conducted a study on the responsiveness of mothers, and their results suggested that non-responsive and less sensitive mothers were predominantly represented in populations at socio-demographic risks, that is, young,

with low income, and less educated. They interpreted this result by arguing that the stress from low economic conditions hurt responsiveness and attachment. Research has also pointed out that mothers with higher incomes would answer more promptly to their children crying (Bilgin & Wolke, 2020) and were less restrictive and affectionate than mothers with lower incomes (Suizzo, 2002).

Furthermore, literature hasn't agreed on the role of education and its relationship with attachment. For example, Pederson et al. (1990) conducted a longitudinal study on mother sensitivity and attachment. They found no correlation between maternal age, family income, and the parents' working status but observed conflicting and confusing results on the correlation between maternal education and attachment. While they found a positive correlation between maternal sensitivity and education and sensitivity and attachment, they couldn't find any link between attachment and education (Leerkes & Qu, 2017). Moreover, in 2002, Suizzo strengthened the need to differentiate between those with higher education. However, in her results, education didn't affect attachment.

In addition, the correlation between maternal employment and attachment is a disputed subject within the research field (Pederson et al., 1990; Suizzo, 2002). In 1987, Barglow et al. investigated this matter, and their results showed the infant-mother attachment during the last four months of the first year suffered from the mother working full-time while the child was cared for outside of their home. On the contrary, in their longitudinal study, Bretherton et al. (1989) found a positive correlation between the mother's employment status and attachment. They explained this contra-intuitive result by hypothesizing that mothers who work compensate for this by trying to be even more competent when they are with their children than stay-at-home mothers.

Finally, research has also not agreed on the impact of maternal age on attachment. In their 1990 study, Pederson et al. found no correlation between maternal age and their sensitivity or attachment to their children. However, in her analysis of French mothers, Suizzo (2002) stated that older mothers were more responsive than younger mothers. Bilgin and Wolke (2020) found similar results that showed that older mothers responded more to their crying babies at six months than younger mothers. This result was more consistent with the study by Leerkes and Qu (2017), who stated that younger mothers were more at risk for being less responsive. Van IJzendoorn and Hubbard (2000) also mentioned that a mother's sensitivity changes with the number of children in the

household. For example, a mother tends to be more sensitive with the first child than the second, which also means with higher age.

Childcare Practices and Customs. One must look at the micro and macro levels to understand the mother-child attachment. On a micro level, the socio-demographic data of the mothers are crucial. And on a macro level, looking into the historical and political context of the mothers' country's customs and childcare practices is essential. While Austria and France are both western societies with similar properties, they also vastly differ in their approach to gender roles, their childcare traditions, and family policies.

Since World War II and the development of working women in Europe, the status of mothers has changed. In Europe, the rate of working mothers has increased from 50% for the cohort born after the war to nearly 80% for mothers who were between 36 and 40 years old in the 2010s (Britton et al., 2006). Furthermore, in the last 70 years, various family policies have substantially impacted the frame of child-rearing and mothers (Morgan, 2006). However, while Austria and France are considered conservative in politics and traditional gender roles, their view on childrearing is founded on different approaches (Dörfler et al., 2014).

Since the Second World War, France has led a pro-natal policy favoring one of the highest birth rates in Europe and helping families by providing a large pallet of childcare possibilities. Since the 1980s, France has increased its financing of daycare places to support a family model where both parents can work full-time. Furthermore, the offer of professional childcare has significantly increased since the 2010 "plan petite enfance" to create more daycare places. Moreover, French professional caregiving is available for children in their second month of life, thus encouraging mothers' short maternity leave and an easier return to work. On the contrary, being a stay-at-home mother in France is not easy. A leave of absence is allowed until three years after the child's birth, but it is paid a meager amount of 566 euros per month, and this is only under the conditions that the parent has at least two children and has worked two years before the birth of their child. And unfortunately, this offer is mainly taken by parents with low incomes or in precarious situations. However, the offer for mothers to stay longer at home after their child's birth has improved, and since 2004, it has been allowed to take a six-month leave of absence even if the parent has only one child.

Unlike France, Austrian family policies encourage a more traditional gender role (Berghammer, 2021). Since 1974, Austrian mothers can take a leave of absence of three years while receiving an allowance. This allows them to stay at home with their children. Over the years, the rate of mothers' employment in Austria has increased but is still lower than in France (Berghammer, 2021). In the Eurostat 2019 survey, 74% of French and Austrian mothers of children between the age of 0 to 2 were working, but while a majority of 53% of French mothers were working full time (29 hours or more), 53% of Austrian mothers were working part-time (from 1 to 30 hours).

With mothers working more, the need for external childcare has grown in both France and Austria. However, previously mentioned family policies have suggested a difference in childcare practice, which is reflected in the statistics. Indeed, the European Union Statistics on Income and Living Conditions (EU-SILC) (Eurostat, 2022) show great differences between the two countries demand for professional childcare. In 2020, around 60% of Austrian children under three were taken care of by their parents while 57.2% of French children under 3 were in formal childcare, including 36.5% for more than 30 hours per week.

Different family policies can lead to different gender roles. According to Berghammer (2021), the Austrian cultural attitude toward gender roles is still conservative. Strell and Duncan (2001) underline that family matters in Austria are considered private while being embedded in the traditional role of bread earner for men and family maker for women. Austrian women tend to take jobs that accommodate their child-rearing and have a lower salary. On the contrary, Austrian fathers are expected to work full-time with time slots that are less accommodating for child-rearing. Austrian mothers are also facing the pressure of motherhood as they often take the primary role in child-rearing. In a report on the years 2009 to 2019 (Mauerer & Kroismayr, 2021), Austrian mothers with children under six spent three hours and 40 minutes per day taking care of their children. The time they spent at work was two hours and 21 minutes. Compared to the mothers, the fathers spent half the time taking care of the children, which is one hour and 37 minutes but spent seven hours and 20 minutes working. This is even more so for higher educated mothers. Even if the access to work for mothers has increased since the 1970s, Strell and Duncan (2001) argued that the Austrian family

policy from the 2000s with long parental leaves has strengthened the traditional roles, where mothers should take care of their children at home.

European differences of opinion on traditional gender roles within the family and child-rearing beliefs differ among European countries. In this regard, the European Values Study (EVS, 2020) has interviewed samples from 37 European countries on this matter. Concentrating on Austria and France, the government department from the University of Vienna, Austria, and the Institute for political sciences in Grenoble, France, instigated the data collection. The sample size in France was 1840 parents, while the Austrian sample size was 1636. Using the collected data from both countries, the means of the two samples were compared with a T-Test.

This survey showed significant differences between Austria and France on views on gender roles and working mothers. As expected from statistics on working mothers, French respondents had less traditional views on gender roles. For example, on the question, if children suffer from their mother working, on a scale of 1 to 4 (one strongly agreeing to 4 strongly disagreeing), French people disagreed more ($M = 2.94$, $SD = 1.05$) than Austrian ($M = 2.44$, $SD = 1.07$) $p < .001$. When questioned if the men's role was to earn money while women should take care of the family and household, French respondents disagreed more strongly ($M = 3.33$, $SD = .99$) than Austrian respondents ($M = 2.87$, $SD = 1.14$) $p < .001$. A mean of all eight questions on the gender role survey was computed to obtain a general index of the opinion on traditional gender roles. The results showed that France is more opposed to the traditional gender role ($M = 2.99$, $SD = .66$) than Austria ($M = 2.76$, $SD = .79$) $p < .001$.

The Psychology of the Caregiver. Caregivers develop theories to define explicitly or implicitly their parenting behaviors, strategies, and goals. Those theories lie within the frame of their environment and are strongly influenced by their own beliefs and customs (Otto & Keller, 2014; Suizzo, 2002; Ziehm et al., 2013)). They are called "parental intuitive theories" (Ziehm et al., 2013) or "parental ethnotheories" (Harkness & Super, 2006), or "cultural models of parenting" (Suizzo, 2002, 2004). According to Harkness and Super (2006), parental ethnotheories are a cultural model based on parental decisions and actions and strongly influence the child's development.

France and Austria's different opinions on parenting are embedded in their cultures. Western societies are often described as individualistic societies in which physical closeness is less important than independence compared to more collectivist societies emphasizing physical contact and conformity to society's rules (Suizzo, 2002). However, the dual position is simplistic and doesn't apply strictly to all western countries. Indeed, Suizzo (2002) described France as neither uniquely collectivist nor uniquely individualist. The author also stated that two western individualistic countries can have the same wish of independence for their children and still take different approaches to reach this goal. Suizzo (2002) focused her research on French mothers' behaviors and opinions concerning childrearing. She argued that French mothers have an ambiguous approach to their childrearing goal. They communicate a lot with their children and expect them to be independent. But at the same time, they should be discreet, self-controlled, not too loud, obedient to adults, and well-behaved in society. Furthermore, Suizzo stated that French mothers are ambivalent about interpersonal distance. While still nurturing, she argued that French mothers like to keep a certain distance from their children, refusing co-sleeping and using a cloth to bathe their children. And they believe in physical and affectionate contact but do not want to respond automatically to their children crying for fear of them becoming demanding and petulant. In her 2002 quantitative study, Suizzo researched 455 Parisian mothers and found that 98% found it essential to interact through language and toys, while 55% found responsiveness and physical closeness of little importance. This included beliefs on picking one's baby up while crying, raising one's voice on their children, hitting them, and feeding them.

Hays (1996) described motherhood in western societies as a difficult situation where it is nearly impossible to make it right for everyone. In these cultures, good mothers must be intensive mothers. Intensive Motherhood is rooted in traditional gender roles and states that women must have children to be fulfilled. They must be their primary caregiver and spend as much time as possible with their children or at least have a child-centered life (Ennis, 2015). In addition, if a mother wants to work, she must ensure that the childrearing is covered and remains her priority. In those cases, working mothers must be "supermoms" (Hays, 1996, p.132) and try to balance work and home life. As a result, they are never fully satisfied and struggle with guilt in private and work situations. Common practices for Intensive Motherhood include breastfeeding on cue, bed-sharing, and babywearing (Faircloth, 2013).

Research has found that many intensive mothering practices are less represented in the French population compared to Austria. Warner (2005) stated that French mothers have more time for themselves and feel less pressure to be perfect than Austrian mothers. She asserted that they would not describe their primary job as being a mother. Above is described that Suizzo (2002) described French mothers' views on closeness, physical contact, and co-sleeping as ambiguous. In 2004, she also added that French mothers feared being enslaved to their children or being too fusional with them. Moreover, another factor that potentially shows more intensive mothering in Austria is the great difference in breastfeeding. Indeed, while the WHO recommends breastfeeding their children until their seventh month, this isn't commonly practiced in France. Even if the numbers are growing, in 2015, only 19 % of French infants were exclusively breastfed until their seventh month. On the contrary, in 2006 in Austria, 65% of the mothers breastfed their infants exclusively until six months, and 64.1% in 2021 (Bürger et al., 2021).

In addition to breastfeeding, the different parenting goals between France and Austria reflected their different approach to child-rearing. One important decision parents have to make is their children's education goals. Based on the European Values Study (EVS, 2020), a short statistical analysis was conducted with the help of a T-Test to compute the mean differences in parenting goals between France and Austria. The participants answered yes or no as to whether or not they considered the specific child-rearing goal important. Both countries cited tolerance and respect, good manners, and responsibility as their top three choices but with different means. While 85% ($SD = .36$) of French people thought that the most important educational goals that must be taught to children were tolerance and respect, only 74% ($SD = .44$) $p < .001$ of Austrian agreed. Moreover, 80% of the Austrian participants ($SD = .40$) held responsibility for a vital parenting goal, while only 65% ($SD = .46$) $p < .001$ of the French participants agreed with this. On the contrary, while obedience was lowly rated in both countries, 25% ($SD = .43$) of the French interviewees thought it necessary in comparison to only 15% ($SD = .35$) $p < .001$ for Austria. And finally, 45% ($SD = .5$) of the French respondents cited selflessness as an essential value to be taught in households, while only 7% ($SD = .26$) of the Austrian interviewees considered it necessary. On the contrary, 69% ($SD = .46$) of Austrian parents thought that independence was a fundamental child-rearing goal, while only 38% ($SD = .49$) $p < .001$

of French parents put this goal as a priority. Taking account of the differences in child-rearing priorities between both countries supports Suizzo's earlier claim and emphasizes a French pattern of parenting goals that is more collectivist than the Austrian.

Attachment Critics: Culture Differences

Every theory is embedded in the culture of its creator and the environment of their observation (Harkness & Super, 2006; Otto & Keller, 2014). While still vastly accepted, Bowlby and Ainsworth's attachment theory have faced many critics. Researchers on attachment theory have argued that it is only valid within Western, Educated, Industrialized, Rich, and Democratic (WEIRD) cultures (Henrich et al., 2010; Hrdy, 2011; Phillips, 2019; Röttger-Rössler, 2014), which only represents a part of the world population.

According to Bowlby, the caregiver-child attachment is evolutionary and relevant for the survival and development of children (Van IJzendoorn & Sagi-Schwartz, 2008). Based on this statement, and because evolution concerns all cultures, he claimed that the need for a secure dyadic attachment between caregiver and child was universal and above all other attachment relationships. In other words, he assumed his attachment theory was valid across all cultures. To counteract this argument, Van IJzendoorn and Sagi-Schwartz (2008) suggested that avoidant or ambivalent attachments might not go against evolutionary goals. They argued that other sorts of attachment were sometimes needed for the culture's survival. Otto and Keller (2014) agreed with this idea and advocated that some cultures might need children to suppress negative emotions. In this case, avoidant attachment would be evolutionarily relevant. They also argued that a number as high as 50% of 64% of non-secure attachment was too high to be a risk for evolutionary adaptation. They hypothesized that a secure dyadic attachment might be adaptive in WEIRD cultures where parents invested a lot in their offspring's education and other forms of attachment adaptive in unpredictable, low-resource environments.

Attachment comparison studies within WEIRD cultures have been scarce. Furthermore, there has never been a cross-European experiment using the same instruments and Test leaders. In France, there has been very little use of the strange situation or other attachment measures. In Austria, though rare, there was some data on attachment. In their 2018 study, Ruiz et al. (2018)

compared two groups of preterm and full-term children in Austria. The full-term sample consisted of 100 children of an average of 18.8 months. Ruiz et al. used the instrument Attachment Q-sort (AQS) to calculate the security score of their mother-child bond. To measure the AQS, experiment leaders went to the children's homes and observed the dyadic interactions between primary caregivers and their children. The score obtained was then compared to secure attached relationships, and the correlation between both scores revealed the degree of security in the attachment. In this study, the degree of secure attachment for Austrian toddlers born at full-term was 43%.

In their meta-analysis in 1988, Van IJzendoorn and Kroonenberg compared attachment patterns in different countries. They computed all western European countries like Great Britain, Sweden, the Netherlands, and Germany together as a whole under the title "Western Europe." They had assumed that western European countries had similar patterns of attachment. When comparing Israel, China, Japan, and Western European, they found cultural differences within the countries or country groups but could still identify some common patterns between countries or country groups. Their analysis showed a relatively modal pattern of secure attachment in all countries. Western European countries had frequent avoidant attachment patterns, while Israel and Japan often had anxious ambivalent attachment patterns.

France and Austria have different childcare practices and customs as well as psychologies of the caregiver, including different childrearing goals. Suizzo claimed that France was more collectivist than Austria, thus stating a difference within western countries. This argument goes against Van IJzendoorn and Kroonenberg's (1988) idea of computing all the western countries together.

Multiple Attachments

So far, the focus was on the classical attachment theory with a dyadic mother-child bond (Ahnert, 2006), but Hrdy (2011) pointed out that the world has a long history of multiple people caring for a child, namely alloparenting. To obtain a complete overview of cultural differences in attachment, it is crucial to investigate the role of social support and alternative caregivers. Indeed, mother-child attachment research has emphasized that mothers without social support from their children's fathers, family, or friends scored lower on the sensitivity scale (Shin et al., 2006; Sims-Stanford, 1997).

Bowlby's attachment theory is rooted in the resemblance between humans and apes (Hrdy, 2011). He observed an exclusive mother-infant bond in certain ape races that was above every other relationship and, according to him, the key to healthy development. He described this bond as an instinctive infant attachment, similar to imprinting (Kraemer, 1992). Bowlby also argued that the ideal relationship between a mother and her child was continuous and close. Hrdy (2011) stated a contrary theory. She claimed that the primates with continuous and exclusive mother-child relationships were only doing so because it was their last resort solution, as there was a lack of other safe and available care systems. The author also argued that the similarities between apes and humans had limits. While human babies desire physical contact and holding, it does not have to be exclusively with the mother. For instance, Hrdy stated that in certain human cultures, the infants were passed on to different women, who were not the mother, to suckle on their nipples or even be breastfed. This doesn't happen with apes. By building his attachment theories, Bowlby underestimated the importance of different existing alternative caregivers for a child's development (Bacro et al., 2021).

Bowlby's and Ainsworth's attachment theory considered the primary caregiver-child relationship at the top of the hierarchy (Bacro et al., 2021). Even though they didn't exclude the possibility of other attachments, they claimed those were dependent and subordinate to the mother-child attachment. Van IJzendoorn et al. (1992) commented on the existence of multiple caregivers. They introduced the "caregiver paradox": If a secure mother-child attachment is predictive of good social interactions with peers, what do attachments to other caregivers bring? In addition to Bowlby's hierarchic attachment theory, Bacro et al. (2021) presented two alternative theories that described attachments to alloparents as independent from the primary caregiver: the integrative approach and the independent theory. Both theories argue that children can be differently attached to different persons. The first theory, the integrative approach, states that various attachments from different caregivers with one child are computed into a whole holistically. And the whole has an impact on the child's future development. In addition, this theory suggests that the quality of one attachment can compensate for another. For example, if the attachment between child and mother is avoidant, but the one between child and external caregiver is secure, the latter could compensate for the former. The second approach, the independent theory, stipulates that all the different attachment

relationships in a child's life are independent of one another and have different influences on the child's development. In both cases, the attachment quality of other relationships does not depend on the one of the child with the principal caregiver.

Several studies on attachment behaviors towards mothers and fathers found that the two attachment styles were not or only slightly correlated and showed great independence from each other (Bacro et al., 2021). Furthermore, Ahnert et al. (2006) conducted a meta-analysis of 40 investigations on attachment and concluded that 42% of the children were securely attached to their professional caregiver and that this relationship was independent of the mother- or father-child attachment. Moreover, Several researchers stated that the power of attachment to all caregivers of a child's life, or multiple attachments, was more predictive of their development than just the dyadic mother-child attachment (Coontz, 2005; Friedman & Boyle, 2008). Finally, Vermeer and Bakermans-Kranenburg (2008) investigated the possible consequences of non-secure attachment on development. They argued that some studies had found a better predictive power of the child's development by the extended attachment network rather than the mother- or father-child attachment. They concluded that children might benefit from alloparenting, where additional caregivers could compensate for non-secure principal caregiver-child attachment.

Opinions on external caregivers have varied across cultures. While it is widely accepted to have a family member being part of childrearing (Rille-Pfeiffer et al., 2020), views on professional caregivers differ. French law states that a child can start the creche or professional daycare from two to three months old, as mothers only have three months of maternity leave (légale et administrative, Direction de l'information, 2021). Conversely, in a Lower Austrian survey, Rille-Pfeiffer et al. (2020) presented their interview results with 1957 parents and showed more traditional preferences. Lower Austrian fathers had a more favorable opinion of equal gender roles than mothers. The results also showed that Lower Austrian mothers preferred caring for their young children rather than sending them to a professional daycare. However, about half of the mothers required the service of a non-professional caregiver, for example, the grandparents. According to this survey, the mean age of the child at which Austrian mothers started to work again was 22.5 months, and two third of the mothers

that planned to work were only planning 20 hours or less per week. Mothers that decided not to work did mainly so because they wanted to assume the childrearing.

Bowlby stated that professional caregiving could have a damaging impact on the mother-child attachment and the child's development. He asserted that time away from the primary caregiver, often the mother, would impact the closeness and warmth of their relationship, especially in their first year (Friedman & Boyle, 2008). Moreover, he argued that toddlers should spend the most time with their principal caregivers as this relationship is the most important (Bacro et al., 2021). A study by Belsky and Rovine (1988) supported this theory. They found that more time with professional caregivers correlated with a lower attachment to their primary caregiver. However, recent studies pointed out a few shortcomings in their analysis (Forslund & Duschinsky, 2021; Friedman & Boyle, 2008). Forslund and Duschinsky (2021) pointed out that the studies like the one from Belsky and Rovine (1988) had not tried to correlate the mother's responsiveness with the time spent with the caregiver. They argued that it would have been essential to check if a close and warm relationship between mother and child would have been possible even in the case of professional caregiving. Forslund and Duschinsky (2021) also argued that the study hadn't considered the quality of the professional caregiver with the child. And indeed, several researchers found that quality was a better predictor of attachment than the use of a caregiver itself (Ahnert, 2006; Sagi et al., 1995).

In 2008, Friedman and Boyle researched 23 papers based on the data sets of the National Institute of Child Health and Human Development Study of Early Child Care and Youth Development of the mother-child attachments of 1000 U.S. children. They couldn't find any negative effect of professional caregiving on the primary caregiver attachment. During the strange situation, the children hadn't reacted more avoidant or ambivalent than the children that were not in professional care. In addition, they found that the quality of the relationship between the professional caregiver and the child was not correlated to the attachment security between the primary caregiver and their child.

3. Hypotheses

According to Bowlby's and Ainsworth's dyadic attachment theory, different motherly characteristics and behavior patterns influence their attachment to their children. This includes, among others, their sensitivity and responsiveness, breastfeeding, physical punishment, and letting

their children cry. Other factors influencing attachment are the socio-demographic status, the cultural caregiving practice and customs, and the psychology of the caregivers. Those factors differ vastly between France and Austria. For example, the Austrian family policy supports mothers to stay at home more and to start to work later after birth and only part-time compared to France. On the contrary, French mothers work more often full-time shortly after birth, thus breastfeeding less and sending their children more often, earlier, and longer to professional caregivers.

Moreover, French mothers' more collectivist attitude toward childrearing seems to differ from Austrian mothers. French parents are stricter with their children and expect them to be more conformed, discreet, and obedient, while Austrian mothers promote more independence and autonomy. In addition, French mothers refuse to be "enslaved" to their children and do not consider being a mother their main function.

Since Bowlby's theory on dyadic attachment, the research field has opened towards the importance of alloparenting. A few authors argued that the attachment to other caregivers plays an extensive role in the child's development outcome. The integrative theory states that all attachments to a child are combined as a whole and influence the child's development outcome. They can even compensate one another when one attachment is not secure.

For the Dyadic Attachment

- **Primary hypothesis:** Based on the previously mentioned differences between France and Austria, the mother-child attachment is more secure in Austria than in France.
- **Secondary hypothesis:** There are differences in parental cultural beliefs. French mothers are less nurturant than Austrian mothers.
- **Secondary hypothesis:** French mothers are more restrictive than Austrian mothers.
- **Secondary hypothesis :** Austria has a higher level of intensive motherhood than France
- **Secondary hypothesis:** Restrictiveness is negatively correlated with a secure attachment, and intensive motherhood and nurturance positively correlate with a secure attachment.
- **Exploratory hypothesis:** Some of the socio-demographic data (education level, child's gender, relationship status, working status of the mother, number of hours spent at work, age

of the child and the mother or the existence of siblings and the financial situation) are covariates in the regression between nationality and attachment.

- **Primary hypothesis:** cultural beliefs mediate the impact of nationality on attachment.

For the Multiple Attachment

- **Primary hypothesis:** If the dyadic attachment hypothesis is correct, that French attachment scores are lower than Austrian, then France can compensate for this with more alternative caregivers than Austria.
- **Primary hypothesis:** The alternative caregivers spend more time with the child in France than in Austria.
- **Primary hypothesis:** The alternative caregivers have a better relationship with the child in France than in Austria.
- **Primary hypothesis:** If France compensates for lower attachment, the quality of attachment to other people compensates for the dyadic attachment. Therefore, the dyadic attachment score correlates negatively to the quality of alternative caregiving.
- **Secondary hypothesis:** The parental cultural beliefs correlate with whether or not there is an alloparent.
- **Secondary hypothesis:** The parental cultural beliefs correlate with the number of caregivers.
- **Secondary hypothesis:** The parental cultural beliefs correlate with the time they spend with the child.
- **Exploratory hypothesis:** Some socio-demographic data impact alloparenting.
- **Exploratory hypothesis:** There is an impact of alloparenting on dyadic attachment variables.

4. Method

Participants

For this study, only the mothers were considered. This is due to better accessibility of literature mainly based on mothers within the frame of a master thesis. A convenience sampling was used to gather data from mothers that were the easiest to reach.

281 mothers, 92 French and 189 Austrian were recruited. The average age of the mothers was 33.06 years old, and more than 50% were between 30 and 36 years old. Moreover, 92.4% of the French mothers and 93.7% of the Austrian mothers were either married or in a relationship. 27 mothers wrote that they alone were the primary caregiver of their children. But 18 of them, 13 Austrian and five French, stated that the father sees his child every day for at least five hours. Here, it is difficult to tell if the instructions were misunderstood, if the father didn't have custody but still saw his children every day, or if, although the father was present, he didn't have an important enough role in his child's life that the mother considered herself a primary caregiver.

The level of working mothers was below the national average of 74% for Austria and France. Indeed, the average of working mothers in this study was 67.4% for France and 51.2% for Austria. Within the working group, 43.9% of the Austrian mothers worked less than 20 hours per week while only 6.5% of French mothers worked less than 20 hours. On the contrary, 67.7% of French working mothers said they worked between 30 and 40 hours a week, against 20% of Austrian working mothers. And 53.3% of French mothers of children under one year worked, including 75% for 30 to 40 hours a week. On the contrary, 32.6% of Austrian mothers with children under one year worked, including 42.9% under 20 hours a week.

The financial situation between France and Austria was relatively equal. 64.5% of the French mothers described their financial situation as good or very good, 31% as neither bad nor good, and only 4.3% as bad. Similarly, 56.6% of Austrian mothers described their financial situation as good or very good, 35% as neither good nor bad, but 16% as bad or very bad, which is slightly higher than in France. French mothers were more educated. 50% of French mothers and 30% of Austrian mothers had at least a master's degree, 33.3% of French mothers and 14.8% of Austrian mothers had a bachelor's degree, and 12% of French mothers and 46% of Austrian mothers had a French Baccalaureat or Austrian Matura, that is a high school diploma. And 4.4% of French mothers and 9% of Austrian mothers had no high school degree. This difference should be taken with a grain of salt as France and Austria don't have the same requirements for certain professions or have the same school system and approach to studies.

In Austria, 9% of the mothers' mothers, the grand-mothers, and 7.9% of the mothers' fathers, the grand-fathers, didn't have Austrian nationality. In France, 3.3% of the mothers' mothers and 7.6% of the mothers' fathers had a different nationality than the French.

The children were between the age of 0 to 36 months. The mean age of the children was 20,9 months old in both countries, which allows a legitimate comparison between the French and the Austrian sample. The gender distribution was nearly equal, with 138 girls and 143 boys. In France, 60% of the children had siblings, and in Austria, 39.7% had siblings. This reflects the actual Eurostat's fertility rates, where France has a fertility rate of 1.84 children while Austria has a fertility rate of 1.47.

The online survey was lengthy, and people dropped out during the survey, so the sample size diminished with each measure. However, there were mostly enough participants for the dyadic attachment measure. The sample size for the multiple attachments was more problematic.

To compare the mean differences of attachment, a priori, a small to medium effect size of Cohen $d = 0.4$ with a power of 0.8 and $\alpha = 0.05$ was wished. This would mean a sample size of 156 participants, 78 participants for each France and Austria. Unfortunately, the final sample did not satisfy this requirement. Two different instruments were used to measure attachment, the maternal attachment inventory and the Non-Responsiveness scale. For the former, there were 47 French mothers and 142 Austrian, and for the latter, there were 62 French mothers and 156 Austrian

To compare the mean differences in cultural beliefs, a priori, a medium effect size of Cohen $d = 0.5$ with a power of .8 and $\alpha = .05$ was planned. This would mean a sample size of 102 participants, 51 participants for each France and Austria. The final sample satisfied these requirements. It included 81 French mothers and 182 Austrian mothers for Restrictiveness, 81 French mothers for and 180 Austrian mothers for Nurturance, and 74 French mothers for and 173 Austrian mothers for Intensive Motherhood.

And Finally, France's and Austria's mean differences in the number of professional and private caregivers, the amount of time spent with the child, and the quality of their relationship were investigated. The wish was a medium effect size of Cohen $d = 0.4$ with a power of .8 and $\alpha = .05$. For this, a sample of 102 and 51 participants for each country for the quantity and quality was needed. Unfortunately, the final sample did not satisfy this requirement. For the non-professional caregivers,

there were 44 French mothers and 98 Austrian to compare whether or not a caregiver was used; 15 French mothers and 46 Austrian filled out the survey for the time in hours per week; 48 French and 120 Austrian mothers reported about the quality. For the professional caregivers, there were 33 French mothers and 64 Austrian to compare whether or not a caregiver was used; 15 French mothers and 37 Austrian for the time in hours per week; and 33 French mothers and 64 Austrian for the quality.

Materials

All instruments were translated into German and French by native speakers. The questionnaires were then put separately for France and Austria on the site <https://sosci.univie.ac.at/>. The survey was created based on several scales. In the appendixes all four instruments are presented.

Maternal Non-Responsiveness. To measure attachment, there were two scales: the Non-Responsiveness Scale and the Maternal Attachment Inventory (see Appendix A). Mary Ainsworth described responsiveness as an essential characteristic related to attachment (Ainsworth & Bell, 1977; Leerkes & Qu, 2017). Leerkes and Qu (2017) created a new instrument to measure mothers' responsiveness to their children. They define responsiveness as "the promptness with which mothers respond to infant signals" (Leerkes & Qu, 2017, p.1). The instrument is called the Maternal responsiveness Questionnaire. They found through factor analysis that the questionnaire was reliable and solid over time. It was also divergent valid with maternal sensitivity. They also found that higher Non-Responsiveness predicted a higher avoidant attachment, more behavior problems, higher distress, and less competence.

The questionnaire was divided into responsiveness, delayed responsiveness, and non-responsiveness (Leerkes & Qu, 2017). They Tested for correlation between the three responsiveness scales and mothers' behaviors that had been associated with lower responsiveness as well as with the strange situation. And they found that non-responsiveness was correlated with less sensitive, more punishing, and less supporting mothers. It was also correlated with attachment avoidance and problem behaviors in children. Their study on validity and factors showed that only non-responsiveness had a consistent convergent and predictive validity to the attachment. Therefore only the non-responsive scale was used, consisting of 7 situations, each with two possible reactions. An

example of a situation was, "when you are trying to do housework, pay the bills, or make dinner, how often do you" The two possible reactions were always the same: "let your baby cry for 10 minutes while you finish what you are doing" and "let your baby cry until you are done, no matter how long that takes." In addition to the two reactions from the non-responsiveness scale, two distractors per situation from the responsiveness scale were added. They were, however, not used in any calculations as the responsiveness scale did not significantly correlate with attachment.

The mothers originally had to rate the frequency of these reactions with a five-point Likert scale from never to always. However, the French questionnaire was launched before the Austrian one, and after 14 answers, a strong floor-effect appeared in non-responsiveness. Most people answered "never" to how often they would let their children cry for ten minutes or more. To overcome this issue, the Likert scale was changed to a continuous scale where the mothers had to move a slider where the possible ratings were from 1 to 100%, 1 being never and 100 being always. The score of the continuous scale was in percentage. To reunite the Likert scale and the continuous scale, the scores from the continuous scale were divided by 20. Thus, the final data were all on the Likert scale from 1 to 5. The maximum that one could obtain with 14 items at a maximum of 5 points was 70.

Maternal Attachment Inventory. To make sure that there was at least one instrument to measure attachment if the non-responsiveness still had a high floor-effect, the Maternal Attachment Inventory (MAI) short version from López-Fernández et al. (2021) was added (see Appendix B). To construct their short version, López-Fernández et al. (2021) relied on Condon and Corkindale's (1998) theory and stated that the strength of attachment could be measured through four attachment behaviors: Tolerance; protection and gratification; proximity; and competence.

Tolerance for one's child's behavior that one would otherwise find irritating was the first factor to be measured. Tolerance consisted of 3 statements of the type "I want my child to trust me. The second factor, protection and gratification, represented the need for a parent to protect their child at any cost and to gratify the child's somatic and psychological needs. Protection included five statements like "I give my child special attention" or "I know my child's personality." The third factor was the pleasure of being in their child's proximity, where the securely attached parents should feel joy and satisfaction, not boredom and tension. Proximity consists of 3 statements like "*Just seeing*

my child makes me feel good" or *"I want to spend special time with my child."* Finally, the fourth factor, competence, represents the desire to be knowledgeable about one's child, feel competent about parenting, feel confident in one's abilities to empathize with the child, and feel satisfied with being a mother. This factor consists of five items. For example, "I'm glad this child is mine" or "loving my child is easy".

López-Fernández et al. (2021) conducted a factor analysis. They chose only the statements that had a factor loading above .5. For factor 1 tolerance, the re-test reliability was .61 and the internal consistency .83. For factor 2, the re-test reliability was .72 and the internal consistency .78. For factor 3, the re-test reliability was .62 and the internal consistency .77. For factor 4 tolerance, the re-test reliability was .65 and the internal consistency .70. They were all adequate. To test for convergent validity, López-Fernández et al. (2021) found a significant and moderate correlation between the MAI and the Mother-to-Infant Bonding scale ($r = -.396$).

The scale has 17 statements, and the participants had to rate if they agreed with the statements thanks to a five-point Likert scale from strongly disagree to agree strongly. The maximum of points that one could obtain was 85.

Parental Cultural Beliefs. Three scales measured parental cultural beliefs: Nurturance, Restrictiveness, and Intensive Motherhood (see Appendix C)

Restrictiveness and Nurturance. Restrictiveness and Nurturance are two scales from the factor analysis with a reduced number of items of the Block Child Rearing Practices Report conducted by Rickel and Biasatti (1982). Only the items with a factor loading above 0,5 were retained from both groups. For Restrictiveness, six items corresponded to this criteria. An example for this scale is *"I believe a child should be aware of how much I sacrifice for him/her,"* and has a loading factor of 0,6 for Restrictiveness. For Nurturance, seven items had a factor loading above 0,5. An example with a factor loading of 0,68 is *"My child, and I have warm, intimate moments together."*

In addition to the Block Child Rearing Practices Report, parameters from the literature that seemed to belong to the two scales of Restrictiveness and Nurturance were added. In the Restrictiveness scale, the use of physical punishment complemented the scale. This parameter has three items that taken from the ISSP 2012. An example is *"a pat on the bottom never harmed a child."* For the scale

Nurturance, two factors were added: the opinions and behavior on breastfeeding and co-sleeping. The three breastfeeding items come from the Iowa Feeding attitude scale (La Mora et al., 1999), while the co-sleeping item comes from a question raised through the research literature.

Intensive Motherhood. The last parental cultural belief used was Intensive Motherhood. Bowlby's theory suggests that parents' involvement is positive for the child's development (Liss et al., 2013). However, the involvement can become too much. Parents start to feel responsible for every aspect of their child's life, which becomes a source of anxiety, especially for mothers. In 1996, Hays (1996) described this phenomenon as "intensive motherhood". And in 2013, Liss et al. constructed a quantitative scale to measure it, the Intensive Parenting Attitudes Questionnaire, in short IPAQ.

The IPAQ is divided into 5 scales that measure different aspects of motherhood: essentialism, fulfillment, stimulation, challenging and child-centered. Mothers who felt they were the only qualified caregiver for their children had a higher score in essentialism. They felt happier about their children and were more concerned about the separation but were also more frustrated with their motherhood and wished for more independence from their children. An example of an essentialism item is *"Men are unable to care for children unless they are given specific instructions about what to do"* (Liss et al., 2013, p. 628).

Mothers that believed parenthood should be a fulfilling experience had a higher score on the fulfillment scale. They also knew more about their children and were more concerned about the separation. An example of the fulfillment scale is *"Being a parent brings a person the greatest joy they can possibly experience"* (Liss et al., 2013, p. 628).

The stimulation scale score expresses the parent's proportion to encourage and stimulate their children. It is correlated to more separation anxiety and more happiness about motherhood. An example of the stimulation scale is *"Finding the best educational opportunities for children is important as early as preschool"* (Liss et al., 2013, p. 628).

Mothers that felt that parenting is a difficult and demanding job scored high on the challenging scale. This scale is correlated to maternal delight and separation anxiety. An example of the challenging scale is *"Child rearing is the most demanding job in the world"* (Liss et al., 2013, p. 628).

And finally, women whose parenting approach was child-centered scored positively on the child-centered scale. This correlated to separation anxiety and more attunement to their children's needs. An example of the child-centered scale is "Children's needs should come before their parents" (Liss et al., 2013, p. 628).

Because of test efficiency, only one question per scale was chosen, where the factor loading was the highest. For the challenging, two items represented the scale better.

Finally, four items on work-life balance from *Work-life balance: ISSP 2015 - "Work Orientations IV"* - No. 6770 (Jutz et al., 2018) and gender roles for mothers from the *ISSP 2012 Survey - Family and Changing Gender Roles* were added (Scholz et al., 2014). An example is "All in all, family life suffers when the woman has a full-time job."

Scoring the parental cultural beliefs. Participants rated their views on restrictiveness, nurturance, and intensive motherhood thanks to a five-point-Likert scale from strongly disagree with 1 to strongly agree with 5. The maximum of points that could be reached were nine items à 5 points so 45 for Restrictiveness, for Nurturance 11 items à 5 points including two inversed items that were transformed for the statistic so 55 and for Intensive Motherhood, ten items à 5 points so a maximum 50 points.

Multiple Attachment Measures. For the last part, the Primary caregivers' Interviews (see Appendix D) from Hans et al. (1997) helped determine whether other caregivers can compensate for lower mother-child attachment. As the interview was conceived to be made orally, it was adapted for the online questionnaire and measures. Each question was separated into two groups: professional and non-professional caregivers. First was asked if any possible people other than the mothers played a significant role in the child's life, professional and non-professional. This question was repeated until no other person played an essential role in their child's life. Then, the quantity and quality of time spent with those persons were asserted. The mothers rated the relationship quality between the child and the previously mentioned alternative caregivers on a five-point Likert scale from "very bad" to 5 "very good." The first item was, "are there people other than yourself who are important in helping raise your child?" Next, the time was measured in average hours per week and days per week per

child, divided by the number of caregivers for each non-professional and professional caregiver. Finally, the mean quality of the professional and non-professional caregivers was asked.

Procedure

This study is based on a between-subject study design comparing French and Austrian mothers. In the second part of multiple attachments, in addition to a between-subject design, a within-subject design was used to assert the differences in attachments within the countries.

Recruiting happened mainly by asking contacts in Austria and France, including family, friends, and psychology students, and through parents' Facebook groups. The Facebook groups were as followed: "Mamas aus Österreich", "Baby & Kind in Wien & Umgebung", "Babymamas - Eltern mit Baby in Wien" for Austria and "entre mamans", "Maman en Ile de France", "les bons plans - Maman & Bébé", "Les Mamans/Futures Mamans". The participants had to fill out a survey on the platform <https://sosci.univie.ac.at/>.

Data Diagnostics

Cronbach alpha coefficients for Non-Responsiveness ($\alpha = .87$) and Restrictiveness ($\alpha = .90$) indicated high internal consistency. The internal consistency for MAI ($\alpha = .64$), Intensive Motherhood ($\alpha = .59$) and Nurturance ($\alpha = .58$) was relatively low. In addition, Non-Responsiveness and MAI didn't correlate with each other ($p = .1$), suggesting a low convergent validity.

Being raised with parents of different nationalities meant that the mother's culture was not entirely French or Austrian. Therefore, two variables were created for nationality, one for mothers with parents, i.e., the children's grandparents, of the same nationality, and one for mothers with parents of a different nationality to investigate the mothers' culture.

Several variables helped measure multiple attachments. In the beginning, mothers were asked if they were the primary caregivers or if they were sharing with their respective partners. If they shared, the husband was not considered an alternative caregiver and not integrated into the following statistics. Only when the father was not considered a primary caregiver was he considered in the data. A problem that often appeared was that the mothers often cited sharing the primary caregiving with their husband and then repeated their husband as a first non-professional non-primary caregiver. All these repetitions were removed to not bias the results.

First, the numbers of alternative non-professional and professional caregivers were investigated. A dummy variable was created to assess whether there was an alternative caregiver. Then a variable to sum all the caregivers per child was computed to obtain the total number of non-professional or professional caregivers per child. Next, the same procedure was followed for professional caregivers.

The caregiver's time with the child was investigated in a second step. The mothers' answers for this category were problematic as people seemed to have different meanings for the time spent with the children. The survey asked the number of hours per day and days per week that one specific caregiver spent with the child. The goal was to multiply the first with the latter to obtain the number of hours per week. However, answers differed in their comprehension, and it was challenging to find a unit to compare. For example, five mothers answered that an alternative caregiver was spending 24 hours daily with their child, which meant 168 hours a week, while others said 10 hours a day, ignoring the nighttime. The first step to addressing this issue was to check who the primary caregiver was. If the caregiver was the father and the father was also the primary caregiver, the relationship was removed from the alternative caregiver as it was repeated. In the other cases, most mothers had ignored the nighttime. The same path was followed, the nighttime was ignored, and 24 hours per day was replaced with its half, 12 hours per day. For each alternative caregiver, the number of hours per day was multiplied by the number of days per week to compute the number of hours per week. Then, for each category, professional and non-professional, the number of hours per week of all caregivers was summed and divided by the number of caregivers to obtain the average number of hours per week per child for each group. In addition, people sometimes didn't fill out the hours of the days. Therefore, only the complete data were considered for assessing the time spent in hours per week with the caregiver. Moreover, as some people filled out only the days, a variable was created for the time spent with the caregiver in days per week. Then the number of days per week was added and divided by the number of caregivers for each group. This resulted in the average days per week spent with the caregivers. Unfortunately, the sample for the time measure was small because so many people either did not answer or understood only partially or did not understand at all.

For the quality of the caregiver's relationship with the child, mothers gave each caregiver a note from 1 to 5. Then, for each group of non-professional caregivers and professional caregivers, the mean quality per child was calculated. This category had, unfortunately, a strong ceiling-effect as nearly everyone answered that all the relationships were perfect.

Analytic Strategy

The statistical program SPSS was used for the complete statistical analysis. A two independent samples T-Test was planned to compare the differences between France and Austria. However, after checking for the assumption for a T-Test, it turned out that attachment, nurturance, and restrictiveness data and the multiple attachment data were not normally distributed. A Shapiro-Wilk Test showed a significant departure from normality for MAI $W(154) = .98, p < .00$, for Non-Responsiveness $W(154) = .49, p < .00$, for Nurturance $W(154) = .96, p < .00$, for Restrictiveness $W(154) = .97, p < .00$. Therefore, a Mann-Whitney U-Test was used to Test for differences between France and Austria.

To address the primary hypothesis for dyadic attachment' and the secondary hypothesis for the parental cultural beliefs' differences between France and Austria, five Mann-Whitney U-Tests for MAI, Non-Responsiveness scale, Restrictiveness, Nurturance, and Intensive Motherhood were performed. In addition, the Pearson correlation coefficients were used to check if MAI and Non-Responsiveness negatively correlated and if the cultural beliefs correlated with attachment and the five main instruments correlated with any socio-demographic factors.

To investigate the hypothesis as to which parental cultural beliefs mediated the regression between attachment and Nationality, a mediation analysis using Hayes' PROCESS (version 4) macro in SPSS with one mediator (Model 4) was performed, and then a moderated mediation analysis with one mediator and one moderator (model 7). The dependent variable was the MAI or Non-Responsiveness, and the independent variable was the nationality.

The plan was also to use a two independent sample T-Test for multiple attachments, but none of the data was normally distributed. A Shapiro-Wilk Test showed a significant deviation from the normality for the numbers of professional $W(97) = .72, p < .001$ and non-professional caregivers $W(169) = .64, p < .001$, of the number of days and hours per week spent with the child for professional

$W(97) = .72, p < .001$ and non-professional caregivers $W(169) = .64$ and the relationship quality between the child and the professional $W(97) = .72, p < .001$ and non-professional caregivers $W(169) = .64$.

In the second phase of the analysis, the multiple attachments were investigated. A Mann-Whitney U-Test was performed to check for the hypothesis that there were more alternative caregivers in France than in Austria, that they spent more time with the children, and that the quality of their relationship was greater. Furthermore, the Pearson correlations between all variables and socio-demographic factors were computed to explore the data. Finally, the link between multiple attachments and dyadic attachment was asserted. For this, the countries were split into two groups, with or without caregivers, and the differences in dyadic attachment between Austria and France were calculated. In addition, dyadic attachments within each country were checked for differences between the two groups.

5. Results

The data were collected between March and April 2022. In the first step, family, friends, and acquaintances were contacted and enrolled. When this proved insufficient, more mothers from Facebook groups were recruited. Overall, 281 mothers, 92 French and 189 Austrian, were recruited. Twenty cases where the children were more than three years old were excluded. One questionnaire filled out by the father was also excluded. As the questionnaire was lengthy, some participants didn't fill it out until the end. Overall, 120 participants from Austria replied entirely, and 38 participants from France. However, the most important measures were the MAI, Non-Responsiveness, socio-demographic data, and cultural beliefs. Even if some mothers didn't fill out the part on multiple attachment, which was only necessary for the second part of the analysis, more data was obtained for the first part.

Missing Data

A sliding bar from left to right, from never to always, allowed the participants to answer the Non-Responsiveness questionnaire. In the beginning, the bar was outside of the scale field on the left. The respondent had to place it on the scale and move it accordingly to their belief. If they didn't answer, they were reminded to answer the questions. However, they could move the bar back to its

original place, and the questions were considered answered. Because of this, there were missing data in some of the questions. In the end, the mothers were asked to comment on the survey, and a few answered that they had trouble with the bar when they wanted to answer zero. Therefore, the missing data from non-responders were imputed with zero when all other data from the scale were filled out.

There were two outliers for the MAI. In both cases, one data was missing for the scales, so the whole scale for these children was removed. There were five outliers for the number of hours the caregiver spent per week. Those were the cases where the mothers included the nighttime to describe the time spent with the alternative caregiver and answered 24 hours per day. Here was imputed half of a day, 12 hours, instead of 24.

Dyadic Attachment

Descriptive Statistics and Correlations. Table 1 shows Pearson correlation coefficients, means, and standard deviations for the study variables of the dyadic attachment. The one-tailed significance was reported to investigate the correlations for the five main instruments, MAI, Non-Responsiveness, Intensive Motherhood, Nurturance, and Restrictiveness because the direction of the correlation was predicted. Conversely, a two-tailed significance was used for the socio-demographic data as this case was only an exploration.

The hypothesis that the instruments to measure attachment correlated negatively with each other could not be verified. The data did not show a correlation between MAI and Non-Responsiveness $r(218) = -.09, p = .10$. In other words, the convergent validity of the instruments was low. It is also interesting to note that the MAI average score was very high, $M = 72.81$ from 85, and the Non-Responsiveness average score was very low at under $M = 5.38$ from 70, indicating a ceiling-effect.

Nurturance's average was high with $M = 49.58$ from a maximum of 55 points, while Restrictiveness was low with $M = 16.21$ from a maximum of 45 points. Intensive Motherhood's average score is 31.68 from 50. It was hypothesized that Nurturance and Intensive Motherhood would positively correlate with MAI and negatively correlate with Non-Responsiveness, and, on the contrary,

Table 1

Dyadic Attachment: Descriptive Statistics and Correlations for Study Variables and Socio-demographic Factors

	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Nationality (France = 1; Austria = 2)	280	1.68	0.47	1.00													
2. MAI	189	72.81	4.51	-.02	1.00												
3. Non-Responsiveness	218	5.38	7.57	-.15*	-.09	1.00											
4. Restrictiveness	263	16.21	4.67	-.40***	.04	.04	1.00										
5. Nurturance	260	49.58	3.68	.15**	.24***	-.13*	-.25***	1.00									
6. Intensive Motherhood	247	31.68	5.69	-.33***	.29***	-.03	.18**	.00	1.00								
7. Financial Situation (3 = bad, 2 = middle, 1 = good)	280	1.47	0.63	.10	.07	-.05	.02	.04	.16*	1.00							
8. Education level	280	3.88	1.02	-.30***	-.21**	.10	-.05	.08	-.10	-.31***	1.00						
9. Gender of the Child (Girl = 1; Boy = 2)	280	1.50	0.50	-.06	-.14*	.07	.08	-.12*	-.04	.01	.02	1.00					
10. in a Relationship (yes=1; no=0)	280	0.94	0.24	-.01	.13	-.12	-.09	-.04	-.05	-.19**	.09	-.01	1.00				
11. Working Mother (yes = 1; no = 0)	280	.57	0.50	.16**	-.01	-.08	-.06	.09	.18**	.09	-.17**	.04	-.02	1.00			
12. Working Time	160	2.30	1.01	-.54***	-.17	.17	.28***	-.12	.15	-.248**	.31***	.03	-.04	. ^c	1.00		
13. Age of the Mother	278	32.96	4.51	-.15*	-.08	.16*	-.12	-.01	-.01	-.22***	.29***	.08	-.05	-.10	.15	1.00	
14. Age of the Child	279	20.41	10.04	.00	-.08	-.05	-.05	-.04	-.03	.04	.07	.00	-.09	-.18**	-.07	.16**	1.00

Restrictiveness would correlate negatively with MAI and positively with Non-Responsiveness. The results showed that Nurturance ($p < .05$) and Intensive Motherhood ($p < .001$) were indeed positively correlated with the MAI. According to the Spearman Correlation standards, both correlations have a medium effect. Moreover, the Non-Responsiveness was negatively correlated to Nurturance ($p < .05$). This is regarded as a small effect according to Pearson's standards. Finally, the test failed to show a significant correlation between Restrictiveness and attachment for both MAI and Non-Responsiveness as well as between Intensive Motherhood and Non-Responsiveness.

Pearson's correlations of MAI and Non-Responsiveness with several socio-demographic data were computed to explore the correlations between attachment and socio-demographic data. MAI negatively correlated with Education $p < .01$. So the higher the mother's education, the lesser the attachment. MAI was also negatively associated ($p < .05$) with the gender of the child. This variable is a dummy variable where having a boy is 2 and having a girl is 1. The Attachment score is lower than a girl's if it's a boy. Finally, Non-Responsiveness correlated positively with the mother's age ($p < .05$). In other words, the older the mother, the higher the Non-Responsiveness. However, there was no correlation between attachment and the child's age, the mother's professional activity, financial situation, or relationship status.

Differences between France and Austria. It was hypothesized that attachment was higher in Austria than in France. In other words, the MAI scores would be higher for Austria, while the Non-Responsiveness scores would be higher for France. It was also predicted that France would have a higher Restrictiveness, a lower Nurturance, and a lower Intensive Motherhood. Since the data were not normally distributed, a Mann-Whitney U-Test was used to compute the differences. Only the one-tailed significances for all the five main scales were of interest as the directions had been predicted. The Median, sample size, U- and z-statistics, and the effect size r are reported in table 2. The effect size is the Pearson correlation coefficient and was calculated with this formula: $r = \frac{|z|}{\sqrt{n}}$ where n is the sum of cases for Austria and France.

Interestingly, the Mann-Whitney U-Test showed no significant difference in MAI between France and Austria ($p = .45$). However, the test revealed that Non-Responsiveness was significantly

higher in France compared to Austria ($p < .001$). French mothers' median scores were 2.5 points higher than Austrian mothers'. According to Pearson's correlation standards set by Cohen, this effect was small. In addition to previous statistics, the nationality of the mothers was further investigated. The mothers were separated into three groups, group 1 for mothers with two parents of the same nationality as her, group 2 for mothers with one parent of the same nationality as her, and group 3 for mothers with no parents of the same nationality as her. Interestingly, only when the mothers had parents from the same nationality was the test showing a significantly higher Non-Responsiveness for France ($Mdn = 3.53$) in comparison to Austria ($Mdn = 2.10$) ($p < .01$). However, the number of cases for the other groups was rather low. Indeed, while Group 1 had a high number of participants ($n = 193$), group 2's ($n = 17$) and group 3's ($n = 8$) numbers were meager.

Furthermore, the data were split into three children's age groups of 12 months. There was no significant difference in attachment, not even for Non-Responsiveness, for the age groups of 0 to 24 months, and the sample sizes for those groups were small. Only above 24 months was the Non-Responsiveness significantly higher in France (Mean Rank= 60.19) compared to Austria (Mean rank= 43.16) $p < .01$.

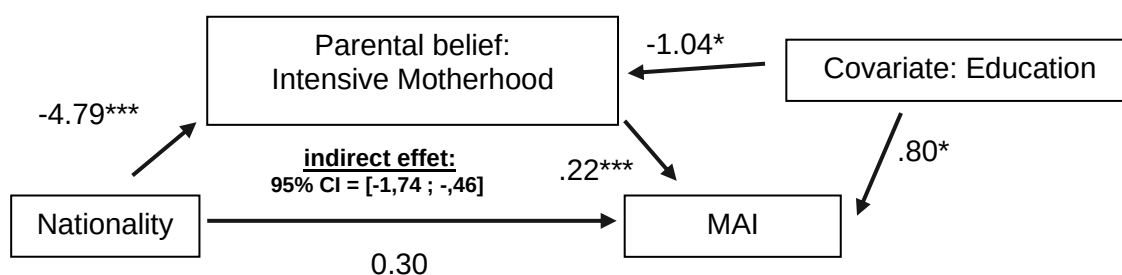
Another hypothesis was that cultural beliefs would significantly differ between Austria and France. The differences in cultural beliefs were computed of test for this. There was a significant difference in all three cultural parental cultural beliefs between France and Austria. The results indicated that Restrictiveness and Nurturance were correlated in the same direction as was predicted; that is, Restrictiveness' median for France was higher than in Austria ($p < .001$), and Nurturance's median was significantly lower in France than in Austria ($p < .05$). However, the data didn't support the hypothesis on Intensive Motherhood, as the median for Intensive Motherhood was higher for France than for Austria ($p < .05$). According to Pearson's correlation standards, the effect for Restrictiveness and Intensive Motherhood was medium, while the effect for Nurturance was small.

Table 2

Rank Differences in Dyadic Attachment and Parental Cultural Beliefs on a Mann-Whitney U-Test

	France		Austria		<i>U</i>	<i>z</i>	<i>Effect size r</i>
	<i>n</i>	<i>Mdn</i>	<i>n</i>	<i>Mdn</i>			
MAI	47	73.00	142	73.00	3295.50	-0.13	0.01
Non-Responsiveness	62	4.50	156	2.15	3496.50	-3.19***	0.22
Restrictiveness	81	19.00	182	14.00	3926.00	-6.07***	0.37
Nurturance	80	49.00	180	50.00	5911.50	-2.31*	0.14
Intensive Motherhood	74	34.00	173	30.00	3783.00	-5.10*	0.32

Mediation of the Parental Cultural Beliefs. Mediation hypothesizes a causal chain from the independent variable, here nationality, to the mediator, here one of the three parental cultural beliefs, to the dependent variable, here the attachment. The expectation was that the parental cultural beliefs would mediate the relation between the nationality of the mothers and their attachment to their children. Therefore, three possible mediators were considered: Nurturance, Restrictiveness, or Intensive Motherhood. The results confirmed a significant association between nationality and MAI when it was mediated by Intensive Motherhood (Effect = -1.05, 95% CI [-1.72, -.48], $n = 189$) (see figure 1). The mediation was complete as there was no significant direct effect of nationality on MAI ($p = .70$). When The nationality changed from France to Austria, the MAI decreased by -1.09 when mediated by Intensive Motherhood. According to Cohen's Standards, the effect size of the whole model of $r^2 = .12$ was medium.

Figure 1*Mediation of Relationship between Nationality and MAI*

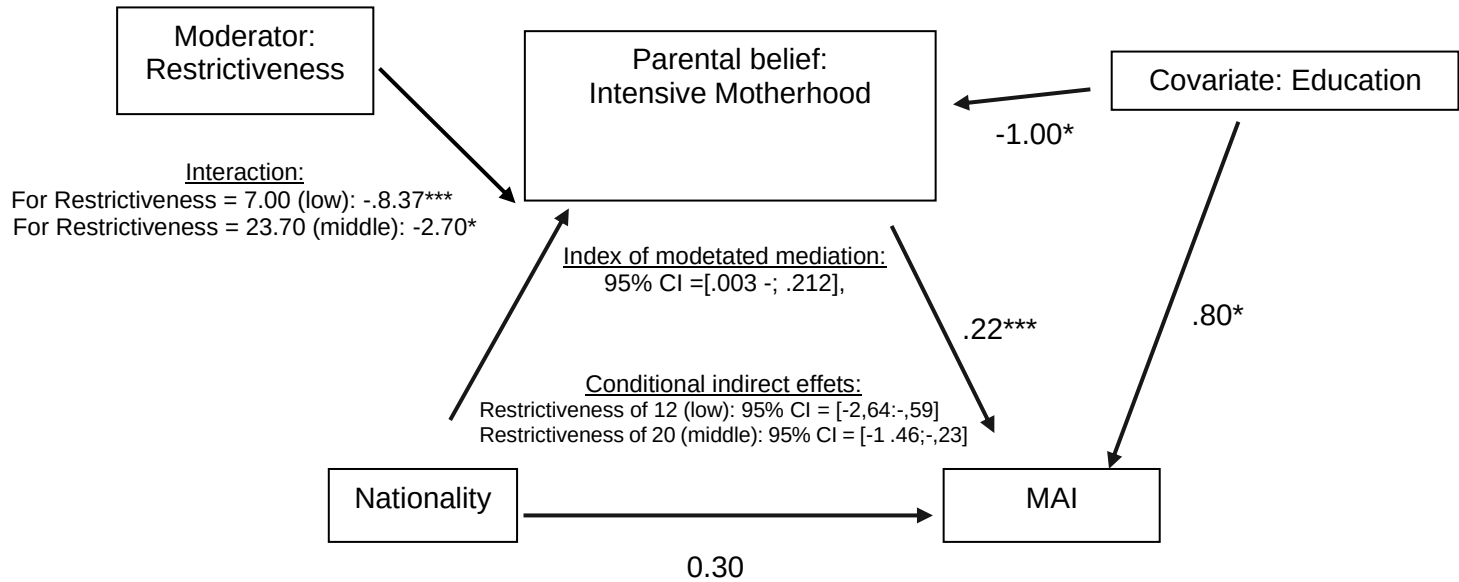
As Restrictiveness was correlated with nationality and Intensive Motherhood but not with MAI, it was suggested that it could also moderate the relationship between nationality and Intensive Motherhood. A possible moderated mediation was investigated thanks to model 7 from the PROCESS (version 4) Macro from Hayes with education as a covariate. Figure 2 offers us a clearer representation of this path. The results showed a significant interaction between nationality and Restrictiveness. The effect of moderated mediation was significant with an index .09 (95% CI [.003 ; .212], $n = 189$). Restrictiveness moderated the mediation significantly under the score of 23.70. Above 23.70, the moderation was not significant any more. For Restrictiveness scores of 12, the effect on the path nationality to Intensive Motherhood was -6.88; for scores of 15, the effect was -5.63; and for Restrictiveness scores of 20, the effect was -3.55. The mediation of nationality on MAI by Intensive Motherhood was significant. The effect of Intensive Motherhood on MAI was .22 ($p < .01$). For a Restrictiveness score of 12, the effect of nationality on MAI was -1.51; for a Restrictiveness score of 15, the effect was -1.24; and for restrictiveness of 20, the effect was -.78.

The results mentioned above showed that the effect of nationality on MAI when mediated by Intensive Motherhood without moderation was -1.05. When the moderation was added, and when the scores of restrictiveness were between 0 and 15, the effect of nationality on MAI was even more negative than when restrictiveness didn't moderate. When Restrictiveness was between 15 and 20, the influence of nationality on MAI mediated by Intensive Motherhood was lower than without moderation. Here also, there was no direct effect from nationality to MAI. The same moderated mediation was not significant when the attachment was measured through Non-Responsiveness.

According to Cohen's standards, the effect size of the moderation of Restrictiveness on the nationality's relationship to Intensive Motherhood was moderate with $R^2\text{-chng} = .17$. The effect size of the whole model is $r^2 = .12$ and is a medium effect. It is the same size effect as without moderation.

Figure 2

Moderated Mediation of relationship between Nationality and MAI



Results for Multiple Attachments.

Descriptive Statistics. Table 3 reports the Pearson correlation coefficients between the data for multiple attachment and dyadic attachment, as well as the cultural beliefs. It also states the sample size, the mean, and the Standard deviation.

A dummy variable was computed for whether or not an alloparent helped. For both countries together, the average for using non-professional caregivers was higher than for using professional caregivers. The average number of non-professional caregivers per child was also higher than professionals. However, the time spent with the professional caregiver was higher than the time with the non-professional caregiver, both in days and hours per week. The sample size for hours per week was small as it wasn't often filled up correctly. The number of days per week can lead to confusion, as the number of hours for one day could be any number between one and 12. The relationship quality with both professional and non-professional caregivers had a strong ceiling-effect, but the quality of the non-professional caregivers was still higher than that of the professional caregivers. The quality of the professional caregivers mostly oscillated between 3.92 and 4.99 ($M = 4.47$, $SD = .55$),

corresponding to a “good” relationship to “very good.” The relationship quality with family and friends was even higher ($M = 4.81$, $SD = .54$).

Caregivers. The test shows a negative correlation between MAI and using the help of a professional caregiver ($p < .01$). There was no significant correlation between MAI and the help of a non-professional caregiver ($p = .28$). Non-Responsiveness correlated, however, positively with using the services of both a professional and a non-professional caregiver (for both $p < .05$). For both types of caregivers, the higher the Non-Responsiveness of mothers, the higher the number of alternative caregivers they used.

Moreover, the results reported a significant negative correlation between nationality and the number of non-professional caregivers ($p < .001$). The higher the chance of being French, the higher the number of non-professional caregivers. The number of professional caregivers also correlated positively with Restrictiveness ($p < .05$) and negatively with Nurturance ($p < .05$). The age of the mother ($r(141) = .22$) $p < .001$ and the age of children ($r(199) = .38$) $p < .001$ as well as the education level ($r(200) = .22$) $p < .01$. correlated positively with the use of the service of a professional caregiver.

Time Spent with the Caregiver. The time spent with an alternative caregiver was measured in both days and hours per week. The results revealed a significant negative correlation between nationality and the average of days ($p < .01$) with non-professional caregivers and hours per week ($p < .001$) with professional caregivers. In other words, when the nationality changed from France to Austria, the number of days spent with a non-professional caregiver increased. Similarly, when the nationality changed from France to Austria, the hours per week spent with a professional caregiver increased.

Quality of the Relationships. The quality of the non-professional caregivers' relationship to the child is negatively correlated to the financial situation ($r(97) = -.22$) $p < .05$. The test shows a negative correlation between the quality of attachment to the professional and the financial situation ($r(95) = -.18$, $p < .05$).

Table 3*Multiple Attachment: Descriptive Statistics and Correlations for Study Variables and Socio-demographic Factors*

	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Nationality (France=1; Austria=2)	280	1.68	.47	1.00															
2. MAI	189	72.81	4.51	-.02	1.00														
3. Non-Responsiveness	218	5.38	7.57	-.15*	-.09	1.00													
4. Restrictiveness	263	16.21	4.67	-.40**	.04	.04	1.00												
5. Nurturance	260	49.58	3.68	.15**	.24**	-.13*	-.25**	1.00											
6. Intensive Motherhood	247	31.68	5.69	-.33***	.29***	-.03	.18**	.00	1.00										
7. primary caregiver: 1= only one parent, 2= both parents	200	1.64	.50	-.22***	-.05	.07	.10	-.06	-.14*	1.00									
Is there an alternative caregiver: 1=yes; 2= no																			
8. Non-professional	200	.71	.45	-.07	-.04	.12*	-.07	-.04	.05	-.17**	1.00								
9. Professional	200	.49	.50	-.11	-.21**	.12*	-.04	-.09	-.10	.10	.16*	1.00							
Number of caregivers per child:																			
10. Non-professional	97	1.58	.75	.03	.13	.02	.09	-.01	-.04	-.07	-.10	. ^c	1.00						
11. Professional	142	1.37	.49	-.37***	.03	.01	.19*	-.17*	.02	.09	. ^c	.16*	.13	1.00					
Time spent with non-professional caregivers on average:																			
12. hours/week	61	18.40	16.81	.00	.08	.01	.17	-.03	-.03	-.21	. ^c	-.13	.08	-.19	1.00				

13. days/week	123	2.88	2.26	.27**	.06	-.09	.12	.09	.09	-.52***	. ^c	-.23**	-.05	-.33**	.47***	1.00
---------------	-----	------	------	-------	-----	------	-----	-----	-----	---------	----------------	--------	------	--------	--------	------

	<i>n</i>	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
--	----------	----------	-----------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

Time spent with professional caregivers on average:

14. hours/week	52	23.47	13.15	-.46***	-.18	.19	.12	-.40**	.03	.28*	.25	. ^c	-.28*	.05	-.04	-.16	1.00
----------------	----	-------	-------	---------	------	-----	-----	--------	-----	------	-----	----------------	-------	-----	------	------	------

15. days/week	78	4.01	1.44	-.05	-.07	.03	.02	-.04	.05	.14	-.19*	. ^c	-.26*	-.02	.09	.23*	.52***	1.00
---------------	----	------	------	------	------	-----	-----	------	-----	-----	-------	----------------	-------	------	-----	------	--------	------

Average quality of the caregiver's relationship with the child:

16. Professional	97	4.47	.55	-.04	-.07	-.06	-.14	-.06	-.04	.23*	.00	. ^c	.08	-.10	.09	-.15	-.03	-.15	1.00
------------------	----	------	-----	------	------	------	------	------	------	------	-----	----------------	-----	------	-----	------	------	------	------

17. Non-professional	168	4.81	.50	.07	.06	-.07	-.06	.14*	-.09	.10	-.14*	-.01	.00	-.07	-.04	-.07	-.43***	-.18	.16
----------------------	-----	------	-----	-----	-----	------	------	------	------	-----	-------	------	-----	------	------	------	---------	------	-----

.^c Cannot be calculated because at least one of the variables is constant.

Cultural Beliefs and Multiple Attachments. It was hypothesized that there was a correlation between cultural beliefs and alloparenting variables. The data showed no correlation between Intensive Motherhood and any multiple attachment variable. The number of professional caregivers was positively correlated to restrictiveness ($p < .05$) and negatively to Nurturance ($p < .05$). The time spent with a professional caregiver was negatively correlated to Nurturance ($p < .01$). And finally, the average quality of the no-professional caregiving was positively correlated to Nurturance ($p < .05$).

Differences between France and Austria. A Mann-Whitney U-Test was run to investigate the differences in multiple attachments between France and Austria. Table 4 shows the Test results for all multiple attachment variables and their effect size. As the direction of the differences was predicted, only one-tailed significance was considered.

It was hypothesized that Austria would use less the services and have a lower number of alternative caregivers. The data didn't support the hypothesis that French mothers had more recourse to alternative caregivers than Austrian mothers ($p = .17$ for non-professionals and $p = .06$ for professionals). In addition, there was no difference in the number of professional caregivers between France and Austria ($p = .60$). But the number of non-professional caregivers was significantly higher for France than for Austria ($p < .001$). The Pearson correlation coefficient, i.e., effect size, is medium according to Pearson's' standards.

It was hypothesized that French children would spend more time with alternative caregivers. This hypothesis was supported by the number of hours weekly but not the number of days. The results showed that Austrian non-professional caregivers spent significantly more days per week with the children than French non-professional caregivers ($p < .001$). But French children spent significantly more hours per week with professional caregivers ($p < .001$), with the French median being 17 points higher than the Austrian median.

It was hypothesized that the quality of French alloparents would be greater than in Austrian. The data didn't support this hypothesis for professional caregivers ($p = .31$). There was, however, lower quality of non-professional caregivers for France (Mean Rank = 77.02) in comparison to Austria (Mean Rank = 87.49) $p < .05$.

Table 4

Differences of multiple attachment variables on a Mann-Whitney U-Test

	France		Austria		<i>U</i>	<i>z</i>	Effect size <i>r</i>
	<i>n</i>	<i>Mdn</i>	<i>n</i>	<i>Mdn</i>			
number of primary caregivers	58	2	142	2	3191.00	-2.96**	.21
Is an alternative caregiver helping?							
Non-professional	58	1	142	1	3836.00	-0.97	.07
professional	58	1	142	0	3631.00	-1.51	.11
Number of caregivers per child:							
Non-professional	44	2	98	1	1334.00	-4.33***	.36
professional	33	1	64	1	994.50	-0.53	.05
Time spent with non-professional caregivers on average:							
hours/week	15	16	46	14	340.00	-0.08	.01
days/week	38	1	85	2	1026.50	-3.29***	.30
Time spent with professional caregivers on average:							
hours/week	15	35	37	18	121.00	-3.17**	.44
days/week	26	5	52	5	647.00	-0.32	.04
Average quality of the caregiver's relationship with the child:							
professional	33	5	64	5	995.50	-0.50	.14
non-professional	48	5	120	5	2521.00	-1.80*	.05

Alloparenting and Dyadic Attachment. It was hypothesized that a higher quality of attachment to other caregivers could compensate for a lower mother-child attachment. However, the test failed to find a significant correlation between MAI or Non-Responsiveness and the quality of attachment to other caregivers.

For further exploration, the difference in dyadic attachment was investigated for different cases of alloparenting. First, the data were split into two groups to investigate the impact of using a caregiver on the mother-child attachment: 0 if there was no alternative caregiver and 1 if there was. It was done so for both professional and non-professional caregivers. Then, for both groups separately, a Mann-Whitney U-Test was computed to calculate the differences in dyadic attachment between Austria and

France in the case of an alternative caregiver or the case without an alternative caregiver. The hypotheses weren't directed this time as it was only an exploration, so the two-tailed significances were considered.

In the case where parents used non-professional caregivers or not, the data showed a similar pattern to those when there was no split. Indeed, the difference in MAI was not significant, and the difference in Non-Responsiveness was. There were no significant differences between French and Austrian MAI scores when there was a non-professional alloparent ($p = .47$) in comparison to when there wasn't ($p = .08$). On the contrary, the Non-Responsiveness was higher for France in both cases ($p < .01$ without a non-professional caregiver and $p < .001$ with).

The same statistical method was followed for professional caregivers. The MAI followed a similar pattern to the non-split data in this case too, but the Non-Responsiveness didn't. There was no difference in MAI whether the child was taken care of by a professional caregiver or not ($p = .56$ when yes and $p = .86$ when not). However, there was no significant difference in Non-Responsiveness between France (Mean Rank = 59.78) and Austria (Mean rank = 49.51) $p = .13$ when the children weren't taken care of by professional caregivers

In the next step, the same procedure as above was used to analyze the effect of the time spent with alloparents on dyadic attachment differences between France and Austria. The data were split into two groups of time. For both professional and non-professional caregivers, the time spent in hours per week was separated into two groups by the median. The non-professional caregivers' time median was 14.0 hours per week, while the median for the professional caregivers' time was 21.5 hours per week. The results showed that the amount of time with a non-professional caregiver didn't impact the differences in dyadic attachment between France and Austria but the amount of time with a professional caregiver did. There was no significant difference for non-professional caregivers between France and Austria in MAI ($p = .69$, $n_{\text{Austria}} = 23$, $n_{\text{France}} = 3$ for under 14 hours $p = .77$ for over 14 hours) or in Non-Responsiveness ($p = .11$ for under 14 hours $p = .10$, $n_{\text{Austria}} = 13$, $n_{\text{France}} = 6$ for over 14 hours). However, there was a difference when the caregiver was professional. Indeed, when the child spent more than 21.5 hours with a professional caregiver, Non-Responsiveness was higher

in France (Mean Rank = 17.92 $n_{\text{France}} = 12$) than in Austria (Mean Rank= 9.71; $n_{\text{Austria}}=14$) $p < .01$, but when it spent less time than 21.5 hours there was no difference ($n_{\text{Austria}} = 23$; $n_{\text{France}} = 3$) $p = .18$. However, in the cases of split data, each time the sample sizes were small.

In another step, the impact of having an alloparent within each country was investigated. The amount of time spent with the children and the quality of their relationship were also of interest. However, it was only possible to split the data into whether or not there was an alloparent. The quality data had too much ceiling-effect, and the variance couldn't be computed. And the sample sizes for the time variables were too small.

For each country, the data were split into two groups: 1 if an alloparent was helping, 0 otherwise. This was done for both professional and non-professional caregivers. Then, a Mann-Whitney U-Test was computed to determine the difference between France and Austria in MAI and Non-Responsiveness depending on whether there is an alloparent. The results showed interesting differences for Austria but not for France. In France, whether there was a non-professional caregiver or not didn't bring a difference in attachment measures ($p = .80$). However, in Austria, when there was a non-professional caregiver, Non-Responsiveness was lower (Mean rank = 58.76) than when there was no non-professional caregivers (Mean Rank = 77.22) $p < .05$. In the same direction, there was no difference of dyadic attachment in France as to whether or not there was a professional caregiver. But, in Austria again, there was a significantly higher MAI when there was no professional caregiver (Mean rank= 59.79 when yes and Mean rank= 79,27 when no) $p < .01$.

6. Discussion

Dyadic Attachment

The main goal of this study was to assess the differences in mother-child attachment between two western countries: France and Austria. Another aim was to research the potential differences in parental cultural beliefs and assess their impact on said attachment. Finally, it investigated if the role of multiple attachments to alternative caregivers could compensate for low mother-child dyadic attachment.

This study's central matter was to assess attachment differences between Austria and France. However, the results were ambiguous. Concentrating on the variable MAI, the maternal attachment inventory, the hypothesis couldn't be confirmed that attachment was better in Austria than in France. But when the focus was on the Non-Responsiveness scale, the test showed a significantly higher level of Non-Responsiveness for France. According to the creators of both instruments, they correlated to Ainsworth's strange situation, which is the original instrument to measure attachment. However, the MAI and Non-Responsiveness didn't correlate with each other in the findings, indicating a low convergent validity. This raises the issue of the validity of the instruments used. Is only one of the two instruments measuring attachment? Or are they both measuring different sides of attachment? Not all agree on the relation between Non-Responsiveness and attachment. While Ainsworth (1985) and Leerkes and Qu (2017) stated that Non-Responsiveness was a good measure of a mother's sensitivity, other researchers found no correlation between letting their children cry and sensitivity (Bilgin & Wolke, 2020; Van IJzendoorn & Hubbard, 2000). This argument could mean that Non-Responsiveness did not measure attachment. Conversely, it could be that MAI is not measuring attachment. Indeed, MAI has been used in many studies, while Non-Responsiveness is relatively new. However, the internal consistency of Non-Responsiveness was much higher than that of MAI. But there might be another explanation. The contradicting results might be based on different ways to measure attachment. On one side, the MAI assessed the mother's subjective feeling of attachment to their child. On the other side, the Non-Responsiveness evaluated the mother's attitude toward one side of attachment. In this case, MAI and Non-Responsiveness could be complementary and combined to form a broader scale.

There were two indications of a probable impact of culture on attachment. First, only when the grandparents were both of the same nationality as the mother was the Non-Responsiveness higher in France than in Austria. This could mean that when the mother was from birth entirely bathed in the culture of only one country, the effect on attachment differences was more substantial than in the case of multiculturalism. The other indications for the cultural impact of culture on attachment were found in the three measured variables Restrictiveness, Intensive Motherhood, and Nurturance. Restrictiveness was significantly higher in France than in Austria. But it wasn't correlated with any

attachment measures. This result went against Ainsworth (1985), Britton et al. (2006), Kochanska et al. (2009), and Leerkes and Qu (2017), who suggested that Restrictiveness and especially violence would negatively impact attachment. It is possible that even if restrictiveness negatively affects a child's development, it is independent of the mother-child attachment. In addition, restrictiveness did moderate the mediation by Intensive Motherhood of the relationship between nationality and MAI. When Restrictiveness was low, the impact of nationality on MAI, mediated by Intensive Motherhood, was even more negative. When both Austrian and French mothers had low Restrictiveness, being Austrian negatively impacted Intensive Motherhood and attachment.

In addition, Nurturance was higher in Austria and correlated to attachment, but the results didn't show any significant relationship between the three. Nurturance didn't moderate or mediate the relationship between nationality and MAI. Moreover, the relation between Nurturance and MAI was not linear. Here one must distinguish between correlation and effect on differences. So while Nurturance was different between both Countries and correlated to attachment, it didn't impact the attachment differences between France and Austria. This is also against Ainsworth's view on attachment. It is complicated to interpret and might only apply to the differences between France and Austria and not generalized to other countries.

Moreover, based on Warner (2005) and Suizzo (2002), it was suggested that French mothers were less intensive mothering. Therefore, it was surprising that results showed higher Intensive Motherhood for France. There are two possible explanations that are not mutually exclusive. It was previously mentioned that MAI measured the subjective feeling or even their views on childrearing. While French mothers work more and spend less time with their children, they could feel guilty about it and think being more intensive with their children would be better for them. In addition, Bretherton et al. (1989) found a positive relationship between attachment and employment. The authors theorized that mothers who worked more compensated for this by spending more quality moments with their children even if the amount of time was reduced. Following this theory, it is suggested that this might apply to Intensive Motherhood. Indeed, as French mothers work more, they could compensate by being more intensive or feel that they should be.

Finally, the results showed that Intensive Motherhood significantly mediated the relationship between nationality and MAI. This indirect effect was negative. In other words, according to this mediation, the Austrian nationality led to a lower attachment. Following the previous line of thinking, it is possible that as French mothers spend more time at work, they have more intensive moments with their children and a better attachment to them through this.

Multiple Attachments

In the second phase, the role of multiple attachments on child-rearing views and its impact on dyadic attachment was investigated. It was also researched if a lower attachment for France would be compensated by a higher attachment to other people. It was hypothesized that French children would have more recourse to alternate caregivers and a higher number of them, that those caregivers would spend more time with the children, and that they had a better relationship with them than Austrian children.

Checking if a lower dyadic attachment was compensated by a better quality of attachment to other people proved difficult. Indeed, the quality of alloparenting attachment was hard to interpret. There was a very strong ceiling-effect, especially for non-professional caregivers. A possible explanation is that the participants didn't dare criticize the alternative caregivers, especially the non-professionals who were part of the family and friends. In addition, it could make mothers feel guilty if they admit that the quality of the care they left their children with was not as good as desired.

In addition, for both countries together, there was a negative correlation between attachment and the number of professional caregivers. This is in accord with the previous literature about the impact of professional caregiving on the parent-child bond (Ahnert, 2006; Belsky & Rovine, 1988; Forslund & Duschinsky, 2021; Friedman & Boyle, 2008; Sagi et al., 1995). Therefore, the question raised in this research was if the quality entirely mediated the attachment correlation to the number of professional caregivers or if the fact of having a professional caregiver itself is correlated with attachment. Furthermore, the number of professional caregivers and the time spent with them correlated with mothers being more restrictive and less nurturant. In addition, there was no difference in Non-Responsiveness between France and Austria when the children were not cared for by a professional caregiver.

In the case where the correlation between attachment and professional caregivers is independent of the quality, there are at least two possible scenarios that can be presented. Indeed, there was no causal relationship between attachment and the number of professional caregivers. So the relationship direction can go in one of two ways: either the mother shows a pattern of behaviors that leads to a lower attachment, and as part of the pattern, sends her children to more professional caregivers; or, on the contrary, the mother sends her children more to professional caregivers and therefore has a lower attachment. Looking into the second scenario, from the data, mothers who worked more and thus put their children longer and more often in the care of a more professional had more intensive moments with them. In this case, attachment would increase with the increase of working mothers and with the increase in the use of a professional caregiver, as Intensive Motherhood and attachment are positively correlated. But the data show a negative correlation between professional caregivers' use and attachment. Therefore, this scenario can be rejected. The first scenario involved mothers showing avoidant or ambivalent attachment patterns and therefore sending their children to Kindergarten. The implications of this are multiple. This would mean that if the child-mother dyadic attachment is low, mothers send their children more to the professional caregiver, and a higher attachment to their caregivers can compensate for this lower dyadic attachment. In this case, one motivation behind sending the child to kindergarten would be the mother's non-secure attachment to her child. This seems quite unlikely, as many mothers just work and need someone to care for their children. It is hard to believe that one of these scenarios is plausible. Therefore, it is highly likely that quality is involved in the relationship between requiring professional caregivers and attachment.

Then, the differences in multiple attachment variables between France and Austria were computed. While there were no significant differences in whether French or Austrian mothers used the service of professional or non-professional caregivers, France had a higher average number of non-professional caregivers than Austria. This showed higher social support, reinforcing Suizzo's claim that France is a more collectivist country and more people are involved in child-rearing. However, in this case, more social support didn't correlate with a better attachment, which is against previously cited literature (Shin et al., 2006; Sims-Stanford, 1997). Indeed, when the data were split into having social support or not, this made no difference in attachment for France. As expected, the

time the children spent with professional caregivers was higher in France than in Austria. As French mothers worked more, they also needed their children longer in Kindergarten. However, the measure of time is to take with a pinch of salt as people gave different forms of time. Some only gave days, others hours. The measure of days per week was disregarded as it was difficult to conclude the number of days per week when the number of hours was unclear.

Furthermore, the role of each type of caregiver was analyzed between and within the countries. In general, the data showed no impact or a positive impact in only Austria of non-professional caregivers on dyadic attachment. This result supports previous literature that states that social support is essential for mother-child attachment (Shin et al., 2006; Sims-Stanford, 1997). The results also revealed no impact or a negative impact for only Austria of professional caregivers on dyadic attachment. Here again, the debate on professional caregivers and their impact on dyadic attachment is raised. It is also interesting to see that French attachment didn't change according to whether or not there was an alternative caregiver. Using a professional caregiver has more impact on Austrian's dyadic attachment than French's can be interpreted in two different ways. Either there is an explanation on the French or on the Austrian side. An explanation could be that French mothers' use of alternative caregivers is already so high that an increase in alternative caregiving would only bring a marginal effect. Or it is because of a self-fulfilling prophecy from the Austrian mothers, meaning if mothers expect that using a professional caregiver has a bad influence on their relationship with their children, it might actually become true. Or, on the contrary, they might already have a bad relationship with their children and therefore send them to Kindergarten. None of these explanations are mutually exclusive, and all of them might play a role in the explanations.

7. Conclusion and Limitations

The data showed that while French mothers were more non-responsive than Austrian mothers, their attachment beliefs (MAI) didn't seem to differ. However, the results suggested that being Austrian hurt the attachment between mother and child when Restrictiveness was low in both countries, and Intensive Motherhood moderated the relationship. In Austria, using a professional caregiver's service negatively impacted the attachment. Though it is difficult to say if the quality influences this correlation

as the quality data were of little informative value. Being helped by a family member or friend had a positive effect on attachment in Austria and a neutral effect in France.

It should be noted that this is one of the first cross-cultural study of maternal attachment between France and Austria and in Europe, using the same instrument and Test leader. The results of this current study may help clarify the role of culture within Europe in shaping a mother's attachment and possible different psychological approaches to parenting. However, the findings of this study must be considered in light of several limitations. First, the definition of attachment should be broader. So far, it has only been based on the child seeking a parent in a distress situation. However, there are other aspects that the MAI also measures, such as the children's emotional states (Bacro et al., 2021). As mentioned earlier, combining MAI and Non-Responsiveness into one scale could be more impactful.

Second, only self-report instruments were used as observations would have exceeded the limits of a master thesis frame. But, there were two different results for two different attachment measures, the incongruence makes the data a little difficult to interpret. For this reason, it might be better for future research to use instruments involving observation, for example, the q-sort or the strange situation. In addition, the quality of the attachment between alternate caregiver and child was rated by a third person, the mother. This enables a wide range of fallibility. In this regard, attachment measures to alternative caregivers should also include observations. In the same direction, the fathers were not included, as the previous literature was even more scarce on this matter, where literature was already hard to find. But for future studies, it is imperative to study the father's role as they are, at the least most of the time, either another primary caregiver or an alternative caregiver.

Another matter that plays an essential role in measuring attachment is the instruments' rightness. The construct validity of the instruments was questioned as MAI had a low Cronbach α , and Non-Responsiveness might not measure attachment. And, so far, the instruments to measure attachment were the same for all cultures. This follows an etic approach, where one studies a culture with an instrument from another. However, Sims-Stanford (1997) suggested a different approach where one studies a culture with an instrument from within this same culture. The author offers a

possible mix of etic and emic approaches where the instruments are controlled within the cultures to check for construct validity.

Furthermore, there were a few issues with the sample during the statistical analysis. First, there was a big difference in sample size between France and Austria. For specific measures, there were not enough French mothers to be able to compute the differences. Especially for the data on multiple attachments, the sample had reduced grandly. And second, there was a few incomprehension in the questions, which led to an even smaller size of usable data for the multiple attachment variables. In future studies, it might be interesting to clear the misunderstandings in presence and have a bigger sample size. Third, the sample was not representative of all populations. The sample population was biased toward the middle class, as very few people stated that their financial situation was bad. And finally, there was a bias in the population. It is indeed imaginable that a mother who would go on a mothers' Facebook group for information is already interested in her child's future and caregiving.

Another matter that could be of interest for future research is the definition of culture. In this study, culture and country were considered equivalent, as looking into different cultures within a country would have been too extensive for a master-thesis. It might be interesting to look into different cultures within the countries in future studies. For example, one could investigate the differences in parent-child attachment between city life and countryside life. Much of the research was based on Suizzo's work about French mothers. But she mainly looked at Parisian mothers. Results could be different for other towns. Moreover, in Vienna, Kindergartens have places for a wider age range, from at least 10 months, sometimes even earlier, while in the countryside, the children mostly go to Kindergarten from 2.5 years old. Interestingly, during data collection in France, the recruitment first occurred through contacts that belonged to the middle class in Paris. At this time, the difference in MAI was significant. However, MAI differences disappeared after the questionnaire was placed on an online platform created for mothers from everywhere.

And finally, it would be exciting to do a follow-up or a longitudinal study on the children's development in all the domains that attachment can influence. In the long run, it would be interesting

to see if the study's differences impact the child's development. For example, if French mothers have a less secure attachment to their children, are French children less resilient than Austrian?

8. References

- Abuhammad, S., & Johnson, T. (2021). Breastfeeding and maternal attachment during infancy period among Jordanian mothers: A cross-sectional study. *Annals of Medicine and Surgery* (2012), 66, 102395. <https://doi.org/10.1016/j.amsu.2021.102395>
- Ahnert, L. (2006). Parenting and alloparenting: The impact on attachment in humans. In C. S. Carter, L. Ahnert, K. E. Grossmann, S. B. Hrdy, M. E. Lamb, S. W. Porges, & N. Sachser (Eds.), *Attachment and Bonding: A New Synthesis* (pp. 229–243). MIT Press.
- Ainsworth, M. D. S. (1985). Patterns of infant-mother attachments: Antecedents and effects on development. *Bulletin of the New York Academy of Medicine*, 61(9), 771–791.
- Ainsworth, M. D. S., & Bell, S. M. (1977). Infant crying and maternal responsiveness: A rejoinder to Gewirtz and Boyd. *Child Development*, 48(4), 1208. <https://doi.org/10.2307/1128477>
- Bacro, F., Forslund, T., & Granqvist, P. (2021). Children's multiple attachment relationships and representations in different family contexts. In T. Forslund & R. Duschinsky (Eds.), *ProQuest Ebook Central. Attachment theory and research: A reader* (1st ed.). Wiley-Blackwell.
- Barglow, P., Vaughn, B. E., & Molitor, N. (1987). Effects of maternal absence due to employment on the quality of infant-Mother attachment in a low-risk sample. *Child Development*, 58(4), 945. <https://doi.org/10.2307/1130535>
- Belsky, J., & Rovine, M. J. (1988). Nonmaternal care in the first year of life and the security of infant-Parent attachment. *Child Development*, 59(1), 157. <https://doi.org/10.2307/1130397>
- Berghammer, C. (2021). The part-time revolution: changes in the parenthood effect on women's employment in Austria. *Institut Für Demographie - VID*, 1, 1–30. <https://doi.org/10.1553/0x003ccd40>
- Bilgin, A., & Wolke, D. (2020). Parental use of 'cry it out' in infants: No adverse effects on attachment and behavioural development at 18 months. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, 61(11), 1184–1193. <https://doi.org/10.1111/jcpp.13223>
- Bretherton, I., Biringen, Z., Ridgeway, D., Maslin, C., & Sherman, M. (1989). Attachment: The parental perspective. *Infant Mental Health Journal*, 10(3), 203–221. [https://doi.org/10.1002/1097-0355\(198923\)10:3<203::AID-IMHJ2280100307>3.0.CO;2-8](https://doi.org/10.1002/1097-0355(198923)10:3<203::AID-IMHJ2280100307>3.0.CO;2-8)

- Britton, J. R., Britton, H. L., & Gronwaldt, V. (2006). Breastfeeding, sensitivity, and attachment. *Pediatrics*, 118(5), e1436-43. <https://doi.org/10.1542/peds.2005-2916>
- Bürger, B., Schindler, K., Tripolt, T., Stüger, H. P., Wagner, K.-H., Weber, A., & Wolf-Spitzer, A. (2021). Breastfeeding prevalence in Austria according to the WHO IYCF indicators-the SUKIE-study. *Nutrients*, 13(6). <https://doi.org/10.3390/nu13062096>
- Condon, J. T., & Corkindale, C. J. (1998). The assessment of parent-to-infant attachment: Development of a self-report questionnaire instrument. *Journal of Reproductive and Infant Psychology*, 16(1), 57–76. <https://doi.org/10.1080/02646839808404558>
- Coontz, S. (2005). *The way we never were: American families and the nostalgia trap*. Basic Books.
- Dörfler, S., Blum, S., & Kaindl, M. (2014). *Europäische Kinderbetreuungskulturen im Vergleich:: jüngste Entwicklungen in der vorschulischen Betreuung in Deutschland, Frankreich, Österreich und Schweden*. (Working Paper / Österreichisches Institut für Familienforschung, 82). Wien: Österreichisches Institut für Familienforschung an der Universität Wien.
- Ennis, L. R. (2015). *Intensive mothering*. Demeter Press.
- Eurostat. (2022). *Eu Statistics on income and living conditions microdata 2004-2020, release 2022, version 2*. <https://doi.org/10.2907/EUSILC2004-2020V.2>
- EVS. (2020). *European values study 2017: integrated dataset (EVS 2017)*. <https://doi.org/10.4232/1.13511>
- Faircloth, C. (2013). 'Intensive motherhood' in comparative perspective: Feminism, full-term breastfeeding and attachment parenting in London and Paris. In C. Faircloth, D. M. Hoffman, & L. L. Layne (Eds.), *Relationships & resources. Parenting in global perspective: Negotiating ideologies of kinship, self and politics* (pp. 119–135). Routledge.
- Forslund, T., & Duschinsky, R. (Eds.). (2021). *ProQuest Ebook Central. Attachment theory and research: A reader* (1st edition). Wiley-Blackwell. <https://ebookcentral.proquest.com/lib/kxp/detail.action?docID=6507871>
- Friedman, S. L., & Boyle, D. E. (2008). Attachment in US children experiencing nonmaternal care in the early 1990s. *Attachment & Human Development*, 10(3), 225–261. <https://doi.org/10.1080/14616730802113570>

- Grossmann, K., Bretherton, I., Waters, E., & Grossmann, K. (2013). Maternal sensitivity: Observational studies honoring Mary Ainsworth's 100(th) year. *Attachment & Human Development*, 15(5-6), 443–447. <https://doi.org/10.1080/14616734.2013.841058>
- Grossmann, K. E., Grossmann, K., & Waters, E. (Eds.). (2007). *Attachment from infancy to adulthood: The major longitudinal studies*. Guilford.
- Harkness, S., & Super, C. M. (2006). Themes and variations: Parental ethnotheories in Western cultures. In K. H. Rubin (Ed.), *An ISSBD publication. Parenting beliefs, behaviors, and parent-child relations: A cross-cultural perspective* (1st ed., pp. 61–80). Psychology Press.
- Hays, S. (1996). *The cultural contradictions of motherhood*. Yale University Press.
- Henrich, J., Heine, S. J., & Norenzayan, A. (2010). The weirdest people in the world? *The Behavioral and Brain Sciences*, 33(2-3), 61-83; discussion 83-135. <https://doi.org/10.1017/S0140525X0999152X>
- Hinde, R. A. (2007). Ethology and attachment theory. In K. E. Grossmann, K. Grossmann, & E. Waters (Eds.), *Attachment from infancy to adulthood: The major longitudinal studies* (pp. 1–12). Guilford.
- Hrdy, S. B. (2011). *Mothers and others: The evolutionary origins of mutual understanding* (First Harvard University Press pbk. edition). Belknap Press of Harvard University Press. <http://gbv.eblib.com/patron/FullRecord.aspx?p=3433059>
- Jutz, R., Scholz, E., Braun, M., & Hadler, M. (2018). The ISSP 2015 work orientations IV module. *International Journal of Sociology*, 48(2), 95–102. <https://doi.org/10.1080/00207659.2018.1446115>
- Kochanska, G., Barry, R. A., Stellern, S. A., & O'Brien, J. J. (2009). Early attachment organization moderates the parent-child mutually coercive pathway to children's antisocial conduct. *Child Development*, 80(4), 1288–1300. <https://doi.org/10.1111/j.1467-8624.2009.01332.x>
- Kraemer, G. W. (1992). A psychobiological theory of attachment. *The Behavioral and Brain Sciences*, 15(3), 493–511. <https://doi.org/10.1017/S0140525X00069752>

- La Mora, A. d., Russell, D. W., Dungy, C. I., Losch, M., & Dusdieker, L. (1999). The iowa infant feeding attitude scale: analysis of reliability and validity. *Journal of Applied Social Psychology*, 29(11), 2362–2380. <https://doi.org/10.1111/j.1559-1816.1999.tb00115.x>
- Leerkes, E., & Qu, J. (2017). The maternal (non) responsiveness questionnaire: Initial factor structure and validation. *Infant and Child Development*, 26(3). <https://doi.org/10.1002/icd.1992>.
- légale et administrative, Direction de l'information. (2021). *Accueil en crèche*. Direction de l'information légale et administrative. <https://www.service-public.fr/particuliers/vosdroits/F607>
- Levine, R. A. (1974). Parental goals: a cross-cultural View. *Teachers College Record: The Voice of Scholarship in Education*, 76(2), 1–10. <https://doi.org/10.1177/016146817407600208>
- Levy, K. N., Blatt, S. J., & Shaver, P. R. (1998). Attachment styles and parental representations. *Journal of Personality and Social Psychology*, 74(2), 407–419. <https://doi.org/10.1037/0022-3514.74.2.407>
- Liss, M., Schiffrin, H. H., Mackintosh, V. H., Miles-McLean, H., & Erchull, M. J. (2013). Development and validation of a vuantitative measure of intensive parenting attitudes. *Journal of Child and Family Studies*, 22(5), 621–636. <https://doi.org/10.1007/s10826-012-9616-y>
- López-Fernández, G., Barrios, M., & Gómez-Benito, J. (2021). The Maternal attachment inventory: Development and validation of a short form. *Journal of Advanced Nursing*, 77(7), 3046–3057. <https://doi.org/10.1111/jan.14812>
- Mauerer, G., & Kroismayr, S. (2021). Geschlechtsspezifische Rollen im Wandel. In *Österreichischer Familienbericht*. BMWfJ, Sekt. Familie und Jugend, Abt. II/6.
- Morgan, K. J. (2006). *Working mothers and the welfare state: Religion and the politics of work-family policies in Western Europe and the United States*. Stanford University Press.
- Müller, M. E. (1994). A questionnaire to measure mother-to-infant attachment. *Journal of Nursing Measurement*, 2(2), 129–141.
- O'Connor, T. G., & Gerard Byrne, J. (2007). Attachment measures for research and practice. *Child and Adolescent Mental Health*, 12(4), 187–192. <https://doi.org/10.1111/j.1475-3588.2007.00444.x>

- Otto, H., & Keller, H. (Eds.). (2014). *Different Faces of Attachment*. Cambridge University Press.
<https://doi.org/10.1017/CBO9781139226684>
- Pederson, D. R., Moran, G., Sitko, C., Campbell, K., Ghesquire, K., & Acton, H. (1990). Maternal sensitivity and the security of infant-mother attachment: A Q-sort study. *Child Development*, 61(6), 1974–1983. <https://doi.org/10.1111/j.1467-8624.1990.tb03579.x>
- Phillips, W. A. (2019). The Cultural nature of attachment: Contextualizing relationships and development by Heidi Keller and Kim A Bard (eds) (2017). *Adoption & Fostering*, 43(3), 372–376. <https://doi.org/10.1177/0308575919855170>
- Rille-Pfeiffer, C., Kaindl, M., & Kapella, O. (2020). *Kleinkindbetreuung in Niederösterreich*.
<https://doi.org/10.25365/PHAIDRA.158>
- Röttger-Rössler, B. (2014). Bonding and belonging beyond WEIRD worlds: rethinking attachment theory on the basis of cross-cultural anthropological data. In H. Otto & H. Keller (Eds.), *Different Faces of Attachment* (pp. 141–168). Cambridge University Press.
<https://doi.org/10.1017/CBO9781139226684.009>
- Ruiz, N., Piskernik, B., Witting, A., Fuiko, R., & Ahnert, L. (2018). Parent-child attachment in children born preterm and at term: A multigroup analysis. *PloS One*, 13(8), e0202972.
<https://doi.org/10.1371/journal.pone.0202972>
- Sagi, A., Van IJzendoorn, M. H., Aviezer, O., Donnell, F., Koren-Karie, N., Joels, T., & Harel, Y. (1995). Attachments in a multiple-caregiver and multiple-infant environment: The case of the Israeli Kibbutzim. *Monographs of the Society for Research in Child Development*, 60(2/3), 71.
<https://doi.org/10.2307/1166171>
- Schneider, W., & Lindenberger, U. (Hrsg.). (2018). *Entwicklungspsychologie: Mit Online-Material* (8., überarbeitete Auflage). Beltz.
- Scholz, E., Jutz, R., Edlund, J., Öun, I., & Braun, M. (2014). *Issp 2012 family and changing gender roles IV: Questionnaire development*. Mannheim.
- Seifer, R., & Schiller, M. (1995). The role of parenting sensitivity, infant temperament, and dyadic interaction in attachment theory and assessment. In E. Waters, B. E. Vaughn, G. Posada, & K. Kondo-Ikemura (Eds.), *Monographs of the Society for Research in Child Development: 244*

= 60,2/3. *Caregiving, cultural, and cognitive perspectives on secure-base behavior and working models: New growing points of attachment theory and research*. University of Chicago Press.

Shin, H., Park, Y.-J., & Kim, M. J. (2006). Predictors of maternal sensitivity during the early postpartum period. *Journal of Advanced Nursing*, 55(4), 425–434. <https://doi.org/10.1111/j.1365-2648.2006.03943.x>

Sims-Stanford, B. (Ed.). (1997). *Patterns of attachment and caregiving among low-income African-American families*. Dissertations. 3661. https://ecommons.luc.edu/luc_diss/3661

Stevenson-Hinde, J. (2007). The interplay between attachment, temperament, and maternal style: A madingley perspective. In K. E. Grossmann, K. Grossmann, & E. Waters (Eds.), *Attachment from infancy to adulthood: The major longitudinal studies* (pp. 198–222). Guilford.

Strell, M., & Duncan, S. (2001). Lone motherhood, ideal type care regimes and the case of Austria. *Journal of European Social Policy*, 11(2), 149–164. <https://doi.org/10.1177/095892870101100204>

Suizzo, M.-A. (2002). French parents' cultural models and childrearing beliefs. *International Journal of Behavioral Development*, 26(4), 297–307. <https://doi.org/10.1080/01650250143000175>

Suizzo, M.-A. (2004). Mother-child relationships in France: Balancing autonomy and affiliation in everyday Interactions. *Ethos (Berkeley, Calif.)*, 32(3), 293–323.

Van IJzendoorn, M. H., Bakermans-Kranenburg, M. J., & Sagi-Schwartz, A. (2006). Attachment across diverse sociocultural contexts: The limits of universality. In K. H. Rubin (Ed.), *An ISSBD publication. Parenting beliefs, behaviors, and parent-child relations: A cross-cultural perspective* (1st ed.). Psychology Press.

Van IJzendoorn, M. H., & Hubbard, F. O. (2000). Are infant crying and maternal responsiveness during the first year related to infant-mother attachment at 15 months? *Attachment & Human Development*, 2(3), 371–391. <https://doi.org/10.1080/14616730010001596>

Van IJzendoorn, M. H., & Kroonenberg, P. M. (1988). Cross-cultural patterns of attachment: A meta-analysis of the strange Situation. *Child Development*, 59(1), 147–156. <https://doi.org/10.1111/j.1467-8624.1988.tb03202.x>

- Van IJzendoorn, M. H., Sagi, A., & Lambermon, M. W. E. (1992). The multiple caretaker paradox: Data from Holland and Israel. *New Directions for Child and Adolescent Development*, 1992(57), 5–24. <https://doi.org/10.1002/cd.23219925703>
- Van IJzendoorn, M. H., & Sagi-Schwartz, A. (2008). Cross-cultural patterns of attachment: Universal and contextual dimensions. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of attachment: Theory, Research, and Clinical Applications* (pp. 880–905). Guilford Publications.
- Vermeer, H. J., & Bakermans-Kranenburg, M. J. (2008). Attachment to mother and nonmaternal care: Bridging the gap. *Attachment & Human Development*, 10(3), 263–273. <https://doi.org/10.1080/14616730802113588>
- Warner, J. (2005). *Perfect madness: Motherhood in the age of anxiety*. Vermilion.
- Waters, E., & Deane, K. E. (1985). Defining and assessing individual differences in attachment relationships: Q-methodology and the Organization of behavior in infancy and early childhood. *Monographs of the Society for Research in Child Development*, 50(1/2), 41. <https://doi.org/10.2307/3333826>
- Waters, E., Vaughn, B. E., Posada, G., & Kondo-Ikemura, K. (Eds.). (1995). *Monographs of the Society for Research in Child Development: 244 = 60,2/3. Caregiving, cultural, and cognitive perspectives on secure-base behavior and working models: New growing points of attachment theory and research*. University of Chicago Press.
- Ziehm, J., Trommsdorff, G., Heikamp, T., & Park, S.-Y. (2013). German and Korean mothers' sensitivity and related parenting beliefs. *Frontiers in Psychology*, 4, 561. <https://doi.org/10.3389/fpsyg.2013.00561>

Abstract in English

This analysis examined the differences in mother-child attachment within two western countries: Austria and France. On the one hand, French mothers work more and believe in having well-behaved and respectful children while not wanting to be enslaved to them. On the other hand, Austrian motherhood leans more on traditional values in which mothers work less and spend more time with their children. They also breastfeed more than French mothers. Given the cultural discongruities in child-rearing, this study aimed to research the dyadic attachment differences between two western, educated, industrialized, and rich countries (WEIRD), France and Austria, and the possibility of compensating for it with alternative caregivers' attachments.

The attachment was measured with the Non-Responsiveness scale and the Maternal Attachment Inventory (MAI). 189 Austrian and 92 French mothers were recruited, and the data were analyzed with a Mann-Whitney U-Test for differences. Next, possible mediations by cultural beliefs were explored with PROCESS. Finally, the alternative caregivers' role was investigated thanks to the Pearson's correlation and Mann-Whitney U-Tests.

The data showed that French mothers were more restrictive, less nurturant, and more intensive mothering. This led to ambiguous results for dyadic attachment. On one side, the Non-Responsiveness was lower for Austria, but on the other, French mothers were more intensive mothering, which positively impacted attachment. Moreover, Austria's dyadic attachment was negatively correlated to using professional caregivers' services and positively to non-professionals, while France's dyadic attachment did not differ. However, when both had no professional caregivers, there were no differences in attachment.

Keywords: Dyadic attachment, culture, France, Austria, Alloparenting, multiple attachments

Abstract in German

In dieser Arbeit wurden die Unterschiede in der Mutter-Kind-Bindung zwischen zwei westlichen Ländern, Frankreich und Österreich, untersucht. Französische Mütter sind in höherem Ausmaß berufstätig. Sie legen verstärkt Wert auf ein wohlerzogenes Kind, welches Respekt gegenüber seinen Eltern zeigt und das ihr Leben nicht großartig beeinträchtigt. Die Erwartungshaltung österreichischer Mütter tendieren hingegen eher zu traditionelleren Auffassungen des Mutter-Kind-Verständnisses. Sie sind in geringerem Ausmaß erwerbstätig, verbringen mehr Zeit mit ihren Kindern und stillen länger. Aufgrund dieser kulturellen Unterschiede in der Kindererziehung, war das Ziel dieser Arbeit, die Differenzen der dyadischen Bindungen zwischen zwei westlichen Ländern zu untersuchen. Des Weiteren wurde ein möglicher Ausgleich für schlechtere dyadische Bindungen durch eine Bindung zu anderen Betreuern untersucht.

Es wurde die „Non-Responsiveness“ Skala und das Maternal Attachment Inventory (MAI) verwendet, um die dyadische Bindung zu untersuchen. 189 österreichische und 92 französische Mütter haben den Fragebogen ausgefüllt. Die Unterschiede in der Bindung wurden mit einem Mann-Whitney U-Test untersucht. Weiteres wurde der Einfluss von kultureller Überzeugung mit Hilfe des Hayes' PROCESS Macro untersucht. Es wurde ebenfalls die Rolle der alternativen Betreuer*innen und deren Auswirkung auf die dyadische Bindung recherchiert. Dies wurde mit der Pearson Korrelation und dem Mann-Whitney U-Test geprüft.

Die Ergebnisse zeigten, dass französische Mütter restriktiver, weniger fürsorglich und auf der „intensive mothering“ Skala einen höheren Wert erzielten. Dies führte zu zweideutigen Resultaten für die dyadische Bindung. Einerseits wies Österreich eine niedrigere „Non-Responsiveness“ auf, andererseits war „Intensive Mutterschaft“ höher in Frankreich ausgeprägt, und dies wirkte sich positiv auf den MAI-Wert aus. Des Weiteren korrelierte eine sichere dyadische Bindung in Österreich negativ mit der Nutzung professioneller Kinderbetreuung und positiv mit der Nutzung von nicht professioneller Kinderbetreuung. Für die dyadische Bindung in Frankreich konnten diese Muster so nicht nachgewiesen werden. Allerdings, wenn keine professionelle Kinderbetreuung in Anspruch genommen wurde, gab es keine Unterschiede in der Bindung.

Schlüsselwörter: dyadische Bindung, Kultur, Frankreich, Österreich, Alloparenting, Multiple Bindung

Appendix A

MRQ, 6 Month MS (Non-Responsiveness scale only 2015 version) (Leerkes & Qu, 2017)

	never	rarely	sometimes	often	always
1. When you are trying to do housework, pay the bills, or make dinner, how often do you...					
Stop what you are doing immediately if your baby seems to need or want your attention.	1	2	3	4	5
Let your baby cry for a few seconds while you quickly finish what you are doing.	1	2	3	4	5
Let your baby cry for 10 minutes while you finish what you are doing.	1	2	3	4	5
Let your baby cry until you are done, no matter how long that takes.	1	2	3	4	5
2. When your baby is crying because they are frustrated by something (e.g., they can't reach a toy), how often do you...					
Get your baby interested in a fun activity.	1	2	3	4	5
Let your baby cry for a few seconds before responding.	1	2	3	4	5
Let your baby cry for 10 minutes while you finish what you are doing.	1	2	3	4	5
Let your baby cry until you are done, no matter how long that takes.	1	2	3	4	5
3. When your baby is crying because they are sick or ill (e.g., has a cold, is teething, is feeling poorly after shots), how often do you...					
Respond to your baby immediately.	1	2	3	4	5
Let your baby cry for a few seconds before responding.	1	2	3	4	5
Let your baby cry for 10 minutes while you finish what you are doing.	1	2	3	4	5
Let your baby cry until you are done, no matter how long that takes.	1	2	3	4	5
4. When you have a few free minutes to relax to yourself, how often do you...					
Stop what you are doing immediately if your baby seems to need or want your attention.	1	2	3	4	5
Let your baby cry for a few seconds before responding.	1	2	3	4	5
Let your baby cry for 10 minutes while you finish what you are doing.	1	2	3	4	5

Let your baby cry until you are done, no matter how long that takes.	1	2	3	4	5
5. When your baby awakens in the middle of the night and cries, how often do you...					
Let your baby cry for a few seconds before responding.	1	2	3	4	5
Let your baby cry for a few minutes before responding.	1	2	3	4	5
Let your baby cry for ten or more minutes before responding.	1	2	3	4	5
Let your baby cry themselves back to sleep, no matter how long that takes.	1	2	3	4	5
6. When your baby is crying because they are afraid of something or someone (e.g., a loud toy, a dog, an unfamiliar person), how often do you...					
Comfort your baby.	1	2	3	4	5
Get your baby interested in a fun activity.	1	2	3	4	5
Let your baby cry for 10 minutes while you finish what you are doing.	1	2	3	4	5
Let your baby cry until you are done, no matter how long that takes.	1	2	3	4	5
7. When your baby is crying even though they are well fed, well-rested, and has a fresh diaper, how often do you...					
Get your baby interested in a fun activity.	1	2	3	4	5
Let your baby cry for a few seconds before responding.	1	2	3	4	5
Let your baby cry for 10 minutes while you finish what you are doing.	1	2	3	4	5
Let your baby cry until you are done, no matter how long that takes.	1	2	3	4	5

Appendix B

The Maternal Attachment Inventory (MAI) (López-Fernández et al. 2021)

The maternal Attachment Inventory was developed and Tested to provide a practical measure of maternal affectionate attachment. López-Fernández et al. (2021) created a short version

- **Factor 1: Tolerance**

1. I feel love for my child.
2. I want my child to trust me.
3. I like to see my child do new things.

- **Factor 2: Protection**

1. My thoughts are full of my child.
2. I tell others about my child.
3. I watch my child sleep.
4. I give my child special attention.
5. I know my child's personality.

- **Factor 3: Proximity**

1. I look forward to spending time with my child.
2. Just seeing my child makes me feel good.
3. I want to spend special time with my child.

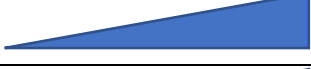
- **Factor 4: Competence**

1. I'm glad this child is mine.
2. Loving my child is easy.
3. I think my child is cute.
4. I'm proud of my child.
5. I comfort my child when they are crying.

Appendix C

Parental Cultural beliefs

		Strongly disagree to agree strongly
Restrictiveness	I believe a child should be aware of how much I sacrifice for him	
	I expect my child to be grateful and appreciate all advantages he has	
	I teach my child that in one way or another, punishment will find him when they are bad	
	I teach my child to control his feelings	
	I believe children should not have secrets from their parents.	
	a Pat on the bottom never harmed a child	
	A slap in the face never hurt a child	
	A spanking never hurt a child	
	I control my child by warning him about the bad things that can happen to him.	
Nurturance	My child and I have warm, intimate moments together	
	I encourage my child to talk about his troubles	
	I joke and play with my child	
	I make sure my child knows that I appreciate what he tries to accomplish	
	I encourage my child to wonder and think about life.	
	I feel that a child should have time to daydream, think, and even loaf sometimes.	
	I express my affection by hugging, kissing, and holding my child	
	Formula-feeding is more convenient than breastfeeding (REVERSE ITEM)	
	Breast-feeding increases mother-infant bonding.	
	Formula-feeding is the better choice if a mother plans to work outside the home (REVERSE ITEM)	
	My child has never slept in my bed (REVERSE ITEM)	

Intensive Motherhood	I have given up or would give opportunities for the benefit of my family	
	I'd rather work less and earn less money	
	All in all, family life suffers when the woman has a full-time job.	
	Being a housewife is just as fulfilling as working for pay.	
	Men are unable to care for children unless they are given specific instructions about what to do	
	Being a parent brings a person the greatest joy they can possibly experience	
	Finding the best educational opportunities for children is important as early as preschool	
	Parenting is exhausting	
	It is harder to be a good mother than to be a corporate executive	
	Children's needs should come before their parents	

Annex D

Multiple Attachments

People like grandparents, aunts, godparents, and even play kin may help raise the child. Now I want to find out about the people who are involved in raising your child	
Primary Caregiver	Do you consider yourself to be the primary person responsible for raising your child, or do you share this responsibility with someone else, or is someone else the primary person responsible for raising your child
	a) respondent primary
	b) shared, specify with whom: _____
	c) someone else, specify: _____
Non-Professional Caregiver	Are there people other than yourself who are important in helping raise your child?
	a) YES
	i) What is this person's relationship with your child
	ii) how much time does your child spend with this person? (hours, days per week)
	iii) what is the quality of the relationship between your child and this person (from 1 : very bad to 5 : very good)
	b) NO
Professional Caregiver	Is your child taken care of by a professional caregiver (a kindergarten or a tagesmutter)?
	a) YES
	i) What is this person's relationship with your child
	ii) how much time does your child spend with this person? (hours, days per week)
	iii) what is the quality of the relationship between your child and this person (from 1 : very bad to 5 : very good)
	b) NO