UNIVERSIDAD DE CHILE

Programa de Doctorado en Psicoterapia

From Co-regulation to Self-regulation in early childhood: an intercultural study in Germany and Chile

Student:	Cecil Mata
Supervisor:	Claudia Capella
Co-supervisor:	Sabina Pauen
Co-director:	María Pía Santelices
Committee:	Francisca Pérez
	Michele Dufey

July 2022, Santiago, Chile

Funding: Beca Especial de Apoyo Facultad de Medicina - Universidad de Chile; ANID Becas/Doctorado Nacional 21211676.

Acknowledgments: ANID Millennium Science Initiative /MIDAP ICS13_005; German Academic Exchange Service -DAAD; Centro de Psicología Aplicada de la Facultad de Ciencias Sociales de la Universidad de Chile (CAPs).

INDEX

Table Index

Figure Index

ABSTRACT

During early childhood, there is a constant interaction between the individual self-regulatory processes of the child and the co-regulatory behaviors of the caregiver. Initially, the child lacks the capacity to regulate its internal states autonomously, requiring the adult to act as a source of external regulation. As children grow older, their self-regulatory capacities increase while the need for co-regulation decreases. These changes are partly due to maturational processes, but also depend on social learning in parent-child interactions.

The following project adopts a multi-method approach to evaluate the development of regulation during early childhood in parent-child dyads in Germany and Chile. Data is collected using parental reports and direct observation of parent-child interactions, combining cross-sectional and longitudinal designs in two related studies. First, a parental report questionnaire is employed to assess (1) parents' ideas and goals in relation to children's self-regulation skills, (2) children's self-regulation responses when facing challenging situations, and (3) caregivers' co-regulatory strategies. Second, a microanalytic coding scheme is applied to assess the cognitive, emotional and motivational regulation behaviors displayed by parents and children during interaction.

Findings show a gradual acquisition of regulation skills throughout early childhood, accompanied by a concurrent decrease in parental co-regulation. Comparisons across age-groups and countries revealed substantial similarities but also differences between countries concerning parental expectations, how children respond to challenging situations, which co-regulation strategies parents use to support their offspring, and how well they adapt them to the child´s age. In assessing interactional patterns, parents were most likely to offer co-regulation spontaneously and there is a shift toward more horizontal interactions as children grow older.

In general, the results invite us to broaden our view of the development of children's self-regulation by adopting a dyadic, contextualized and culturally sensitive approach. It is essential to adopt methodologies that allow the analysis of multiple regulatory dimensions and their changes throughout development, as well as the interaction between parent and child characteristics.

RESUMEN

Durante la primera infancia existe una interacción constante entre los procesos individuales de autorregulación del niño y los comportamientos de corregulación del cuidador. Inicialmente el niño carece de la capacidad de regular sus estados internos de forma autónoma, por lo que necesita que el adulto actúe como fuente de regulación externa. A medida que los niños crecen sus capacidades de autorregulación aumentan, mientras que la necesidad de corregulación disminuye. Estos cambios se deben en parte a procesos evolutivos, pero también dependen del aprendizaje social en las interacciones padres-hijos.

El siguiente proyecto adopta un enfoque multimétodo para evaluar el desarrollo de la regulación durante la primera infancia en díadas padre/madre-hijo/a en Alemania y Chile. Los datos se recopilan utilizando los informes de los padres y la observación directa de las interacciones entre padres e hijos, combinando diseños transversales y longitudinales en dos estudios relacionados. En primer lugar, se emplea un cuestionario completado por los padres para evaluar (1) las ideas y objetivos de los padres en relación con las habilidades de autorregulación infantil, (2) las estrategias de autorregulación de los niños cuando se enfrentan a situaciones desafiantes, y (3) las estrategias de corregulación de los cuidadores. En segundo lugar, se utiliza un esquema de codificación microanalítica para evaluar los comportamientos de regulación cognitiva, emocional y motivacional exhibidos por padres e hijos durante la interacción.

Los resultados muestran una adquisición gradual de habilidades de regulación a lo largo de la primera infancia, acompañada de una disminución simultánea en la corregulación parental. Las comparaciones entre grupos de edad y países revelaron similitudes sustanciales, pero también diferencias entre los países en relación a las expectativas de los padres, la forma en que los niños responden a las situaciones desafiantes, las estrategias de corregulación que los padres utilizan para apoyar a sus hijos y qué tanto adaptan estas últimas a la edad del niño. Al evaluar los patrones de interacción, los padres fueron más propensos a ofrecer corregulación de forma espontánea y se observa una transición hacia interacciones más horizontales a medida que los niños crecen.

En general, los resultados nos invitan a ampliar nuestra visión del desarrollo de la autorregulación infantil adoptando un enfoque diádico, contextualizado y culturalmente sensible. Es fundamental adoptar metodologías que permitan analizar las múltiples dimensiones de la regulación y sus cambios a lo largo del desarrollo, así como la interacción entre las características de padres e hijos.

INTRODUCTION

Different investigations highlight the importance of early social experiences for later development (Karreman et al., 2006; Lucassen et al., 2011; Lunkenheimer et al., 2011; Miller et al., 2019), but the exact mechanisms through which such experiences shape development still need to be explored in more detail. Interaction dynamics, understood as a dyadic bidirectional process, has gained relevance in recent research on parent-child relationships (Beebe et al., 2016; Fogel, 2000; Harrist & Waugh, 2002), resulting in a wide range of different concepts to describe the mechanics of social interactions between caregiver and child, such as synchrony, mutuality, reciprocity, intersubjectivity and dyadic regulation among others (for a review see Beebe et al., 2005; Harrist & Waugh, 2002). Despite conceptual differences, all point to the importance of some coordination and/or mutual influences between adult and child.

Child self-regulation (SR) develops during early childhood within this dyadic context. Until the child acquires the capacity to self-regulate its internal states, it is the adult who acts as a source of external regulation or co-regulation (CR) (Nigg, 2017) and, as children grow older, they gradually acquire cognitive and motor skills that allow for more independence off their caregivers. Then, regulation proceeds from the interpersonal (i.e., CR) to the intrapersonal (i.e., SR) level (Eisenberg et al., 2010; Nigg, 2017; Sameroff & Fiese, 2000). Nonetheless, studies evaluating SR usually assess child SR-performance as an outcome (Karreman et al., 2006; Muñoz-Muñoz, 2017; Pallini, et al., 2018; Rademacher & Koglin, 2018), thus neglecting the role of the caregiver in the process of SR.

Genetic (e.g., Lemery-Chalfant, et al. 2008; Willems et al., 2018), neurobiological (e.g., Kelley et al., 2019; Palacios-Barrios & Hanson, 2019), contextual (e.g., Karreman et al. 2006; McClelland et al., 2015) and cultural (e.g., Jaramillo et al., 2017; Selin, 2014) aspects have been associated with child SR development. However, various aspects are mainly investigated separately and the interaction between variables remains poorly understood (for an overview see Eisenberg et al., 2010; Montroy et al., 2016). Also, the active role of the individual and the bidirectionality fo interactions, as well as different aspects and levels of SR has become increasingly relevant (De Mol & Buysse, 2008; Li et al., 2019; McClelland et al. 2015).

To understand parent-child interactions and child development, a contextualized approach is essential (Bornstein & Cheah, 2006; Bronfenbrenner, 1979; Super & Harkness, 1986). Cultural orientation has been associated with parental atributions and self-perceptions (Cote et al., 2015; Li et al., 2014), as well as self-construal and educational goals (Jaramillo et al., 2017; Keller et al., 2006; Trommsdorff & Korndat, 2003). It is also associated with children's socialization, guiding wich child

behaviors are reinforced (Bornstein & Cheah, 2006; Keller, 2013; Trommsdorff & Kornadt, 2003), and may lead to different parent-child interactional patterns (Keller et al., 2004a; Lavelli et al., 2019). Therefore, the goals and ideals, the strategies used, and the social feedback given vary between different cultures.

Within this scenario, intercultural studies have the potential to help identify aspects that would otherwise be overlooked because of being "invisible " from a monocultural perspective (Bornstein & Cheah, 2006; Lansford et al., 2016). Therefore, the evaluation of regulatory variables that play a key role in dyadic and intercultural contexts promises to contribute to our understanding of caregiver-child interactional patterns and their development. It may also help to find common mechanisms and general principles or patterns that characterize the development of SR and CR in early childhood.

It seems important to better understand the developmental process of child SR, as longitudinal studies show its implications for children's cognitive and socioemotional development (Kim-Spoon et al., 2012; Montroy et al., 2016; Woodward et al., 2017). Likewise, child SR has also shown long-term effects. The Dunedin cohort study shows that self-control in childhood is more relevant than socioeconomic status and IQ in predicting better physical and mental health, higher income, higher life satisfaction, lower likelihood of involvement in addictions and criminal acts, and even positive parental characteristics in the next generation (Moffitt et al. 2011; Poulton et al. 2015). Deepening the understanding of regulatory development during early childhood would provide a basis for the discussion of possible strategies to improve intervention programs that promote the development of SR in early childhood in clinical or educational contexts. In addition, the incorporation of contextual and cultural aspects will allow us to identify possible at-risk groups for early intervention.

This document presents the results of a multimethod cross-cultural study evaluating the relation between self- and co-regulatory behaviors employed by parents and their children aged 1 and 6 years in Chile and Germany. The study involves two different methods to evaluate the variables of SR and CR at different levels in both countries: First, the self-report questionnaire IMMA (IMpulse-MAnagement in the caregiver-child dyad; Pauen et al., 2019), which assesses the expectations and CR strategies used by parents, as well as the SR strategies displayed by children. Second, the microanalytical coding scheme SECORE (Pauen et al., 2020) which differentiates cognitive, emotional, and motivational regulation behaviors following the EDOS model (Pauen & EDOS group, 2016). In addition, instruments to assess the sociodemographic and cultural characteristics of the sample are applied.

The project includes two studies. Study 1 includes: (a) validation of the IMMA questionnaire in Chile; and (b) comparisons of data collected with the IMMA questionnaire in Chile and Germany. Study 2 includes: (c) microanalytic evaluation of parent-child interactions in Chile and Germany; and (d) analysis of longitudinal changes in parent-child interactions in the German sample.

The following pages present (1) the theoretical and empirical background, (2) the objectives and hypotheses guiding this thesis, (3) the description of the methods and outcomes, and (4) the discussion and integration of results.

THEORETICAL AND EMPIRICAL BACKGROUND

Early parent-child interactions

Human development takes place on multiple dimensions in parallel, with changes on each dimension being determined by a broad range of different factors (e.g., Bornstein & Cheah, 2006; Bronfenbrenner, 1979; Super & Harkness, 1986). When it comes to child development, primary caregivers play a key role due to direct (e.g., genetics, behaviors) and indirect (e.g., family context monitoring) influences (Bridgett et al., 2015).

Likewise, early childhood is considered fundamental not only for forecasting future developmental variables, but also as a period of early detection and intervention (Doyle et al., 2009; Hoddinott et al., 2013). The concept of early childhood refers to the period between the end of the first 1000 days of life and the normal school entry age ~5 or 6 years (Hoddinott et al., 2013), and has been identified as a period of great sensitivity to external influences. Studies have shown that early interactions affect neural connections, even fostering physical changes at the brain level during early childhood (Nelson et al., 2014; Schore, 2001; Sethna et al., 2017). Further, positive parent-child relationships are associated with better social competencies (Black & Logan, 1995; Feldman, 2007a; Haskett et al., 2006) and emotion regulation (Cole et al., 2009; Landy & Menna, 2001; Lindblom et al., 2016). Whereas imbalance of these interactions may contribute to the manifestation of disruptive behaviors (Davenport & Russell, 2008; Landy & Menna, 2001) and even lasting developmental impairments (Cohen et al., 2013; Saint-George et al., 2013) in children. Additionally, specific characteristics of the child and/or adult (e.g., presence of psychopathologies; Ambrose & Menna, 2013; Healey et al., 2010; Ravn et al., 2011; Weinberg, 2006) could affect the quality of the dyadic interaction and the individual functioning of the interactive partner (Weijers et al., 2018; Xerxa et al., 2020). This is also true of contextual factors such as chronic stress (De Falco et al., 2014; Lemelin et al., 2006), socioeconomic status (Aber et al., 2000; De Falco et al., 2014; Yoshikawa et al., 2012), and cultural influences (Lavelli et al., 2019; Ramsey et al., 2018).

These antecedents highlight the importance of assessing child development not only within a given dyadic framework, but also from a contextualized approach, considering sociodemographic, social, and other context variables. The importance of mutual regulation within a given dyad increases when considering the fact that child SR is theoretically conceptualized as a dyadic construct (Nigg, 2017; Pauen & EDOS group, 2016; Sameroff & Fiese, 2000), yet empirical studies address this variable mainly as a static construct and skill of an individual (Karreman et al., 2006; Muñoz-Muñoz, 2017; Pallini, et al., 2018; Rademacher & Koglin, 2018).

The concept of self-regulation

SR is a complex, multi-component construct operating at various functional levels (e.g., physiological, socioemotional, cognitive, motivational, behavioral), that represents the ability to volitionally plan and, modulate own one's behavior(s) toward an adaptive end (Barkley, 2011; Gross & Thompson, 2007; Montroy et al., 2016), thereby promoting adaptability (Vohs & Baumeister, 2004). As mentioned above, young children's SR skills have great implications for the cognitive and socio-emotional development (e.g., Bornstein et al., 2018; Montroy et al., 2016; Woodward et al. 2017) and later life success on multiple dimensions (e.g., Linblom et al., 2016; Moffitt et al., 2013).

Different aspects of SR undergo major changes during the first years of life (Pauen & Evers, 2018). These changes are partly due to maturational processes, but also depend on social learning in parent-child interactions (Bornstein et al., 2018; Jaramillo et al., 2017; Montroy et al., 2016). SR it is known to be affected by genetic components associated with neurotransmitter functions (Bridgett et al., 2015, 2018), brain development (Garon et al., 2008; Miyake et al., 2000; Zelazo et al., 2003), parental characteristics (Gewirtz et al., 2011; Karreman et al., 2006; Kim-Spoon et al., 2012; Silk et al., 2006) and cultural aspects (Jaramillo et al., 2017; Trommsdorff, 2009).

Newborns largely depend on caregivers because they are not yet able to regulate even their basic needs, but evolution has primed humans to show "natural parenting" by referring to a range of behaviors that reflect positive caregiver support (Papoušek & Papoušek, 2002) to be found in multicultural studies (e.g., Bornstein et al., 2018; Di Giunta et al., 2020). As children grow older, they gradually acquire cognitive and motor skills that allow for more independence off their caregivers. Young toddlers may now insist on doing things on their own, they may show more self-determination and become less willing to follow the instructions of their parents. There is also an increase in language skills that allows for the beginning of the ability to negotiate or argue, where both interactive partners now communicate verbally about their needs, expectations, and rules (for a review see Stein & Albro, 2001). Although some studies have proposed that certain SR behaviors (e.g., self-soothing, self-directed attention) can be observed from the first months of life (Diamond & Goldman-Rakic, 1989), it is not before the end of the first year that children start to control their behavior in order to follow parental requests (Kochanska et al., 2001) and it is until around three years of age when SR capacity becomes more flexible, thus allowing the child to deal with changing contexts (Karreman et al., 2006; Kopp, 1982).

Another relevant point relates to the complexity of the concept of SR. The strategies that a child can use to show SR could be distinguished in several areas and using different mechanisms targeting

the adaptation to environmental demands. Many authors differentiate between emotional and behavioral SR (Muñoz-Muñoz, 2017), while others also add cognitive SR (Denham et al., 2014). Similarly, some authors talk about "hot" (e.g., emotional and motivational processes) and "cool" regulation (e.g., cognitive processes) (Zelazo & Muller, 2002; Zelazo et al., 2003), thereby considering the fact that different parts of the frontal lobe are involved when it comes to regulating emotional and motivational states on the one hand and cognitive states on the other. Also related to knowledge about frontal lobe activity, some authors (e.g., Nigg, 2017; Pauen & EDOS group, 2016) distinguish between SR processes that are intentional and deliberate (i.e., top-down regulation), and others that are automatic (i.e., bottom-up regulation). Top-down and bottom-up processes can be the source but also the target of regulation and one could interfere with the other in certain situations. Nigg (2017) explains the interaction between the different dimensions and mechanisms stating that *"SR encompasses cognitive control, emotion regulation, and top-down and bottom-up processes that alter emotion, behavior, or cognition to attempt to enhance adaptation (or to achieve an explicit or implicit goal or goal state)"* (pp. 364).

We are thus facing a complex process in which different mechanisms and aspects get involved, and are also influenced by various internal and external factors. Hence, more complex approaches are needed to understand the relation between SR and CR (Lunkenheimer et al., 2017a).

Until today, there are still debates on whether SR should be conceived as a multidimensional construct (e.g., Denham et al., 2014; Kim et al., 2013) or a single undifferentiated factor (Allan & Lonigan, 2014). The way in which dimensions or SR are divided depends on the approach, seeking to facilitate their conceptualization and measurement. But, in the end, the different dimensions work together and mutually influence each other (Lohaus & Glüer, 2018; Wolters & Benzon, 2013).

In the present study, SR is subdivided into three dimensions: cognitive, emotional and motivational. Cognitive SR refers to the control of different mental strategies to use cognitive abilities in learning processes, seeking to promote cognitive performance (Dinsmore et al. 2008; Flavell, 1979). These include the control of sustained attention, strategies for regulating task behavior, and the use of metacognitive knowledge about learning and thinking processes (Dinsmore et al., 2008; Santosh et al., 2015; Slot et al., 2017), which are considered as top-down processes.

Emotional regulation is understood as the adjustment of an emotional state or expression in order to achieve a goal or to maintain a desired state (Gross, 2014), including both top-down efforts (e.g., redirect attention) and bottom-up (e.g., arousal state) processes (Lohaus & Glüer, 2018).

Finally, motivational SR refers to motivational control and includes monitoring, and controlling intentional acts (Santamaría-Vázquez et al., 2021; Wolters & Benzon, 2013). Zimmerman (2000) includes the abilities of planning, monitoring and awareness of one's own behavior during the activity and evaluation in the meta-level of the outcome. In addition, the execution of strategies such as goal setting is of importance to control one's own motivation or persistence (Wolters & Benzon, 2013).

The concept of co-regulation

CR can be understood as a process of interpersonal regulation in which the adult helps the child to regulate his/her internal states (Silkenbeumer et al., 2016). Thus, with the help of interpersonal regulation, children's mental processes can be regulated (i.e., co-regulated; Pauen & EDOS group, 2016) on different levels (e.g., emotional, motivational, cognitive).

The CR strategies need to be adapted to the child's developmental stage and parents would decrease CR offers and start requesting SR more often as the children grow older (Pauen & EDOS group, 2016), thereby promoting their children’s independence, but also supporting the internalization of social norms (Rakoczky & Schmidt, 2012). Pauen & EDOS group (2016) propose that with young children parents would primarily use co-perception strategies through which they would mimic and mentalize the child's internal states. As children grow, parents would start to use CR strategies seeking to help the child to regulate their internal states. Finally, towards the end of the preschool years, caregivers are expected to begin to use co-reflective strategies, involving the child in talking about motives, feelings, or thoughts, thus improving self-management. A similar path is described by Silkenbeumer et al. (2016), who propose that parents would move from acting as external regulator to encouraging the child to use SR strategies independently of the caregiver. These authors further differentiate between strategies directed to the event itself (e.g., by distracting the child), to the appraisal of the event (e.g., by reappraisal of the situation), to the sensation (e.g., by reassuring the child), or to the response (e.g., by modulating the behavioral expression). The appropriateness of each strategy varies with the age of the child, as well as the situation.

Positive aspects of CR have been associated with better cognitive and emotional development (Feldman, 2003; Herbers et al., 2014; Kemp et al. 2016; Tronick & Beeghly, 2011), and fewer externalizing behaviors (Bardack et al. 2017; Beeghly & Tronick, 2011; Feldman, 2003; 2007b; Lunkenheimer et al. 2011) during early childhood. CR, on the other hand, may be affected by the personal characteristics of the interacting partners (Crugnola et al., 2019; Feldman, 2006; Guo et al., 2017) and by contextual factors (Beebe et al. 2020; Herbers et al., 2014).

Recent results also suggest that CR processes can be adaptive or maladaptive depending on their content. Lobo and Lunkenheimer (2020) found that, within dyadic affective processes, contingency and flexibility had opposite effects on the prediction of SR skills one year later, depending on affective valence. More specifically, contingent and flexible processes with a predominance of positive or neutral affect predicted higher levels of SR in infants, while the same processes with a negative affect led to lower levels of infant SR.

Thus, CR in parent-child dyads not only facilitates coordinated and well-organized exchanges and stability in the relation between interactive partners, but also regulates mental processes and promotes SR in young children.

From CR to SR: an interactional approach

In the first years of life, there is a constant interaction between the individual and the environment, which includes CR behaviors (e.g., of caregivers) but also contextual aspects (Sameroff, 2010). Sameroff and Fiese (2000) propose the *ice-cream-cone-in-a-can model*, according to which the child's SR capacities increase and the need for CR decreases over time.

Nigg (2017) suggests that this process is complex, non-linear and that it develops in a sequence of different stages. The regulatory outcome is determined by internal (i.e., SR) and external (i.e., CR) factors, which will -in turn- be influenced by other variables. Internal processes distinguish between top-down (i.e., intentional) and bottom-up (i.e., automatic) processes, which mutually influence one another. External aspects incorporate both other people and contextual aspects, which may also be of a co-regulatory nature.

As the child grows older, the regulatory strategies (SR and CR) change (Harrist & Waugh, 2002) and increase in complexity, in order to promote autonomy in regulating internal states (Pauen & EDOS group, 2016; Silkenbeumer et al., 2016). Babies who initially give non-specific cues and lead parents to act in an exploratory way to meet their needs, become able to give more specific signals as they grow older (Holodynski & Friedlmeier, 2006; Papoušek, 2007).

Kochanska and Askan (2004) conducted a study on mutual responsiveness between parents and their children at the age of 7 and 15 months. The authors analyzed the interaction processes as a function of the information sent (i.e., negative, positive or neutral) in both directions, and the response received from the interactive partner. The analysis was performed at a macroscopic and microscopic level, revealing matches between information sent within the dyad. Parents issued more *social-interactive cues* (i.e., verbal or non-verbal attempts to engage the child) than *attempts to influence the*

child (i.e., attempts to regulate child behavior or to secure his/her cooperation in the task) when the child was 7 months old, but the proportion of both types of strategies was reversed at 15 months.

Another important issue has been raised by Harrist and Waugh (2002) who pointed out the relevance of "synchrony" within the dyad. The authors emphasize that synchrony, defined as "*a type of interaction between two people (in particular a child and caregiver), (with) an observable pattern of dyadic interaction that is mutually regulated, reciprocal, and harmonious*" (pp. 557), represents a crucial developmental achievement. Therefore, it seems important to approach SR during infancy as a dyadic process, in which the adult and the child always regulate one another with respect to expressed affect, behavior, and physiology (Calkins, 2011).

The present study interprets SR as an interactional process in which child and parent characteristics influence each other and change throughout development. During interactions, each partner will exchange signals thus creating a dyadic process where each partner anticipates moment-to-moment progression (Beebe et al., 2016; Fogel, 2009; Sameroff, 2009; Stern et al., 1985) that will eventually become more regulated and synchronous with time (Tronick, 2007).

Even though most studies on parent-child interaction implicitly use a unidirectional prediction model which assumes that parent characteristics determine child behavior (Beebe et al., 2016; Karreman et al., 2006; Kochanska & Askan, 2004; Tiberio et al., 2016), there is evidence showing that offspring characteristics also influence parental behavior (Beebe et al. 2010, 2016; Guo et al, 2017; Kochanska & Askan, 2004; Putnam et al., 2002; Tamis-LeMonda et al., 2013). This again points to the need for models that enable the assessment of the mutual regulation dynamics between caregivers and their offspring, especially when considering that parent-child interactions undergo systematic changes with age (Beebe et al., 2010; Feldman, 2007b; Feldman et al., 2004; Kochanska & Askan, 2004; Stifter & Rovine, 2015).

Cultural considerations regarding SR and CR

Generalities and cultural specificities are difficult to disentangle, and classifying cultures is not always straightforward (e.g., Keller et al., 2006; Selin, 2014). One of the most common ways of classifying cultures is according to levels of independence and interdependence (Markus & Kitayama, 1991) which will be associated with the understanding of the SR and CR variables.

A strong focus on independence is associated with a prioritization of autonomy as an educational goal (Rothbaum & Trommsdorff, 2007) and a disjoint agency model, where goals are defined in an individualistic way and actions are evaluated based on the idea of an "ideal self" (Trommsdorff, 2009). Consistent with this view, the individual is perceived as bounded and self-contained, while

relationships are understood as self-determined negotiations between independent partners (Keller, 2013; Keller et al. 2006). It is considered that this type of culture emphasizes the autonomy of individuals, fostering the idea of being able to have an impact over the context and the importance of striving to achieve goals (Jaramillo et al., 2017).

On the other hand, a strong focus on interdependence emphasizes social relatedness associated with a sense of conjoint agency that seeks to maintain social harmony and minimize conflicts within the group (Keller, 2013; Trommsdorff, 2009). Here, the self is meaningful and complete only if the individual maintains positive relations with others (Markus & Kitayama, 1991). The "ought self" serves as standard for evaluating one's own actions (Trommsdorff, 2009) and relatedness will be prioritized over autonomy. Therefore, individuals will tend to place importance on taking care of the relationship with others and respecting boundaries, having less sense of power to change the context.

Depending on how strongly a given culture emphasizes independence and interdependence, it scores high or low on each of the two dimensions: relatedness and autonomy. Although autonomy and relatedness are conceived as opposing values, they do not exclude each other, but rather refer to separate needs of each individual (Kagitcibasi, 2005; Keller & Kärtner, 2013; Rothbaum & Trommsdorff, 2007; Ryan & Deci, 2002; Tamis-LeMonda et al., 2020) guided by normative orientations which are co-constructed in specific domains of life by a given community (Keller, 2013).

The meaning of SR and CR may vary between different cultures. In cultures with a strong emphasis on independence, the autonomy of the individual will be promoted, and SR will be considered a self-motivated action based on one's own needs and goals. In cultures with a strong emphasis on interdependence, the focus of socialization will be on relatedness. SR then will refer to collective goals and will emphasize the individual's flexibility and ability to adjust to joint norms, thus requiring interpersonal regulation (Trommsdorff, 2009).

When it comes to CR, parents who want to strengthen children's autonomy are known to be more tolerant when their children express negative feelings in situations of goal frustration (Heikamp et al. 2013; Wang, 2003). When asking their child to follow a given request, they do so in a respectful and empathetic way, justifying the demand, and offering choices to the child (Laurin & Joussemet, 2017), thus signaling openness for negotiations and supporting horizontal communication. In contrast, parents who want to strengthen relatedness tend to use more regulatory language to guide children's behavior toward accepting social hierarchies (Tamis-LeMonda & Song, 2012; Tamis-LeMonda et al., 2012). They also tend to suppress negative affect in the child because corresponding behaviors are

assumed to be disruptive for group harmony (Heikamp et al. 2013; Wang, 2003), while positive emotions such as sympathy and shame are welcomed since they promote relatedness (Chan et al., 2009).

Studies have suggested that authoritative parenting (i.e., confrontive parental control and high levels of parental support) is associated with better child functioning in terms of social adaptation and well-being, compared to authoritarian parenting (i.e., high levels of power assertion and low levels of parental support) or neglectful parenting (i.e., lack of both control and support) (Hancock, 2014; Lansford et al., 2014; Pinquart, 2017). Also, high parental support is assumed to promote SR skills in children (e.g., Karreman, 2006) and lead to less externalizing behavior problems (e.g., Bornstein et al., 2018). Nonetheless, cross-cultural studies found that this relationship cannot always be found in non-Western cultures, where more permissive or authoritarian styles may even show positive impact (Garcia et al., 2019; Rudy & Grusec, 2006; Selin, 2014). To explain these differences, authors pointed out that the emphasis should not be on the parental style itself, but rather on the emotionality that parents and children attribute to these styles and what is normative in a given culture (Rudy & Grusec, 2006; Putnick et al., 2014).

Although variations in parental beliefs and practices across cultures are complex and cannot be understood as a consequence of sociocultural aspects (Eisenberg et al., 2010; Holden, 1997), differences in the emphasis on autonomy or relatedness are also reported in parents from different countries. Culture seems to be not only related to parental self-concept and goals, but also to which child behaviors will be reinforced or rejected (e.g., Bornstein & Cheah, 2006; Jaramillo et al., 2017, Keller et al., 2006). Regarding the countries compared in this report, the expected differences seem to be consistent with the cultural emphasis assumed in each country.

In Germany, the anti-authoritarian movement of the 60s and 70s induced a shift towards more democratic and liberal parenting strategies (Otto & Keller, 2015), which seem to dominate today: Caregivers consider eye contact and horizontal communication as important in parent-child interactions (Keller, 2003), they prioritize infant stimulation at the cognitive and emotional level (Eickhorst et al., 2008; Keller, 2003; Keller et al., 2004b, 2005; Rindermann et al., 2013), and tend to strengthen autonomy even in young children (Furnham & Kirkcaldy, 2000; Haerpfer et al., 2022; Keller et al., 2005). The dominating parenting style in modern Germany can best be described as authoritative, or indulgent/permissive (Garcia et al., 2019; Nauck & Lotter, 2015), varying with the age of the child.

In Chile, some authors describe the dominating parental style as authoritative (Figueroa et al., 2012; Ossa et al., 2014), whereas others find evidence for a paternalistic orientation in controlling the child (Bush & Peterson, 2014). Studies reported that Chilean parents commonly use regulatory talk (Santelices et al., 2021) and may make use of physical punishment (Achnu, 2006; Ministery of Social Development, 2017). Thus, it seems that there is a mixture of authoritarian and authoritative practices in this country.

Finally, only one study was found that has previously compared Germany and Chile regarding parenting and child regulation in late childhood (Weis et al., 2016a, 2016b). In their sample, Chilean mothers showed a greater preference for the use of restrictive control and Chilean children achieved lower SR scores compared to a German sample. However, the associations found between adult and child variables were different within each culture.

In sum, the regulatory strategies used by parents and their offspring may vary depending on cultural and other macro factors, even though there are also expected to be commonalities based on genetic and biological ground. In this case, assessing SR and CR variables in two different cultures and using different methods (i.e., through questionnaire and direct observation) can help to identify cultural aspects that in monocultural studies might be unnoticed.

German and Chilean sociocultural context

Germany and Chile differ in terms of their cultural orientation: Germany has frequently been classified as a society of low interdependence and high independence (Friedlmeier et al., 2008; Hofstede, 2001; Mayer et al., 2012). Chile, on the other hand, has historically been considered a collectivist culture that promotes interdependence. However, recent studies found high levels of independence and interdependence in parallel (Benavides & Hur, 2019; Georgas et al., 2006; Kolstad & Horpestad, 2009), presumably due to a rapid development of the economy, changes in sociopolitical systems, and decreasing authoritarian values (Bush & Peterson, 2014).

Germany and Chile also differ in other socioeconomic factors that impact child rearing and development (e.g., Bornstein & Cheah, 2006; Bronfenbrenner, 1979; Keller, 2013). According to the United Nations (UN; 2019) Germany has a high quality of life captured with the Human Development Index (HDI=.939) which varies little when considering the Inequality-adjusted Index (IHDI=.861) and ranks among the top 30% of countries according to the Happiness Index (HI=7.155; UN, 2022). On the other hand, Chile also has a high quality of life (HDI=.847), but high inequality (IHDI=.696) and a lower happiness index (HI= 6.172).

At the level of state regulations, substantial differences regarding laws with impact on childcare can be observed. In Germany, the state promotes equal opportunities for men and women with regard to child caretaking (BEEG, 2016). The law on parental leave declares that both, mothers and fathers, can leave their jobs temporarily without taking the risk to lose their job. Both parents can go full-time or part-time on parental leave and the duration of parental leave is up to 36 months per child. Each family will receive a monetary compensation during the first 12 months following birth, although in some circumstances compensation can be extended to 14 months if both parents become involve in child rearing.

In Chile, Law No. 20545, which extends the postnatal period for mothers until 6 months post partum, has been in force since 2011. This benefit is only granted to the mother, but she can transfer up to 6 weeks to the father at the end of the maternal leave period. During maternal leave, the mother receives monetary support from the state and cannot be fired up to 2 years after birth. There are almost no regulations regarding the rights and duties of fathers in Chilean laws, except for the fact that they are entitled to 5 working days paid leave after childbirth.

These legal regulations might also impact childcare. By 36 months of age German kids usually attend early education programs. According to the Education at a Glance survey, 91% of 3 years olds, and 96% of 4 year olds attend early education (EAG, 2014). In Chile the mother is usually the main caregiver during the first two years of life (74%) of the child. child. Between the age of 2 and 3 years this gradually change and other family members become engaged in childcare (ENPI, 2010). Nevertheless, only about 25% of children between 0 and 5 years attend a nursery or kindergarten according to national surveys of recent years (ENPI, 2010; ELPI, 2017).

In summary, different cultural and social conditions can be found regarding the possibilities of parents to temporally leave work and to engage in child care. Furthermore, the percentage of young children attending educational institutions varies quite substantially between both countries, especially when regarding families with younger children (i.e., 2-year-olds). Although operationalizing and controlling for these variables is beyond the scope of the present study, it is important to consider the results in light of these differences.

Common assessments of SR and CR

When looking at reviews and meta-analyses that include measures of child SR (e.g., (Karreman et al., 2006; Muñoz-Muñoz, 2017; Pallini, et al., 2018; Rademacher & Koglin, 2018), typically of the following methods is used: 1) questionnaires completed by parents and teachers; or 2) laboratory tasks in which the child's responses to certain stimuli or tasks are evaluated.

When examining questionnaires used to assess child SR, they tend to focus on behavioral outcomes. Some of the questionnaires that can be mentioned are the *Child Behavior Checklist* (CBCL; Achenbach & Rescorla, 2001), the *Children's Behavior Questionnaire* (CBQ; Rothbart et al., 2001) and the *Early Childhood Behaviour Questionnaire* (ECBQ; Putnam et al. 2006). This variable is rarely assessed in the adult, an exemption might be the self-report questionnaire *Me as a parent* (Hamilton et al., 2015), which assesses SR in the parental context.

Concerning laboratory tests, studies usually assess SR via tasks of executive functions (e.g., Sun & Tang, 2019; Zhou et al., 2012), sustained control (e.g., Kochanska & Knaack 2003; Pallini et al., 2018), and delay of gratification (e.g.., Garon et al., 2011; Razza et al., 2015) or via tasks that trigger emotional regulation (e.g., Fox & Calkins 2003; Liebermann et al., 2007).

The CR variable is mainly assessed in observational and dyadic contexts. However, there are also differences in the way this variable is conceptualized and measured. Some studies apply assessments at the macro level (i.e., assessment of the interaction as a whole), such as the *Emotion Dysregulation Codes scale* (Hoffman et al., 2006), and the *Dyadic Parent-Child Interaction Coding System-III* (DPICSIII; Eyberg et al. 2005), while others focus at the micro level (i.e., based on a division of the interaction into segments) and apply different coding schemes to evaluate dyadic states (e.g., *Revised Relational Coding System* - RRCS; Fogel et al., 2003). Some also classify the CR strategies used by parents (e.g., Lunkenheimer, et al., 2017a; Putnam et al. 2002), or measure them with respect to their degree of complexity (e.g., Ostfeld-Etzion et al., 2015). Additionally, CR is sometimes taken as a synonym for other variables such as scaffolding (e.g., Hoffman et al., 2006; Leith et al., 2018) and synchrony (e.g., Feldman, 2003; Guo et al., 2015; Lunkenheimer et al., 2011).

In general, the lack of agreement on the definition of regulatory concepts, such as SR and CR, has already been pointed out by previous studies (e.g., Smithers et al., 2018; Zhou et al., 2012), and constitutes an obstacle when comparing results and drawing conclusions. Some efforts to differentiate associated concepts have already been made, although they can hardly be called exhaustive (e.g., Nigg, 2017; Beebe et al. 2005; Smithers et al., 2018). It is still clear that SR is assessed primarily as an outcome variable in the child only, whereas CR is assessed in a more dyadic way. So far, studies that use a dynamic approach to assess interactive behaviors of the caregiver and the child in parallel in order to investigate the development of SR and CR are still rare, despite the fact that these two concepts are assumed to be of high relevance for establishing a good long-term parent-child relationship.

Microanalysis as a process-oriented approach to evaluate SR and CR

In assessing parent-child interactions using observational tools, coding systems should be designed such that the same tool can be applied to children of different ages, and samples from different backgrounds, in order to allow for longitudinal analysis and comparability across different populations. Such coding systems should allow for a broad range of potential applications because the strategies used by children and adults change throughout development (Harrist & Waugh, 2002). Process-oriented approaches require a detailed analysis of the behaviors of both interactive partners and an evaluation of the sequence and timing of behaviors during social exchanges (Beebe & Steele, 2013), capturing the moment-to-moment process inherent in bidirectional social interactions (DiDonato et al. 2013; Guo et al., 2017; Lunkenheimer et al. 2011).

Due to technology advances in recent years, more studies applying microanalysis, sequential analysis, SSG and other coding systems have been published. The use of microanalysis has been shown to be specifically useful in identifying well-defined patterns and aspects of behavior, which cannot be identified with global scales (e.g., Bardack et al., 2017; Stern, 1985). Results obtained with this method also appear to be more stable over time than macro assessments (Dishion et al., 2017). In addition, the feasibility of analyzing temporal dynamics of SR during child development has been pointed out as an important advantage (e.g., Dennis-Tiwary, 2019; Lobo & Lunkenheimer, 2020).

A common conceptual framework is still lacking to define what should be considered as "microanalysis" and how the different methodologies using this technique should be classified. Bakeman and Gottman (1987) identify two basic features of microanalysis: a systematic observation and the assignment of previously defined codes to each segment of a given exchange. According to this definition, a methodology would be "microanalytical" if each segment of the interaction is continuously evaluated based on predefined codes.

The way in which an interaction is subdivided into segments can follow different rules. There are two general types: (1) interval/time-based microanalysis, in which the division of the code string is determined by a predefined time interval (e.g., 1 sec, 5 sec); and (2) event-based microanalysis, in which the division of the code string is determined by a specific event (e.g., behaviors, states, expressions, functional steps). Any type of micro-analysis results in a continuous succession of codes (i.e., a code strings) for each person involved in the interaction (e.g., caregiver, child) and -potentially- for different behavioral expressions (e.g., look, touch, verbal statements) in parallel. Ultimately, different ways to organize the codes will lead to an exhaustive or non-exhaustive coding scheme, mutually or non-mutually etc. (for a review see Bakeman & Gottman, 1987; Brauner et al., 2018).

It is important to clarify that microanalytic strategies do not directly imply interactional or sequential analysis (Bakeman & Gottman, 1987; Bakeman & Quera, 2012). Even though microanalysis itself may seem to be a methodological advancement, reporting results in terms of the frequency, mean, rate, or probability of a given behavior, does not bring us closer to understanding the basic dynamics of social interactions (Bakeman & Gottman, 1987; Bakeman & Quera, 2012). The results obtained from the microanalysis are potentially interactional and sequential, but ultimately depends on the statistical analysis.

Regarding bidirectionality, it seems noteworthy that CR is relevant not only when it comes to describing the behavior of caregivers, but also that of children (e.g. Aureli & Presaghi, 2010; Aureli et al., 2018). Similarly, SR is not only relevant when it comes to describing child behavior, but also adults. For example, caregivers cannot always focus on providing CR for their child but also need to show SR when facing cognitive, motivational, and emotional challenges. Hence, it might be useful in many cases to assess SR and CR in both interactive partners in parallel, even though CR is likely to be more prominent caregivers while SR may be observed more often in young children.

When investigating age-related differences in SR and CR behaviors, it is also important to distinguish between non-verbal behaviors and verbal expressions. As demonstrated by Aureli & Presaghi (2010), non-verbal forms of CR may dominate the behavior when interacting with infants and young toddlers, whereas verbal CR plays the dominant role when interacting with older children. The same is true of SR, as language undergoes substantial development throughout the early years (Petersen et al., 2015; Vallotton & Ayoub, 2011). In addition, different tasks require different types of regulation: when the caregiver and the child are asked to jointly work on a problem, the task affordances mainly call for cognitive and motivational SR and CR, but when they need to deal with a situation creating substantial arousal, this requires emotional regulation (e.g. in the still-face paradigm: Adamson & Frick, 2003; or in the strange situation test introduced by Mary Ainsworth: see Bretherton, 2013 for a recent summary of work with this paradigm).

By distinguishing between codes for verbal and non-verbal expressions, and – within each level – between the regulation of cognitive, motivational, and emotional states, it will be possible to get a rather detailed impression of the interactional dynamic. Only by looking at the specific patterns of interaction that combines both behaviors at different levels will it be possible to get a full picture of the interactive quality of the dyad.

Present study

Despite the differences found in parental characteristics and practices between different countries, any polarized view has been questioned, especially one from a Westernized perspective which has dominated parenting research (Selin, 2014). In recent decades, a more bidirectional and contextualized view of the parent-child relationship has become prominent, where child characteristics are assumed to impact parental behaviors (De Mol & Buysse, 2008; Li et al., 2019) and contextual factors should be considered (Bornstein & Cheah, 2006; Selin, 2014). For instance, the same practice may be adequate in one country and inadequate in another, just as the same parental characteristics may suit some of their children better than others, depending on the characteristics of the latter. Cross-cultural studies have been identified as a promising way to expand and advance the understanding of the relation between parental CR and children's SR development.

In this thesis, a quantitative, non-experimental, multi-method approach is taken. Cross-sectional and longitudinal designs are combined in two related studies. **Study 1** assesses SR and CR variables via parental questionnaire. This includes (a) the translation and the validation of the IMMA instrument. (b) Furthermore, data reported from Chilean and German parent-child dyads is compared. **Study 2** evaluates SR and CR based on data obtained with the observational and microanalytic SECORE coding scheme, again including two work packages: (a) cross-sectional comparison of parent-child dyads with 2- and 4-year-old children in Chile and Germany; and (b) longitudinal analysis of changes in the German sample when children are 3.5 and 5.5 years old.

The objectives and hypotheses guiding this thesis are presented below. Following that, the methodology and results, divided by stage, will be presented to provide greater clarity to the reader.

RESEARCH OBJECTIVES AND HYPOTHESIS

General research objective

To evaluate the SR and CR strategies used by parent-child dyads in Germany and Chile, by applying a self-report and an observational instrument, and monitoring changes 18 months later in the German sample.

Specific research objectives

1. Transalte and validate the instrument "IMMA: IMpuls-MAnagement vom Kleinkind- bis zum Vorschulalter/Regulación de impulsos desde la infancia hasta la edad preescolar" in the Chilean population.
2. Describe and compare parental CR and child SR strategies reported by parents with children between 1 and 6 years of age in Chile and Germany.
3. Describe and compare the types of SR and CR behaviors that parent-child dyads of 2-years and 4-years old use during a shared activity.
4. Describe and compare the types of SR and CR behaviors that Chilean and German dyads use during a shared activity at 2-years and 4-years old.
5. Identify the direction of SR and CR behaviors within the dyads and analyze patterns of interaction.
6. Evaluate the changes in SR and CR behaviors between first assessment at 2 and 4 years of age, and second assessment at 3.5 and 5.5 years of age at the German sample.

Hypothesis

1. The factorial structure of the IMMA instrument in the Chilean sample will be largely comparable to that of the German version.
2. There will be similarities and differences in children SR and parental CR strategies reported in each country. German parents will report higher regulation expectations than Chilean parents.
3. Caregivers interacting with 2-year-olds will use more CR behaviors and their children will show less SR compared to 4-year-olds dyads.
4. German dyads will show more cognitive regulation while Chilean dyads will show more emotional regulation across-task.
5. Within a given dyad, the regulatory behaviors of one partner will be systematically related to the regulatory behaviors of the other partner.
6. Within the same dyad, parental CR will decrease and child SR will increase with the age of the child.

METHOD

METHOD STUDY 1

Study 1 aims to assess child SR, as well as parental expectations and CR strategies based on IMMA data. In a first step (Study 1a), the IMMA questionnaire will be translated to Spanish and then be validated. In a second step (Study 1b) the data reported by Chilean and German parents collected online will be compared.

The work has been approved by the Ethics Committee of the Faculty of Medicine of University of Chile (CEISH, N° 203-2019) and the main author of the original German version gave her consent to perform the translation and validation process in Chile.

Study 1a: Translation and validation of the IMMA-Questionnaire

This stage addresses the first specific objective of the study, which involves the translation into Spanish of the IMMA instrument and its validation in the Chilean population.

Procedure

The original instrument was translated from German into Spanish following Sperber's (2004) procedure for cross-cultural research. More specifically, the IMMA was first translated from German to Spanish, and then retranslated from Spanish to German by two different people who had knowledge of the topic, of both languages, and both cultures (i.e., German psychologist living in Chile and a Chilean mother living in Germany). In a second step, 10 native-speaking Germans compared the items between the original and the retranslated version on two dimensions: comparability of language, and similarity of interpretability. Items identified as problematic were revised and the process was repeated until an adequate version was obtained.

Once the final Spanish version was obtained, parents were invited to participate by sharing a publication through social networks (e.g., Instagram, Facebook, Whatsapp). All parents or caregivers participated on a voluntary basis and gave their consent prior to the start of the assessment. The virtual consent that the participants acknowledged, the sociodemographic data requested and the Spanish IMMA version employed for the validation process can be found in Appendix A.

Participants

The sample of the study consisted of parents/caregivers with children aged 1-6 years living in Chile, who completed the questionnaire online. From an initial sample of N = 542 cases, only those with all the items answered were selected. The final sample obtained included data from N = 527

caregivers with children between one and six years of age (M = 41.8 months, SD = 20.2, range = 12-83 months) from all regions of Chile. This sample size is considered appropriate for implementing factorial procedures in the data analysis (Tabachnick & Fidell, 2001; Winter et al., 2009).

The sociodemographic data of the participants is presented in Table 1.

Table 1

Sociodemographic data of the participants in Study 1a

	N	%
Child characteristics		
Gender (male)	268	50.9%
Siblings (no)	269	51%
Kindergarten/daycare (attendance)	278	52.8%
Nacionality (chilean)	511	97%
Parental characteristics*		
Responding adult (mother)	505	95.8%
Education		
(<) High school	81	15.4%
Technical	64	12.1%
Bachelor	268	50.9%
Graduate studies	114	21.6%
Nationality (chilean)	489	92.8%
General characteristics		
Region		
North (I, II, III, XV)	26	4.9%
Central (IV, V, VI, VII, VIII, XVI)	176	33.4%
Metropolitan (XIII)	257	48.8%
South (IX, X, XI, XII, XIV)	67	12.7%

* Responding adult

Most responses were obtained from mothers. Of the remaining responses, 1.7% (N = 9) were provided by fathers, 2.1% (N = 11) by another family caregiver, and 0.4%(N = 2) by a non-family caregiver. Regarding nationality, 1.3% of the children were reported to be of another nationality (3 Venezuelan, 2 Argentinean, 1 Mexican, 1 Colombian), while 1.7% reported a second nationality/ethnicity in addition to Chilean (2 Italian, 2 Mapuche, 1 Peruvian, 1 Mexican, 1 Spanish, 1 Brazilian, 1 French). In 3.6% of the cases one of the parents had a nationality other than Chilean (6 Peruvian, 2 Italian, 1 Salvadoran, 1 Brazilian, 1 German, 1 Colombian, 1 French, 1 Uruguayan, 1

Argentinean, 1 Mexican, 1 Mapuche, 1 Honduran and 1 Venezuelan), while in 3.4% both parents reported a different nationality (8 Venezuelan, 4 Argentinean, 2 Mexican, 1 Belgian, 2 Brazilian, 1 Colombian).

Instruments

Sociodemographic Questionnaire. Parents were asked for specific details about themselves, the child and the family group characteristics (see Appendix A).

IMpuls-Management vom Säuglings-bis zum Vorschulalter - IMMA1-6 (Pauen et al., 2014). The IMMA questionnaire contains 94 items and is suitable for parents of children between one and six years of age (see Appendix B for original German version). The IMMA consists of three parts:

Part 1 includes 16 items grouped into three subscales referring to Parental Ideas and Goals Regarding Child SR Skills. Here, parents are asked how well children of the same age as their own child are capable of dealing with internal challenges (i.e., coping with own needs, emotions, impulses) and with external requests (i.e., responding to demands or restrictions of others). Furthermore, parents are asked how important they consider SR skills for child development. The corresponding scales are labeled (1a) Parental Ideas and Goals Regarding Child SR in Dealing with Internal Challenges, (1b) Parental Ideas Regarding Child SR in Dealing with External Requests, and (1c) Parental Goals Regarding Child SR in Dealing with External Requests. Parents rate corresponding items on a 6-point Likert-type format (1 = “not true at all” to 6 = “completely right”).

Part 2 consists of 42 items grouped into eight subscales that focus on Child’s Responses to Goal-Frustration or Parental Requests. Responses are grouped into the following scales: (2a) Goal-Perseverance (i.e., the child does not give up); (2b) Immediate Compliance (i.e., voluntarily doing as being told without hesitation or protest); (2c) Compliance to Firm Demands (i.e., compliance only after the caregiver communicates a request repeatedly, with a firm voice, and/or a strict look); (2d) Compliance to Strict Prohibitions (i.e., compliance only after the caregiver communicates a restriction repeatedly, with a firm voice and/or a strict look); (2e) Compliance under Physical Pressure (i.e., only follows instructions if the caregiver physically intervenes by forcing him/her to do as being told); (2f) Negotiations with Caregiver (i.e., tries to convince the caregiver to get his/her way); (2g) Evasion (i.e., ignores parental instructions); and (2h) Emotional Dysregulation (i.e., starts to cry, shout, kick or becomes aggressive). Parents rate each item on a 6-point Likert-scale (ranging from 1 = “never” to 6 = “always”) or mark "not applicable".

Part 3 consists of 36 items grouped into seven subscales that focus on strategies referring to Parental CR in Situations Requiring Child SR. The following subscales belong to Part 3: (3a) Call for

SR (i.e., ask the child to deal with his/her emotional arousal); (3b) Distraction (i.e., try to distract the child); (3c) Withdrawal (i.e., no longer keep up the request); (3d) Strictness (e.g., strong insistence on request); (3e) Negotiations with Child (i.e., explain the request, discuss the issue with the child, try to find a compromise); (3f) Social Appreciation (i.e., provide positive feedback when the child meets parental expectations); and (3g) Use of Rewards (i.e., offer some material reward when the child meets parental expectations). The response mode is the same as for Part 2.

Data analysis

Initially, a Confirmatory Factor Analysis (CFA) was performed per IMMA Part, grouping the items according to the factors reported in the German version (Pauen et al., 2019), but the obtained goodness of fit was not satisfactory in any case (range SRMR=0.075-0.095; range RMSEA=0.104-0.156). Considering that the initial factors of the German version were obtained with a comparably small sample (i.e., N = 132), it was decided to perform Exploratory Factor Analysis (EFA) to check for the conceptual structure of each part separately. Moreover, it could also be that the models did not show a good fit because in the CFA each item has a factor weight determined in a single factor and a null weight in the rest (Ferrando & Anguiano-Carrasco, 2010), which would imply assuming that each item is a pure measure of the factor, a position that does not agree with the IMMA approach.

The corresponding analyses were performed by using R Statistical Software and the package Lavaan for structural equation modeling (Rosseel, 2012). The adequacy of the data was evaluated prior to factorization, using Bartlett's test of sphericity (<.05) and the Kaiser-Meyer-Olkin statistic (KMO; >.80). Since each Part was analyzed separately, a second-order model was applied.

Considering that the items are categorical when answered on a Likert scale, the weighted least square mean and variance adjusted (WLSMV) estimation procedure was used. The WLSMV is a robust estimator that does not assume normally distributed variables and provides the best option for modeling categorical or ordered data (Brown, 2006). When using WLSMV, Lavaan uses diagonally weighted least squares (DWLS) to estimate the model parameters, but the full weight matrix to compute robust standard errors, and a mean- and variance-adjusted test statistic.

Reliability for individual scales was estimated through Cronbach's α coefficient. To decide on specific items, the polyserial correlations, item-test and item-scale correlations, the impact on the alpha obtained and the factor loadings were considered. Additionally, the cumulative variance explained by factor and the covariance between different factors is reported.

Methodology justification

While there is no general agreement on the number of participants needed in order to carry out a factor analysis, the suggested minimums range from 3 to 20 times the number of variables (Mundfrom et al., 2009). As the instrument has a total of 18 factors, ideally 360 responses were required.

Concerning the modality, recent studies support the validity of data collected online (Faran & Zanbar, 2019; Liao & Hsieh, 2017; Singh, 2011), pointing out that psychometric properties similar to the use of paper-based questionnaires are obtained (Liao & Hsieh, 2017).

Study 1b: Cultural comparison of IMMA findings

This stage corresponds to the second specific objective and comprises the comparison of a German and Chilean subsample using the IMMA instrument.

Procedure

The German data collection took part in Cologne, a large town with a mixed Socioeconomic status (SES) population in the Midwest of Germany, and in Heidelberg, a smaller town in southern Germany. Recruitment was based on sending out invitation letters through daycare facilities. Participants from Chile were invited to participate online by sharing a post through social media (e.g., Instagram, Facebook, Whatsapp), coming from different regions of the country. All parents participated on a voluntary basis and completed an informed consent-form (either in physical or online format) before the start of the assessment (see Appendix C).

Participants

A total of N = 200 data sets, equally distributed between Germany and Chile were included in this analysis. Stratified random sampling was performed from a larger database in each country to ensure that children of both countries show a similar age-range (see Table 2).

Table 2

Sociodemographic data of participants in Study 1b

	Chile	Germany	T/W/X²
Child characteristics			
Age (M, SD)	29.38 (10.58)	29.31 (10.04)	5,015
Gender (male)	50%	47%	0.08
Siblings (yes)	45%	44%	0.00
Daycare/Kindergarten attendance	39%	91%	59.04**

Adult characteristics			
Responding adult (mother)	96%	87%	9.58**
Education			6.01
< High school	0%	2%	
High school	12%	6%	
Technical/Bachelor	66%	70%	
Graduate studies	22%	22%	

*p < .05/ **p < .01 / ***p < .001
Note. For continuous variables, T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met. For categorical variables, Pearson's chi-squared was performed.

Instruments

Sociodemographic Questionnaire. The questionnaire was developed jointly by the teams from Chile and Germany to obtain contextual information of the sample. Parents were asked for specific details about themselves, the child and the family group characteristics (see Appendix A for Spanish version and Appendix B for German version)

IMpuls-Management vom Säuglings-bis zum Vorschulalter - IMMA1-6 (Pauen et al., 2014). Previously described (see Appendix A for Spanish version and Appendix B for German version)

Statistical Analysis

As a first step, preliminary analyses to evaluate differences between sociodemographic aspects and the statistical equivalence of the instrument were carried out before cross-country comparisons.

Second, MANOVA (Pillai) analysis were performed for each part of the IMMA (Parts 1-3) to check for mean differences on individual subscales between countries. If a given MANOVA was significant, additional post-hoc tests checked for differences between countries in each subscale. Third, to test for age-related changes at a fine-grained level, we divided the sample into six age groups (12, 18, 24, 30, 36, 42 months), each covering a period of 6 months (e.g., the 12-month group includes children between 12-17 months).

Third, one-way ANOVAs with age as independent variable were performed separately for each country. If age differences proved to be significant, Tukey statistic was used for post-hoc analyses.

Lastly, bivariate correlations were calculated using the pooled sample to describe relations between parental ideas and goals, child SR strategies, and parental CR strategies.

Methodology justification

Although the factor analysis showed a different grouping of the items in Chile than in Germany, it was decided to use the factor structure of the initial German scale to allow for direct comparison between countries. To ensure that the instrument measures similar constructs, statistical equivalence analyses were performed before cross-country comparison. The measurement of invariance assesses the psychometric equivalence of a construct across groups or across time (Putnick & Bornstein, 2016).

As suggested by Milfont & Fischer (2010), a CFA was performed for each IMMA Part, grouping the items from the factors reported in the German version (Pauen et al., 2019). The fit was nearly adequate when performing the analysis on the total sample (RMSEA = .043-.069, SRMR = .076-.086), but not when splitting it by country (Germany: RMSEA = .033-.049, SRMR = .093-.113; Chile: RMSEA = .026-.053, SRMR = .101-.105). Since the fit was not adequate even in the German sample and a sample size of 100 is not considered appropriate for implementing factorial procedures (Tabachnick & Fidell, 2001; Winter et al., 2009), it was decided to carry out internal consistency analysis by country to assess the required statistical equivalence (Milfont & Fischer, 2010).

METHOD STUDY 2

The second study evaluates regulatory variables (i.e., SR, CR, Call for CR) in parent-child dyads using a microanalytic observational methodology. This study consists of two stages: a) cross-sectional comparison of parent-child dyads with 2- and 4-year-old children in Chile and Germany; and b) longitudinal analysis of changes in the German sample 18 months later (i.e., when children are 3.5 and 5.5 years old, respectively).

The study was approved by the Ethics Committee of the Faculty of Medicine of University of Chile (CEISH, N° 203-2019).

Study 2a: Comparison of SECORE findings across cultures

This stage corresponds to specific objectives three to five using cross-sectional data. Parent-child interactions are assessed with the SECORE microanalytic instrument in Germany and Chile comparing 2- and 4-year-old dyads.

Procedure

In both countries parents and children were invited to voluntary participate in the study. In Germany, recruitment was carried out in Heidelberg sending out invitation letters through daycare

facilities, and by telephone calls to parents registered in the institute's database who were invited to participate in previous studies. In Chile, the collection took place in Santiago and parents were invited via social media to participate. Parents who wished to participate were contact by phone or email providing more information of the study, the research objectives and measurement procedure. Subsequently, in both countries a meeting was arranged with parents who agreed to participate. The data collection was then carried out in a lab room with minimal and sober furnishings to reduce distractions. Once participants entered the lab, the same procedure was followed in both countries.

Before starting, parents were asked to read a welcoming letter explaining the procedure (See Appendix D for Spanish version and Appendix E for German version), and to sign a consent agreement (See Appendix F for Spanish version and Appendix G for German version). Once the adult agreed to participate, the child was asked for verbal assent.

The dyad was filmed in four phases: (A) *Puzzle phase*: A puzzle was given according to the age of the child, and the dyad was asked to play as they normally do; (B) *Clean up phase*: The child was presented with three toys (a spiral, a finger puppet and a Lego block). When the child selected his/her favorite toy, a closed gift was handed and the child was instructed to open it only after putting the pieces back into the box without help. (C) *Wrong gift phase*: The child opened the present after cleaning up the pieces, and discovered that the toy inside the gift-box was not the preferred one. (D) *Surprise phase*: The experimenter enters wearing a white mask and slowly approaches the child until within 1 meter of him/her. After waiting up to one minute (or until the child revealed discomfort) the experimenter removed the mask, apologized to the child for having previously handed out the wrong gift in first place, and then offered the correct one. Parents and children carry out all phases together and most of the time they were left alone in the room, while the experimenter entered the room only between phases following the protocol of the activity. The filming usually lasts between 10 and 15 minutes (see details of the procedure in Appendix H).

Data collection was also conducted during the COVID-19 pandemic. Although assessments were avoided at peek times of the pandemic, restrictions were usually maintained by the government of each country. To ensure the health of both participants and experimenters, a COVID-19 protocol was established (Appendix I).

After finishing all four phases of the procedure, parents were asked to complete the questionnaires while children were invited to play with the experimenter or were provided with toys to play on their own. In Chile, parents received a video with feedback highlighting the positive elements of the

interaction two weeks later. In Germany, the dyads received a participation certificate, as they would be invited to participate in the second measurement.

Participants

This stage includes a total of 12 Chilean and 13 German 2-year-old dyads, and 9 Chilean and 21 German 4-year-old dyads. Details of the sociodemographic characteristics are presented in Table 3.

Table 3

Sociodemographic data of participants in Study 2a

	Chile		Germany		T/W/X^2
	M(SD)	N(%)	M(SD)	N(%)	
Child characteristics					
2-years sample					
Age in months	28.00 (3.10)	12	23.92 (0.19)	13	132**
Gender (female)		6 (50.00)		7 (53.84)	0.00
Siblings (yes)		4 (33.33)		4 (44.44)	0.40
KG attendance (yes)		6 (50.00)		8 (88.89)	3.64
Weekly hours in KG	9.08 (12.24)		35.17 (7.88)		10.5**
4-years sample					
Age in months	51.44 (3.21)	9	51.43(3.08)	21	0.00
Gender (female)		6 (66.66%)		11 (52.38)	0.10
Siblings (yes)		7 (53.84)		17 (89.95)	2.45
KG attendance (yes)		12 (92.31)		20 (95.23)	5.11
Weekly hours in KG	21.56 (15.76)		27.42 (13.25)		65
Adult characteristics					
2-years sample					
Responding adult (mother)		12 (100.0)		8(88.89)	0.04
Age in years	36.33 (4.23)		33.85 (4.32)		2.11
Daily care hours	11.75 (2.05)		8.77 (4.36)		4.64*
Status					12.49**
Married/cohabiting		7 (58.33)		13 (100.0)	
Single		3 (25.00)		0	
Divorce		2 (16.67)		0	
Education					4.01
< High school		0		0	
High school		2 (16.67)		0	
Technical/Bachelor		0		2 (15.38)	
Graduate studies		10 (83.33)		11 (84.62)	

4-years sample					
Responding adult (mother)		12 (100.0)		18 (85.71)	0.00
Age in years	35.00 (5.52)		38.10 (4.61)		2.52
Daily care hours	8.78 (3.15)		6.28 (1.63)		8.06**
Status					3.51
Married/cohabiting		8 (88.89)		19 (90.47)	
Single		1 (11.11)		1 (4.76)	
Divorce		0		1 (4.76)	
Education					2.82
< High school				1 (4.76)	
High school		1 (11.11)		0	
Technical/Bachelor		1 (11.11)		2 (9.52)	
Graduate studies		7 (77.78)		18 (85.71)	

*p < .05/ **p < .01 / ***p < .001

Note. For continuous variables, T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met. For categorical variables, Pearson's chi-squared was performed.

The 2-year-old group includes equals proportions of girls and boys in both countries. Children have a low percentage of siblings and at least half attend daycare or kindergarten. Two variables show significant differences between countries: the average child age in the Chilean group is higher, and German children spend more hours per week in kindergarten. Caregivers accompanying the child in this age group were mainly mothers of approximately the same age, with high levels of education across countries. Significant differences are observed in two aspects: the percentage of hours of daily care is higher in the Chilean sample and a greater percentage of German parents have a partner.

The sample of 4-year-olds is largely comparable between countries. The children are of a similar mean age, equally split between girls and boys, with more than half of them having siblings and the vast majority attending kindergarten. The participating adults are once again mostly mothers of comparable mean age, typically married and with high levels of education. The only significant difference between samples refers to the fact that Chilean parents reported more hours of care than German parents.

Instruments

Sociodemographic Questionnaire. The questionnaire was developed jointly by the teams from Chile and Germany to obtain contextual information of the sample. Parents were asked for specific details about themselves, the child and the family group characteristics (see Appendix J for Spanish version and Appendix K for German version).

IMpuls-Management vom Säuglings-bis zum Vorschulalter - IMMA1-6 (Pauen et al., 2014). Previously described (see Appendix A for Spanish version and Appendix B for German version).

Self-Construal Scale (SCS; Singelis, 1994). This scale consists of 30 items divided into two subscales: 15 items assessing independence and 15 items assessing interdependence. For each item, subjects indicate their degree of agreement or disagreement with the proposed statements using a Likert type format of 7 points (1 = totally disagree to 7 = totally agree). High levels of independence are related to a *self* conceived as separate from its social context, while for high levels of interdependence the *self* is conceived in interrelation with others. Both dimensions are independent and are measured with different scales, so it is possible to have high or low scores on both in parallel. Scores can vary between 15 and 105 for each subscale.

The instrument has previously been validated in Germany (α= .68 for the independence scale and .71 for the interdependence scale; Freund et al., 2012) and Chile (α = .66 for the independence scale and .69 at interdependence scale; Olhaberry et al., 2011) obtaining adequate psychometric properties (See Appendix L for Spanish version and Appendix M for German version).

Tightness-Looseness Scale (TLS; Gelfand et al., 2007). This instrument has two versions, each consisting of six items to assess the rigidity/flexibility with which norms are perceived and the subjective relevance of social sanctions both at the country level (Tightness-Looseness Scale Social Version, TLS-S) and the family level (Tightness-Looseness Scale FamilyVersion, TLS-F). Participants indicate how much they agree or disagree with the statements on a 6-point Likert type scale (1 = totally disagree to 6 = totally agree). The scores on each scale vary between 6 and 36 for each scale. The instrument have been validated in Germany (α = .63 for TLS-S and .73 for TLS-F; Freund et al., 2012) and Chile (α = .68 for TLS-S and .72 for TLS-F; Olhaberry et al., 2011), and showed adequate psychometric properties (See Appendix L for Spanish version and Appendix M for German version).

SECORE (SElf- and CO-REgulation scale) (Pauen et al., under review). The filmed parent-child interactions were subsequently coded offline. Eight minutes of each dyad's interaction were coded, including all four Phases (i.e., Puzzle, Clean up, Wrong gift, and Surprise). Videos were coded frame-by-frame in the format 25 frames per second using the program Interact (v18.2.0.0; Mangold, 2019).

According to SECORE coding scheme, parent and child behaviors (occurrence and duration) are encoded independently by *Functional Steps* at the verbal and non-verbal level. Functional Steps refer to the intentional means by which individuals move toward their goals during an observation segment (e.g., asking a question to help the child make a choice, or offering a toy to the child) (Zaidman-Zait et al., 2014).

SECORE focuses on an observational level, describing the dynamics between a caregiver and a child by using neutral terms that specify the target of the action (i.e., task, self, interactive partner), and the mental state to be regulated (i.e., cognitive, motivational, emotional). It distinguishes between two behavioral dimensions (i.e., Regulation and Interaction) and five behavioral categories: two behavioral categories at the Interaction dimension (i.e., Focus (FOC) and Communication (COM)), and three behavioral categories at the Regulation dimension (i.e., Self- Regulation (SR), Co-Regulation (CR) and Call for co-regulation (Call for CR)) (for details see Appendix N).

Four German and two Chilean students were trained to code the videos. The training consisted of about 50 hours involving the theoretical introduction to the instrument, joint coding (i.e., coding of the same video as a joint group) and parallel coding (i.e., individual coding of the videos and subsequent comparison). In order to increase reliability, videos from both countries were coded during the training using transcripts of the verbal input when necessary. Once inter-judge agreement was achieved, separate coding was performed. Additionally, 25% of the videos were randomly coded by more than one person and subsequently compared.

SECORE has shown good psychometric properties: split reliability r = 0.80 and inter-coder reliability k = 0.79 (Martensen, 2021). In the present sample, the mean inter-rater reliability is k = 0.82 (range 0.58 - 1.00).

Data analysis

Preliminary analyses were performed to evaluate differences between samples according to sociodemographic data.

For the descriptive-comparative analyses of the microanalytical results, the total duration in seconds per code was considered. Group comparisons (i.e., between age-groups and countries) were performed using means and standard deviations. If the statistical requirements were met, T-tests for independent samples were used. In the case of non-parametric data, Whitney-Mann tests were performed. These statistical analyses were also used to compare the results of the cultural scales (i.e., Self-Construal and Tightness-Looseness) and IMMA.

The evaluation of bidirectional relationships was performed through Sequential Analysis (GSEQ Bakeman & Quera, 2012) with the R package LagSequential (v0.1.1; Draper & O'Connor, 2019). For this analysis, only the regulatory variables (i.e., SR, CR, Call for CR) of the SECORE instrument were included. Verbal and non-verbal codes were merged to achieve a continuum of codes. To identify the patterns of behavior shown by children and adults in different cultural contexts, the sample was divided by country. Within each country, GSEQ were performed on the child behaviors

as *target* (i.e., dependent or subsequent) and adult behaviors as *given* (i.e., independent or previous), and vice versa. These analyses allow the identification of significant transition probabilities between adult-child behaviors and possible interaction patterns.

Finally, bivariate correlations were calculated to describe relations between all the variables in the study.

Methodology justification

The age of assessment was decided considering the critical period for the development of SR (Kopp, 1982). At two years of age children usually start to express themselves verbally, which has been related to self-regulation skills (Vallotton & Ayoub, 2011). They increasingly try to "do their will", being a stage where tantrums are a normal part of development (Daniels et al. 2012; McCurdy et al, 2006) thus changing communication routines with their caregiver and challenging their CR abilities. These developments are assumed to take place in both Chilean and German cultures, even though contextual and cultural differences may be present. Furthermore, it is known that children's SR abilities develop considerably between 2 and 4 years of age (Karreman et al., 2006; Kopp, 1982). Therefore, a decrease in the need for caregiver support is usually observed (Holodynski & Friedlmeier, 2006).

The initial sample size was determined considering previous studies of parent-child relationships which included German and Chilean samples, a meta-analysis of parenting related to children's SR and studies using microanalysis.

Concerning studies with parent-child dyad analysis in German and Chilean samples, Olhaberry (2011) compared 40 German and 41 Chilean mother-child dyads to evaluate the quality of interaction and the incidence of mothers' depression symptoms. The effect sizes reported in this study were moderated ($d = 0.547$ for difficult child and $d = 0.654$ for passive child). In a second study, Olhaberry et al. (2015) compared $N = 10$ German and $N = 10$ Chilean institutionalized mother-child dyads to evaluate quality of interaction, child development and mothers' depressive symptoms. This study didn't report effect sizes, but significant relationships were found.

Considering the lack of similar studies including German and Chilean samples, the studies reported in the meta-analysis presented by Karreman et al. (2006) of parenting and children's SR also serve as a reference point. The average sample size of all $i = 41$ studies was $N = 98$ dyads, while studies with interactional approach used $N = 68$ dyads on average (Belsky et al., 2000; Feldman et al., 1999; Kalpidou et al., 1998; Kochanska & Askan, 1995; LeCuyer-Maus & Houck, 2002; Lindsey et al., 1997; Strand, 2002).

Lastly, studies with a bidirectional approach to assess parent-child interactions in early childhood reported moderate to high effect sizes with samples of around N = 100 dyads (Chow & Tan, 2018; Curran & Yoshimura, 2016; Feng et al., 2007; Guntzviller, 2015; Hamilton et al., 2016; Mata & Pauen, under review).

The final sample included in the Study 2 was lower than initially planned (i.e., 80 dyads) and is below the mean of similar studies. The main reason for this reduction is related to the Covid-19 pandemic, which led to the postponement of data collection in both countries. Consequently, some more complex statistical analyses (e.g., APIM, SEM) could not be performed.

The statistical analysis selected to evaluate interaction patterns is based on the review presented by Gates & Liu (2016) and Fitzpatricka and collegues (2016). These articles present a wide variety of analyses specifically designed or previously used as a tool to quantify patterns of dynamic interactions within dyads. GSEQ focuses on real-time interactive sequences of caregiver and child behaviors, allowing for the identification of patterns from the most common dyadic sends and responses. There is no widely accepted method for calculating power and sample size for GSEQ, but a minimum of 1,000 permutations per code is proposed (Bakeman & Gottman, 1997; Bakeman et al., 1996).

Study 2b: Longitudinal evaluation of the German sample

This last stage addresses the sixth specific objective, which evaluates longitudinal changes in the German sample 18 months after the first measurement. Therefore, the participants are dyads consisting of parents and their children aged 3.5 and 5.5 years.

Procedure

The procedure was the same as in the first stage of this study (i.e., Study 2a). Participants were contacted again and invited to participate in the second measurement. Those who agreed to participate were invited to the laboratory and the 4-phase SECORE procedure was completed one more time (see Appendix H).

A new informed consent form was signed (see Appendix G) and the welcome letter (see Appendix E) was available to the parents. Additionally, parents completed a reduced version of the sociodemographic survey (see Appendix O) and the IMMA questionnaire (see Appendix B).

Participants

This stage includes a total of 8 dyads that were initially 2-years-old (i.e., dyads that belonged to the 2-year-old dyads of Study 2a), and 8 dyads that were initially 4-year-old (i.e., dyads that belonged

to the 4-year-old dyads of Study 2a). The second measurement was carried out 18 months after the first measurement. Details of the sociodemographic characteristics at each measurement are presented in Table 4.

Table 4

Sociodemographic data of participants in Study 2b

	1st measurement		2nd measurement		X^2/T/W
	M(SD)	N(%)	M(SD)	N(%)	
Child characteristics					
Initially 2-year group					
Age in months	23.88 (0.35)	8	42.62(1.19)	8	1831**
Gender (female)		5 (62.50)		5 (62.50)	0
Siblings (yes)		3 (37.50)		5 (62.50)	0.25
KG attendance (yes)		8 (100.0)		8 (100.0)	0
Weekly hours in KG	36.75 (8.75)		34.50 (3.89)		0.44
Initially 4-year group					
Age in months	52.00 (2.56)	8	68.62(2.83)	8	151.9**
Gender (female)		4 (50.00)		4 (50.00)	0
Siblings (yes)		7 (87.50)		7 (87.50)	0
KG attendance (yes)		8 (100.0)		8 (100.0)	0
Weekly hours in KG	30.86 (10.87)		38.00 (4.69)		16
Adult characteristics					
Initially 2-year group					
Responding adult (mother)		8 (100.0)		8 (100.0)	0
Age in years	32.50 (2.56)		33.88 (2.90)		1.01
Daily care hours	7.50 (4.00)		5.88 (0.99)		37
Status					0
Married/cohabiting		8 (100.0)		8 (100.0)	
Single		0		0	
Divorce		0		0	
Education					0
< High school					
High school		0			
Technical/Bachelor		2 (25.00)		2 (25.00)	
Graduate studies		6 (75.00)		6 (75.00)	
Initially 4-year group					
Responding adult (mother)		6 (75.00)		6 (75.00)	0
Age in years	38.88 (4.55)		40.25 (4.43)		0.38
Daily care hours	6.43 (1.51)		6.14 (1.77)		0.11
Status					0

Married/cohabiting	7 (87.50)	7 (87.50)	
Single	0	0	
Divorce	1 (12.50)	1 (12.50)	
Education			0
< High school	0	0	
High school	0	0	
Technical/Bachelor	1 (12.50)	1 (12.50)	
Graduate studies	7 (87.50)	7 (87.50)	

*p < .05/ **p < .01 / ***p < .001

Note. For continuous variables, T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met. For categorical variables, Pearson's chi-squared was performed.

As expected when evaluating the same participants, the sociodemographic variables revealed no significant differences between the first and second measurements.

Instruments

Sociodemographic Questionnaire. A shorted version of the first stage sociodemographic questionnaire was used. Parents were again asked for specific details about themselves, the child and the family group characteristics (see Appendix O).

IMpuls-Management vom Säuglings-bis zum Vorschulalter - IMMA1-6 (Pauen et al., 2014). Previously described (see Appendix B)

SECORE (SElf- and CO-REgulation scale) (Pauen et al., 2020). Previously described (see Appendix N).

Data analysis

Preliminary analyses were performed to evaluate differences between samples according to sociodemographic data.

As in the previous stage, for the descriptive-comparative analyses of the regulatory variables, the total duration in seconds per code was considered. Comparison between measurement 1 and measurement 2 was performed using t-tests for paired samples. In the case of non-parametric data, Whitney-Mann tests for paired samples were performed.

Lastly, the predictive weight of sociodemographic, cultural and parent-reported variables on the variables observed during the interaction (i.e., child SR, child Call for CR, adult CR, adult SR) was evaluated by performing multiple regression analyses. A Forward-backward Stepwise strategy was used. The age of the child was always entered first, followed by other potential predictors. Only variables revealing a significant correlation with the outcome variable were included. Alternative models were compared using an ANOVA, and the best model was then chosen based on profile of level of significance, F-value, and R^2.

Methodology justification

The longitudinal assessment of the sample is based on two main aspects that have been highlighted by previous literature: Firstly, the importance of conducting longitudinal studies to assess how dyadic characteristics change throughout child development (Aureli & Presaghi, 2010; Beebe et al., 2016). Secondly, the relevance to include a bidirectional approach in which child characteristics can also influence parental behaviors (Dennis-Tiwary, 2019; Lobo & Lunkenheimer, 2020; Tiberio et al., 2016).

Initially, 80 dyads were projected for Study 2b, yet the sample size was greatly affected by the delay of data collection in both countries due to the Covid-19 pandemic. An a priori analysis using GPower 3.1.9.4 requiered a minimum of N=11 to perform a paired samples t-test, and a minimum of N=40 to perform multiple regression analysis. However, the estimated of 1,000 permutations per code to perform the GSEQ (Bakeman and Gottman, 1997; Bakeman et al., 1996) made it impractical to perform the test.

RESULTS

RESULTS STUDY 1

Study 1a: Translation and validation of the IMMA-Questionnaire

This first stage presents the results of the validation of the IMMA instrument in the Chilean population. The responses were provided by parents of children between one and six years of age living in Chile. Responses were collected online, and participation was voluntary.

Factor analysis

CFA was performed for each IMMA Part, grouping the items according to the factors reported in the German version (Pauen et al., 2019). Since the obtained goodness of fit was not satisfactory (SRMR = 0.075 - 0.095; RMSEA = 0.104 - 0.156), AFE is performed to identify the clustering of items within each Part of the IMMA in the Chilean population.

Scree plots analyses were performed to assess the number of factors, evaluating N+1/-1 to choose the best fit. For all three Parts the best fit matched the number of factors in the original instrument. However, the items did not always load on the same factor as the German version. Items that showed a factor loading of less than .40 were revised by considering the item-scale and item-item polychoric correlations, and how much the alpha of the factor increased by removing the respective item.

Only item 29 corresponding to Part 2 of the instrument was removed. The item provides a potential answer to the question: *When you ask your child to do something specific, how does he/she respond?/ ¿Qué hace el/la niño/a cuando le pides que haga algo específico? R: "It readily complies with my request/Sigue fácilmente mi petición".* This item did not obtain a satisfactory factor loading on any of the factors and obtained a loading of l = -.02 with the original factor (i.e., Immediate compliance). It is likely that the word "readily/fácilmente" has different meanings for each country.

The results of the analysis of the final Spanish version, which consists of i = 93 items divided into 3 parts and 18 factors, are presented below. Further, differences between the Chilean and the original German scale are discussed.

Part 1: Parental ideas and goals regarding child SR. This Part consists of three factors that explain 76% of the variance with an appropriate fit (Tucker-Lewis= 0.85). Preliminary analyses showed that the sample adequacy index (KMO=.93) and the sphericity of the data evaluated with Barlett's test ($\chi 2$ = 0290.33, p<.01) were adequate to perform an EFA.

As shown in Table 5a, factor loadings range between l = 0.57 and 0.86, which are appropriate loadings (Awang, 2014). Excellent reliabilities were found for the individual factors (all α =.94) and an overall alpha of .96 for Part 1 of the IMMA (Hair et al., 2003).

Table 5a

Factor analysis of Part 1 of the IMMA

	L	M	SD	α	σ^{2*}
Goals for child SR when dealing with external requests (Factor 1)				**.94**	**19%**
It is very important for me that the child learns at this age to....					
comply with requests and demands	0.81	3.87	1.44		
accept boundaries set by other people	0.84	3.99	1.47		
follow given rules	0.79	4.06	1.47		
treat others respectfully	0.64	4.43	1.51		
behave politely toward others	0.67	4.3	1.56		
Goals for child SR when dealing with internal challenges (Factor 2)				**.94**	**25%**
It is very important for me that the child learns at this age to....					
control their emotions	0.74	3.73	1.61		
control their needs	0.86	3.62	1.61		
control their will	0.78	3.67	1.54		
Ideas regarding child SR (Factor 3)				**.94**	**32%**
Children of the same age as my child are typically able to….					
control their emotions	0.58	2.36	1.26		
control their needs	0.57	2.59	1.42		
control their will	0.68	2.65	1.29		
comply with requests and demands	0.78	3.84	1.38		
accept boundaries set by other people	0.84	3.36	1.38		
follow given rules	0.86	3.41	1.42		
treat others respectfully	0.86	3.65	1.54		
behave politely toward others	0.85	3.63	1.57		

**Added variance*

As presented in Table 5b, the correlations between the factors are of medium effect, which leads to the conclusion that they correspond to different factors.

Table 5b

Correlations between the IMMA Part 1 factors

	(F1)	(F2)	(F3)
(F1) Goals for child SR when dealing with external requests	1		
(F2) Goals for child SR when dealing with internal challenges	.63	1	
(F3) Ideas regarding child SR	.63	.64	1

Part 2: Child's SR responses to goal-frustration or parental requests. This Part involves eight factors explaining 59% of the variance with an appropriate fit (Tucker-Lewis= 0.81). Preliminary

analyses showed that the sample adequacy index (KMO=.88) and the sphericity of the data evaluated with Barlett's test ($\chi 2 = 12011.08$, $p<.01$) were adequate to perform EFA.

As shown in Table 6a, factor loadings range between $l = 0.34$ and 1.04. Very good and excellent reliabilities were found for the individual factors (α =.82 to .90) and an overall alpha of $\alpha = .87$ for Part 2 of the instrument (Hair et al., 2003).

Table 6a

Factor analysis of Part 2 of the IMMA

	L	M	SD	α	σ^{2*}
Immediate compliance (Factor 1)				**.83**	**6.9%**
When you ask your child to do something specific…					
Is anxious to fulfill my request right away	0.38	3.3	1.25		
Obeys immediately without argument	0.40	2.97	1.25		
When you forbid your child to do something specific…					
Accepts my ban without argument.	0.91	2.89	1.15		
Readily accepts my ban.	0.90	3.26	1.12		
Obeys my ban without protest	0.91	2.85	1.18		
Low perseverance (Factor 2)				**.82**	**4.8%**
When your child fails to achieve his/her goal right away…					
Gives up quickly	0.77	3	1.27		
Quickly abandons his/her goal	0.88	2.72	1.26		
It quickly turns to something else	0.72	2.93	1.24		
Negotiation with caregiver (Factor 3)				**.90**	**10.5%**
When you ask your child to do something specific…					
Starts to argue in order to get me to drop the demand	0.76	2.31	1.41		
Tries to reason with me, to convince me of something else	0.94	2.73	1.41		
Argues against it	1.03	2.61	1.49		
When you forbid your child to do something specific…					
Starts arguing with me why I should lift the ban	0.66	2.5	1.48		
It begs and whines that I take back the ban	0.36	2.55	1.42		
Argues against my ban	0.88	2.69	1.5		
Resistance to instructions (Factor 4)				**.82**	**6.9%**
When you ask your child to do something specific…					
Only obeys when I scold loudly	0.34	2.58	1.13		
Only obeys when I give him/her a strict look	0.35	2.53	1.09		
Only obeys when I threaten unpleasant consequences	0.37	2.03	1.14		
Only obeys when I grab him/her	0.74	1.82	1.12		
Only obeys when I engage with him/her physically	0.77	1.27	0.7		
Eludes me, hides, runs away	0.40	2.37	1.37		

Refuses to comply with my request	0.46	2.41	1.15		
When you forbid your child to do something specific…					
Only follows my instructions when I hold him/her tight	0.54	1.44	0.92		
Emotional dysregulation (Factor 5)				**.86**	**8.1%**
When your child fails to achieve his/her goal right away…					
Starts to cry	0.61	3.43	1.26		
Whines loudly	0.75	3.41	1.33		
Complains and grumbles	0.81	3.36	1.35		
Expresses anger out loud	0.81	3.53	1.39		
Becomes aggressive with objects	0.70	2.58	1.36		
Becomes aggressive with people	0.69	2.31	1.27		
Evasion (Factor 6)				**.87**	**7.6%**
When you ask your child to do something specific…					
Ignores my demand	0.44	2.51	1.22		
When you forbid your child to do something specific…					
Pretends not to have heard the ban	0.98	2.55	1.46		
Ignores my prohibition	1.04	2.43	1.41		
Just does what he/she wants anyway	0.61	2.25	1.35		
Resistance to prohibitions (Factor 7)				**.87**	**8.7%**
When you ask your child to do something specific…					
Follows only when I take action	0.36	2.96	1.31		
When you forbid your child to do something specific…					
Only follows my command after I've admonished him/her several times	0.78	2.52	1.1		
Only accepts my ban when I clearly show displeasure	0.83	2.76	1.23		
Doesn't listen to me until I speak in a commanding tone	0.92	2.72	1.24		
Won't obey me until I actively prevent him/her from performing the forbidden action	0.73	2.65	1.36		
Only does as told when I take a firm hold of him/her	0.50	2.02	1.31		
High perseverance (Factor 8)				**.90**	**8.7%**
When your child fails to achieve his/her goal right away…					
Stays motivated to do it	0.87	3.83	1.24		
Tries even harder	0.96	3.88	1.29		
Doesn't let go	0.77	3.53	1.41		

**Added variance*

The correlations between factors are of small to medium effect, which seems appropriate as they are meant to assess different SR strategies (see Table 6b). The lowest correlations were observed between Low Perseverance and Immediate Compliance (r = -.05), and between High Perseverance with the factors of Negotiation with Caregiver (r = .04) and Resistance to Instructions (r = -.04).

Table 6b

Correlations between the IMMA Part 2 factors

	(F1)	(F2)	(F3)	(F4)	(F5)	(F6)	(F7)	(F8)
(F1) Immediate compliance	1							
(F2) Low perseverance	-.05	1						
(F3) Negotiation with caregiver	-.15	.14	1					
(F4) Resistance to instructions	-.38	.14	.52	1				
(F5) Emotional dysregulation	-.47	.25	.36	.46	1			
(F6) Evasion	-.55	.08	.21	.50	.46	1		
(F7) Resistance to prohibitions	-.16	.16	.53	.54	.31	.30	1	
(F8) High perseverance	.16	-.28	.04	-.04	.09	.11	.08	1

Part 3: Parental CR strategies in situations requiring child SR. This Part consist of seven factors explaining 60% of the variance with an appropriate fit (Tucker-Lewis= 0.81). Preliminary analyses showed that the sample adequacy index (KMO=.83) and the sphericity of the data evaluated with Barlett's test ($\chi 2 = 12155.31$, $p<.01$) were adequate to perform EFA.

As shown in Table 7a, factor loadings range between $l = 0.33$ and 1.00. Very good and excellent reliabilities were found for the individual factors (α =.85 to .97) and an overall alpha of $\alpha = .87$ for Part 3 of the IMMA (Hair et al., 2003).

Table 7a

Factor analysis of Part 3 of the IMMA

	L	M	SD	α	σ^{2*}
Use of rewards (Factor 1)				**.85**	**7.7%**
If the child does what I ask him/her to do….					
I give him/her a little reward	0.94	2.53	1.34		
He/she gets to choose a small reward	0.94	2.29	|.27		
If the child does not do what I ask him/her to do…					
I hold out the prospect of a reward for obedient behavior	0.57	2.36	1.31		
I entice the child with a small reward to comply with my request	0.54	2.25	1.21		
Withdrawal (Factor 2)				**.85**	**7.7%**
If the child does not do what I ask him/her to do…					
I give up	0.87	2.09	1.06		
I drop my demand	0.88	1.98	1.05		
If the child gets upset about my request…					
l give in	0.70	2.2	1.03		
I stop insisting on my demand	0.74	2.19	1.05		
Social appreciation (Factor 3)				**.90**	**8.5%**
If the child does what I ask him/her to do….					
I expressly praise him/her	0.79	4.87	1.3		

I acknowledge him/her for it	0.70	4.77	1.43		
I show how satisfied I am with his/her behavior	0.94	5.21	1.06		
I emphasize how much I approve	0.93	5.27	1.05		
Negotiation with child (Factor 4)				**.85**	**9.1%**
If the child does not do what I ask him/her to do…					
I offer a compromise	0.57	3.13	1.43		
I negotiate a solution together with the child	0.76	3.71	1.45		
I explain my demand in more detail	0.81	4.13	1.38		
I ask the child about his/her reasons	0.91	3.82	1.51		
I explain my claim in detail	0.83	3.83	1.5		
When your child is frustrated because he/she can't accomplish what he set out to do, how do you respond?					
I encourage him/her to vent his/her frustration	0.35	4.27	1.32		
Strictness (Factor 5)				**.89**	**16.5%**
If the child does not do what I ask him/her to do…					
I repeat my request firmly	0.61	4.06	1.29		
I look at it sternly	0.79	3.36	1.33		
I become loud	0.79	2.94	1.26		
I threaten with consequences	0.73	2.23	1.23		
I force the child to comply with my demand	0.75	2.13	1.22		
I deny the child something that he particularly likes	0.56	2.13	1.22		
If the child gets upset about my request…					
I ask him/her to leave the show	0.58	2.31	1.23		
I show my displeasure at his/her reaction	0.59	3.18	1.29		
I still insist on immediate implementation of my demand	0.71	3.02	1.27		
I show toughness and remain consistent	0.74	3.1	1.33		
I will not tolerate any games	0.66	2.01	1.15		
When your child is frustrated because he/she can't accomplish what he set out to do, how do you respond?					
I tell him/her not to get upset	0.33	3.25	1.52		
I ask it to calm itself down	0.41	2.3	1.43		
I admonish him/her to control his/her frustration	0.52	1.59	1.01		
Distraction after frustration (Factor 6)				**.94**	**5.3%**
When your child is frustrated because he/she can't accomplish what he set out to do, how do you respond?					
I make an effort to distract him/her	0.86	3.63	1.43		
I try to get him/her interested in something else	1.00	3.86	1.38		
Distraction when resistance (Factor 7)				**.97**	**5.1%**
If the child gets upset about my request…					
I try to distract him/her	0.93	3.28	1.41		
I get him/her to think about something else	0.92	3.31	1.44		

**Added variance*

As can be seen in Table 7b, again the correlations between factors are small to medium in size. The lowest correlations are observed between Distraction and Strictness (r = .00), Withdrawal (r = .03) and Distraction after Frustration (r = .06).

Table 7b

Correlations between the IMMA Part 3 factors

	(F1)	**(F2)**	**(F3)**	**(F4)**	**(F5)**	**(F6)**	**(F7)**
(F1) Use of rewards	1						
(F2) Withdrawal	.20	1					
(F3) Social appreciation	.15	-.09	1				
(F4) Negotiation with child	.23	-.16	.36	1			
(F5) Strictness	.40	.11	.14	.14	1		
(F6) Distraction after frustration	.19	.08	.30	.13	.09	1	
(F7) Distraction when resistance	.06	.03	.21	.18	.00	.51	1

Main differences between Chilean and German versions

In each IMMA Part the same number of factors remained (i.e., 18 factors in total). In general, items either loaded highest on the same factor, or moved to a different factor as a block. Very few items moved independently. A detailed comparison between the German and Chilean versions by item is presented in the Appendix P.

Items in Part 1 of the IMMA concerning SR-goals loaded on separate factors when referring to the management of external requests (F1) or internal challenges (F2), while items dealing with SR-ideas loaded on the same factor (F3), independent of whether these referred to external or internal requirements. In the German version, ideas and goals related to the regulation of internal challenges formed one factor, while these were separated when referring to external demands. Thus, F1 remained the same, while 3 items from F2 moved to F3.

In Part 2 of the IMMA (i.e., child SR strategies), some factors remained the same as in the German version: Immediate Compliance (F1), Negotiation with Caregiver (F3) and Emotional Dysregulation (F5). As for differences, in the Chilean version the factor Perseverance was divided depending on whether children tend to give up easily (i.e., Low Perseverance, F2) or hardly give up (i.e., High Perseverance, F8), aspects that were initially nested in the German version. While German parents clearly differentiated between children's compliance in the light of verbal or physical pressure, Chilean parents differentiated their children's Resistance to Instructions (F4) or to Prohibitions (F7)

independent of the type of action they perform in order to ensure compliance. Finally, the factor Evasion (F6) remained essentially unchanged except for two items that moved to F4.

In Part 3 of the IMMA (i.e., parental CR strategies), the factors Use of Rewards (F1), Withdrawal (F2) and Social Appreciation (F3) remained the same. Conversely, one of the factors of the original version (i.e., Request of Child SR) disappeared, as one item shifted to the factor Negotiation with Child (F4) and the others to the Strictness factor (F5). Finally, the factor Distraction identified in the German version was divided in the Chilean version by differentiating the use of this strategy when the child is frustrated (i.e., Distraction after Frustration, F6) or show resistance to obey (i.e., Distraction when Resistance, F7).

In sum, even though when some items shifted to a different factor, 77.6% of the items (N = 73 items) loaded highest on the same factor in Germany and Chile. Likewise, the internal consistencies found for the Chilean version were comparable to the indices reported for the German version (Pauen et al., 2016, 2019). The final version of the Spanish IMMA version is presented in Appendix Q.

Study 1b: Cultural comparison of IMMA findings

As specified in the second Hypothesis of the study, similarities and differences in child SR and parental CR strategies are expected to be found between countries, with German parents reporting higher regulation expectations than Chilean parents.

Although the factor analysis showed a different grouping of the items in Chile, at this stage the factor structure of the initial German scale is used to allow direct comparisons. However, to ensure the feasibility of the comparison between groups, statistical equivalence analyses were performed.

Equivalence analysis

As suggested by Milfont & Fischer (2010), the equivalence of measurements between groups was assessed prior to cross-country comparisons. Due to the comparably small size of individual subsamples, separate CFA for each country could not be applied (Tabachnick & Fidell, 2001; Winter et al., 2009). Instead, an AFE was performed with data from each country after verifying that statistical requirements were met for this type of analysis (Bartlett's test of sphericity <.05; Kaiser-Meyer-Olkin statistic, KMO; >.80).

The internal consistency of nearly all subscales reached a Cronbach alpha score of $\alpha = .70$ or higher with only exception: Call for Child SR in Chile. Table 8 summarizes the internal consistency by factor in each country.

Table 8

Internal consistency of each factor by country

	Chile	Germany	Total sample
Parental ideas and goals regarding child SR	**.94**	**.90**	**.93**
(1a) Ideas & Goals of Child SR when Dealing with Internal Challenges	.90	.86	.88
(1b) Ideas of Child SR when Dealing with External Requests	.90	.85	.88
(1c) Goals for Child SR when Dealing with External Requests	.91	.81	.88
Child's SR responses to goal-frustration or parental requests	**.80**	**.80**	**.80**
(2a) Goal-Perseverance	.70	.89	.81
(2b) Immediate Compliance	.71	.82	.79
(2c) Compliance to Firm Demands	.80	.72	.76
(2d) Compliance to Strict Prohibitions	.73	.76	..75
(2e) Compliance under Physical Pressure	.74	.88	.82
(2f) Negotiation with Caregiver	.81	.95	.91
(2g) Evasion	.78	.79	.78
(2h) Emotional Dysregulation	.82	.70	.76
Parental CR strategies in situations requiring child SR	**.84**	**.85**	**.85**
(3a) Call for child SR	.45	.74	.59
(3b) Distraction	.87	.79	.85
(3c) Withdrawal	.84	.77	.81
(3d) Strictness	.88	.83	.87
(3e) Negotiation with Child	.81	.88	.84
(3f) Social Appreciation	.85	.81	.84
(3g) Use of Rewards	.80	.84	.82

Overall, these findings suggest statistical equivalence of the IMMA between countries. Nevertheless, due to the lack of power for conducting CFA in each subsample, the results presented in the following sections should be interpreted with some caution (van de Vijver, 2009).

Cultural comparisons of IMMA results

First, the means per factor were analyzed with three MANOVA models (i.e., one for each IMMA Part) to control for associations between factors. Table 9 shows the means and standard deviations for each factor differentiated by country, as well as results of the analysis of variance to test for significant differences.

Table 9

Cultural comparison of IMMA-subscales between countries

	Chile	Germany	F	p	η^2_p
	M(SD)	M(SD)			
Parental ideas and goals regarding child SR[1]			**8.59**	**<.001**	
(1a) Ideas & Goals related to Child SR when Dealing with Internal Challenges	2.73 (1.15)	2.84 (0.90)	0.61	.44	.08
(1b) Ideas related Child SR when Dealing with External Requests	3.18 (1.13)	3.79 (1.00)	15.92	**<.001**	.44
(1c) Goals related to Child SR when Dealing with External Requests	3.83 (1.26)	4.40 (0.94)	13.49	**<.001**	.06
Child's SR responses to goal-frustration or parental requests[2]			**5.95**	**<.001**	
(2a) Goal-Perseverance	3.78 (0.79)	3.95 (0.90)	4.44	**.04**	.02
(2b) Immediate Compliance	2.93 (0.73)	3.44 (0.91)	18.79	**<.001**	.09
(2c) Compliance to Firm Demands	2.00 (0.89)	2.42 (1.02)	9.49	**.002**	.05
(2d) Compliance to Strict Prohibitions	2.50 (0.99)	2.99 (1.00)	11.86	**<.001**	.06
(2e) Compliance under Physical Pressure	1.85 (0.81)	1.92 (1.02)	0.33	.57	.001
(2f) Negotiations with the Caregiver	1.81 (1.03)	1.65 (1.60)	0.72	.40	.003
(2g) Evasion	2.38 (0.92)	2.51 (0.94)	0.15	.70	.00
(2h) Emotional Dysregulation	2.93 (0.98)	2.89 (0.81)	0.99	.32	.005
Parental CR strategies in situations requiring child SR[2]			**9.97**	**<.001**	
(3a) Call for child SR	2.71 (0.86)	2.32 (1.16)	7.22	**.008**	.04
(3b) Distraction	3.74 (1.23)	3.13 (1.08)	13.75	**<.001**	.07
(3c) Withdrawal	2.23 (0.92)	2.10 (0.73)	1.18	.28	.005
(3d) Strictness	2.58 (0.82)	3.22 (0.85)	29.97	**<.001**	.13
(3e) Negotiations with the Child	3.13 (1.31)	2.90 (1.55)	1.26	.26	.006
(3f) Social Appreciation	4.88 (1.18)	5.22 (0.87)	5.26	**.02**	.03
(3g) Use of Rewards	2.20 (1.02)	2.02 (0.94)	1.68	.20	.008

[1] Scores ranging from 1 to 6; [2] Scores ranging from 0 to 6

Parental ideas and goals regarding child SR. As reported in Table 9, parents from both countries had higher expectations with respect to how well young toddlers are able to deal with external requests (i.e., parental demands or prohibitions) than internal challenges (i.e., needs, emotions, impulses). With respect to cross-country differences, German parents scored significantly higher than Chilean parents on both factors referring to Child SR when dealing with External Requests, whereas no group differences were found concerning Parental Ideas and Goals related to Child SR when Dealing with Internal Challenges.

Children's SR responses to goal-frustration or parental requests. In both countries the SR strategy that parents reported to be most frequently used by their child was Goal-Perseverance, followed by Immediate Compliance. In contrasts, Negotiations with the Caregiver, and Compliance under Physical Pressure were reported to be used only rarely. Significant main effects for country were found regarding Goal-perseverance, Immediate Compliance, Compliance to Firm Demands, and Compliance to Strict Prohibitions. On all these scales, German children scored higher than children from Chile as reported by their parents.

Parental CR strategies in situations requiring child SR. The CR strategies most widely used by parents when trying to support their child in dealing with internal challenges or external requests were Social Appreciation and Distraction. At the same time, Withdrawal and Use of Rewards were used only rarely in both countries.

Analyses of variance with country as independent variable resulted in mean differences on four IMMA scales: Chilean parents reached higher scores on Call for SR and they also used Distraction more often, while German parents report higher use of Strictness and Social Appreciation.

Developmental changes by country

Next, developmental changes for each Part of the IMMA questionnaire were analyzed and compared between countries. A complete list of all results can be reviewed in Table 10 and, subsequent analyses are presented by Part of IMMA within each subsample.

Table 10

Results of ANOVA between age groups performed on separate samples by country

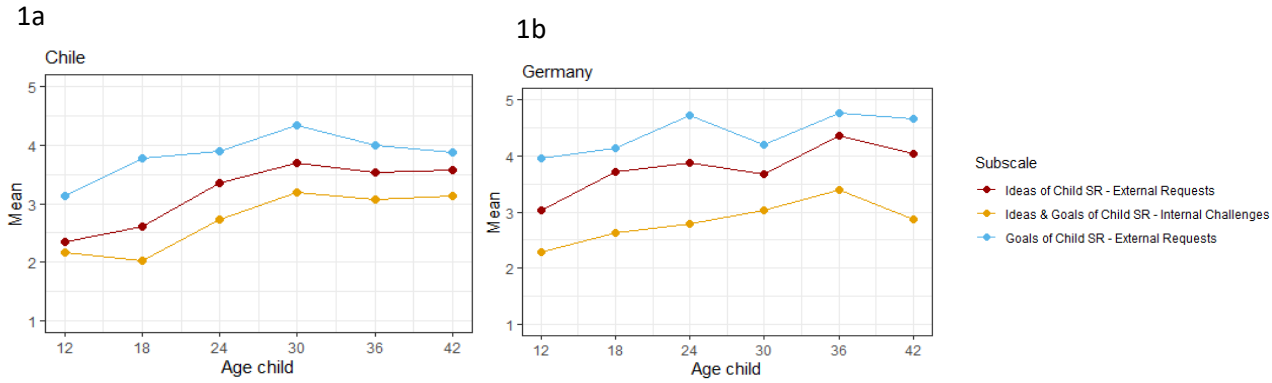
	Chile				Germany			
	df	F	*p*	η^2_p	*df*	F	*p*	η^2_p
Part 1: Parental beliefs and goals regarding child's SR								
(1a) Ideas & Goals of Child SR when Dealing with Internal Challenges	5	3.65	.004	.12	5	3.21	.01	.10
(1b) Ideas of Child SR when Dealing with Parental Requests	5	3.56	.005	.11	5	3.56	<. 01	.08
(1c) Goals of Child SR when Dealing with Parental Request	5	1.87	.11	.04	5	2.38	.04	.07
Part 2: Child's responses to IC and PR								
(2a) Goal-Perseverance	5	0.85	.51	-.00	5	0.12	.99	-.04
(2b) Immediate Compliance	5	2.57	.03	.07	5	3.59	.005	.12
(2c) Compliance to Firm Demands	5	9.53	<. 01	.30	5	7.53	<. 01	.25
(2d) Compliance to Strict Prohibitions	5	2.81	.02	.08	5	0.30	.91	-.03
(2e) Compliance under Physical Pressure	5	1.22	.31	.01	5	2.19	.06	.06
(2f) Negotiations with the Caregiver	5	7.66	<. 01	.25	5	19.3	<. 01	.48

(2g) Evasion	5	2.24	.06	.06	5	0.86	.51	-.00
(2h) Emotional Dysregulation	5	0.17	.97	-.04	5	1.74	.13	.04
Part 3: Parental CR in situations requiring child SR								
(3a) Call for child SR	5	0.63	.68	-.01	5	4.14	.002	.14
(3b) Distraction	5	0.33	.90	-.03	5	0.76	.58	-.01
(3c) Withdrawal	5	0.49	.78	-.02	5	0.79	.56	-.01
(3d) Strictness	5	7.63	<. 01	.25	5	2.04	.08	.05
(3e) Negotiations with the Child	5	5.91	<. 01	.20	5	18.7	<. 01	.48
(3f) Social Appreciation	5	0.33	.90	-.03	5	1.44	.22	.02
(3g) Use of Rewards	5	2.96	.02	.09	5	6.27	<. 01	.21

Age-related changes in Parental Ideas and Goals Regarding Child SR. In Chile (see Figure 1a), Parental Ideas and Goals Regarding Child SR in Dealing with Internal Challenges as well as Parental Ideas Regarding Child SR when Dealing External Requests increased with the age of the child (both $p < .01$). The same was true for Germany (Internal Challenges, $p = .01$; External Requests, $p < .01$; see Figure 1b). German parents also increased their educational Goals regarding Child SR when Dealing with External Requests with the age of the child ($p = .04$). Overall, post-hoc tests indicated no significant difference between any two successive age-groups (all Tukey-T $p > .05$) and effect sizes were rather small ($\eta^2 = .07$ - .10; see Table 10).

Figure 1

Changes across age in parental ideas and goals about child SR by country



Note. Parental ideas and goals regarding child SR when facing internal challenges or parental requests by child age for Chile (1a), and Germany (1b).

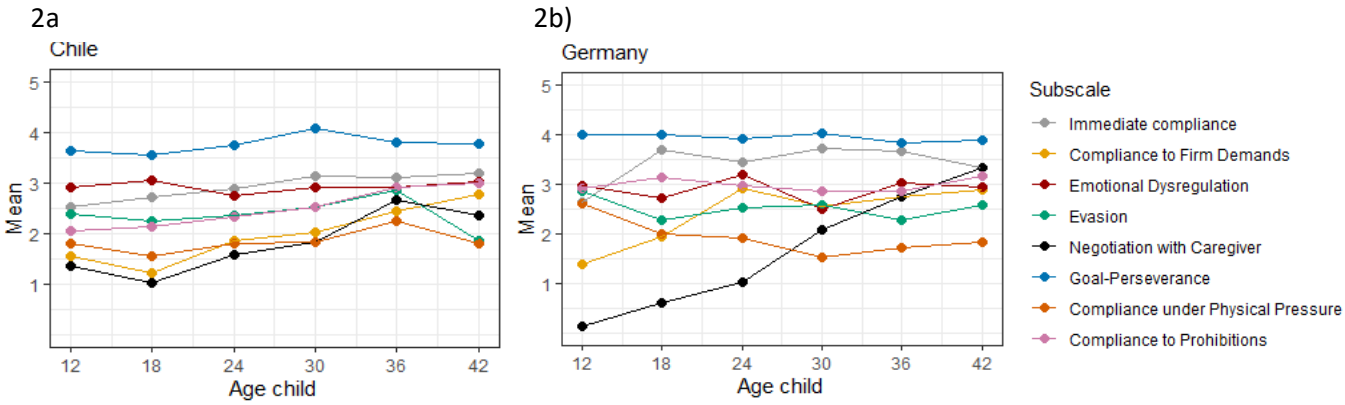
Changes in children´s SR strategies across age. Parents from both countries reported fairly stable child SR strategies across age on some, but not on all dimensions (see Figure 2). The vast majority of effect sizes were again rather small ($\eta^2 = -.03$ to .48; see Table 10)

Chilean parents (see Figure 2a) reported their children to show increasing levels of Immediate Compliance (p = .03), Compliance to Firm Demands (p < .01), and Compliance to Strict Prohibitions (p = .02) with age. Older children were also reported to show Negotiations with the Caregivers more often than younger ones (p < .01).

In Germany (see Figure 2b), parents reported an early increase in Immediate Compliance (p < .01), with a steady growth curve for Negotiations with Caregiver, revealing a medium effect size (p <.01, η^2 = .48). Compliance to Firm Demands also increased with age (p < .01), revealing significant post-hoc differences between 12 and 18 months (Tukey-T = 1.05, p < .01), as well as between 18 and 24 months (Tukey-T = .97, p = .02).

Figure 2

Changes across age in child SR strategies by country



Note. Child SR strategies in response to internal challenges or parental requests across age for Chile (2a), and Germany (2b).

In sum, parents of both countries reported their children to show an increase in Immediate Compliance, but also in Compliance to Firm Demands and Negotiations with the Caregiver, with the corresponding slopes indicating some variation between countries. Notably, most effect sizes were quite small indicating that parents perceived their offspring as revealing only gradual changes in SR strategies, with one exception: German children revealed a linear and sharp age increase on the IMMA scale Negotiations with the Caregiver.

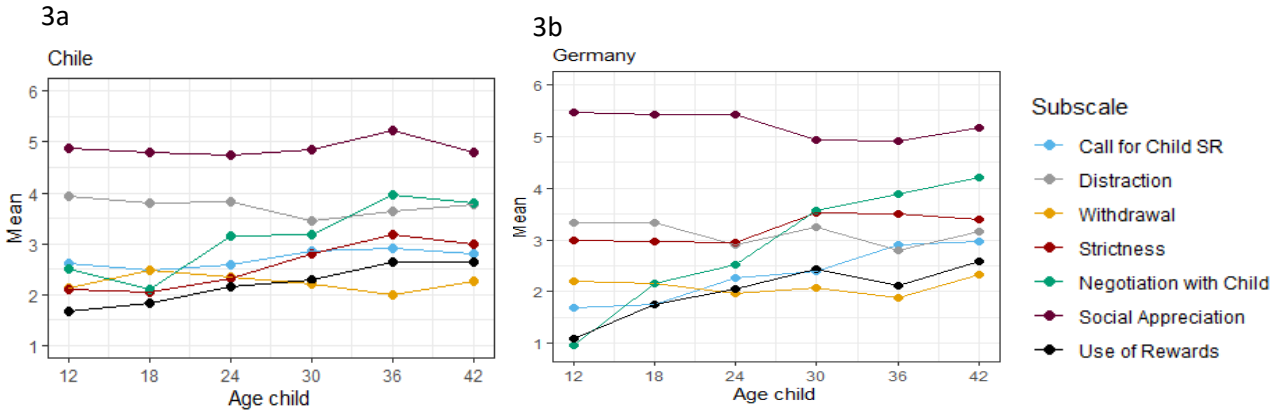
Changes in parental CR strategies with child age. Chilean parents (see Figure 3a) increased Strictness with the age of their child (p < .01), but also their Use of Rewards (p = .02), and Negotiations with the Child (p < .01). Other strategies remained stable at low to medium levels, apart from Social Appreciation which scored highest for children of all ages.

German parents (see Figure 3b) revealed stability in some CR strategies (e.g., Social Appreciation at a very high level; Distraction at a medium level; Withdrawal at a low level), but a marked increase in Negotiations with the Child with a moderate effect size ($p < .01$, $\eta^2 = .48$), Use of Rewards ($p < .01$), and Call for SR ($p < .01$) with child age.

In general effect sizes for age-related changes were rather small ($\eta^2 = -.01 - .48$; see Table 10), however.

Figure 3

Changes across age in parental CR strategies by country



Note. Parental CR strategies in situations requiring child SR across age for Chile (3a) and Germany (3b).

In sum, most parental CR strategies remained fairly stable across age within each country. The Use of Rewards increased in both countries and the same was true for the factor Negotiations with the Child, with the latter revealing substantial differences between Germany and Chile in terms of its growth curve. Parents from Chile revealed higher scores on Strictness with the age of the child while parents from Germany increased scores on the factor Call for SR.

Relations between parental CR and children's SR

Finally, data from both countries was pooled to explore the relationships between the IMMA subscales and factors. The most relevant significant correlations are presented below (for details see Appendix R).

Parents who expected their children to reveal better SR skills when facing internal challenges or external demands scored higher on the CR scales Negotiations with the Child (range $r = .19$ to $.28$) and Social Appreciation (range $r = .18$ to $.29$), but also Strictness (range $r = .25$ to $.33$).

When looking at child SR and parental CR strategies, substantial correlations were observed between parental Strictness and children's Compliance to Firm Demands (r = .52), Strict Prohibitions (r = .50) and Compliance under Physical Pressure (r = .31). Not surprisingly, children tended to use Negotiations more often when their parents scored higher on the factor Negotiations with the Child (r = .51). Moderate correlations were also found between children's Compliance to Firm Demands and parental Use of Rewards (r = .30), and between children's Negotiations with the Caregiver and parental Call for SR (r = .36), Use of Rewards (r = .35), Strictness (r = .33), and Withdrawal (r = .22).

Overall, these associations show that parenting strategies known to support young children's autonomy and relatedness development (e.g., Social Appreciation, Negotiations with the Child) are more closely associated with SR of children reflecting these two orientations (e.g., Immediate Compliance; Negotiations with the Caregiver) (e.g., Di Giunta et al., 2020; Lansford et al., 2018).

RESULTS STUDY 2

In the second study, the observational instrument SECORE was used to assess regulatory variables at the behavioral level during interactions between parents and their 2- and 4-year-old children. As explained above, these interactions were recorded during the 4-phase semi-experimental procedure (see Appendix H). Additionally, participants completed self-report instruments (i.e., Cultural scales and IMMA).

Study 2a: Comparison of SECORE findings across cultures

This study refers to Hypotheses three to five, concerning the cross-sectional data obtained with the SECORE instrument for Germany and Chile. First, the descriptive results of the self-report instruments are presented, including a comparison of the outcomes between countries. Second, comparative analyses are presented to assess differences between age groups and countries, based on the microanalytical observational data. Third, sequential analyses are carried out to identify interaction patterns within dyads, again involving microanalytic data. Lastly, bivariate correlations were calculated to describe relations between all the variables in the study.

Comparison of cultural scales between countries

This section compares the results of data collected with self-report instruments related to cultural aspects. In the absence of theoretical evidence that the child's age would affect the score among cultural variables, the analyses were performed between pooled age-group subsamples and compared between countries.

Table 11

Cross-country comparison of cultural scale scores

	Chile	Germany	T/W[1]
	M(SD)	M(SD)	
Self-Construal Scale[2]			
Independence	5.29 (0.65)	4.52 (0.44)	27.16**
Interdependence	5.03 (0.55)	4.60 (0.44)	11.71**
Tightness-Looseness Scale[3]			
Country	4.34 (0.66)	4.13 (0.62)	424
Family	3.69 (0.75)	3.87 (0.72)	297

*p < .05/ **p < .01 / ***p < .001

Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met; [2]Scores ranging from 1 to 7. [3]Scores ranging from 1 to 6.

As shown in Table 11, Chilean parents reached higher scores on the Independence and the Interdependence subscales, but no differences were found regarding the perceived tightness of norms, both at the country and family level.

Comparison of IMMA subscales between countries

This section presents the data collected with the IMMA instrument. The results reported by German and Chilean parents are compared separately for each age group of children. Table 12 shows the averages per IMMA-factor for two-year-olds.

When comparing the Parental Ideas and Goals regarding Child SR, parents from both countries had higher expectations about young children's ability to cope with external requests (i.e., parental demands or prohibitions) than with internal challenges (i.e., needs, emotions, impulses). As for cross-country comparisons, Chilean parents scored higher than German parents on all three factors, but these differences fail to reach level of significance.

Concerning Part 2 of the questionnaire, the SR strategy that parents reported was most frequently used by their children was Goal-Perseverance, followed by Immediate Compliance in Chile and Compliance to Strict Prohibitions in Germany. The least frequently used strategy by two-year-olds in both countries was Negotiation with the Caregiver.

Lastly, in terms of parental behavior, the CR strategies most widely used by parents when trying to support their child in dealing with internal challenges or external requests were Social Appreciation

and Distraction. The comparative analyses show no significant differences between countries in this third Part of the questionnaire for the 2-year sample.

Table 12
Comparison of IMMA-subscales between countries in the 2-year sample

	Chile	Germany	F	p	η^2_p
	M(SD)	M(SD)			
Parental Ideas and Goals regarding Child SR[1]			**0.96**	**0.42**	
(1a) Ideas & Goals related to Child SR when Dealing with Internal Challenges	2.92(0.83)	2.50(0.82)	2.04	.16	.04
(1b) Ideas related Child SR when Dealing with External Requests	4.05(1.17)	3.44(1.01)	0.68	.42	.00
(1c) Goals related to Child SR when Dealing with External Requests	4.37(1.03)	4.08(0.71)	1.91	.18	.04
Child's SR Responses to Goal-frustration or Parental Requests[2]			**3.19**	**.02***	
(2a) Goal-Perseverance	3.61(0.81)	3.78(1.18)	0.20	.66	.00
(2b) Immediate Compliance	3.47(0.61)	3.30(0.98)	0.24	.62	.00
(2c) Compliance to Firm Demands	2.00(0.43)	1.87(1.18)	0.13	.73	.00
(2d) Compliance to Strict Prohibitions	2.16(0.67)	3.54(0.87)	19.28	<.01**	.43
(2e) Compliance under Physical Pressure	1.89(1.27)	2.80(1.38)	2.88	.10	.07
(2c) Negotiation with caregiver	1.51(0.93)	1.63(1.17)	0.07	.79	.00
(2g) Evasion	2.23(1.10)	3.04(1.41)	2.46	.13	.06
(2h) Emotional Dysregulation	2.83(0.64)	2.81(0.68)	0.01	.92	.00
Parental CR Strategies in Situations Requiring Child SR[2]			**1.48**	**.24**	
(3a) Call for child SR	2.58(0.80)	2.32(0.89)	0.57	.46	.00
(3b) Distraction	3.94(1.24)	3.75(1.09)	0.16	.69	.00
(3c) Withdrawal	2.06(0.67)	2.33(0.80)	0.80	.38	.03
(3d) Strictness	2.72(1.01)	2.87(0.76)	0.17	.68	.00
(3e) Negotiations with the Child	3.95(1.02)	2.87(1.38)	4.79	.04	.14
(3f) Social Appreciation	5.33(0.44)	5.64(0.61)	1.97	.17	.04
(3g) Use of Rewards	2.46(1.30)	2.25(1.02)	0.20	.66	.00

Note. [1] Scores ranging from 1 to 6; [2] Scores ranging from 0 to 6

In the 4-year-old sample, mostly similarities and some differences were again observed between countries, as reported by parents (see Table 13).

With respect to Parental Ideas and Goals regarding Child SR, German parents reveal higher expectations about their children's ability to cope with external requests (i.e., parental demands or

prohibitions) than Chilean parents. Apart from that, higher means were found in four-year-olds than in the 2-year-olds on all three factors.

Table 13

Comparison of IMMA-subscales between countries in the 4-year sample

	Chile	Germany	F	p	η^2_p
	M(SD)	M(SD)			
Parental Ideas and Goals regarding Child SR[1]			**3.68**	**.02***	
(1a) Ideas & Goals related to Child SR when Dealing with Internal Challenges	3.42(0.79)	3.79(0.76)	1.45	.24	.02
(1b) Ideas related Child SR when Dealing with External Requests	4.09(0.72)	4.43(0.70)	1.46	.24	.02
(1c) Goals related to Child SR when Dealing with External Requests	4.44(0.54)	5.18(0.55)	11.32	.002**	.26
Child's SR Responses to Goal-frustration or Parental Requests[2]			**1.67**	**.16**	
(2a) Goal-Perseverance	3.82(0.68)	3.33(0.88)	2.13	.16	.04
(2b) Immediate Compliance	3.22(0.74)	3.66(0.72)	2.28	.14	.04
(2c) Compliance to Firm Demands	2.52(0.65)	2.87(0.82)	1.32	.26	.01
(2d) Compliance to Strict Prohibitions	2.67(0.91)	2.95(0.86)	0.67	.42	.00
(2e) Compliance under Physical Pressure	1.72(0.55)	2.22(1.08)	1.71	.20	.02
(2f) Negotiations with the Caregiver	3.24(0.85)	3.18(0.94)	0.03	.87	.00
(2g) Evasion	2.53(0.75)	2.68(1.11)	0.14	.71	.00
(2h) Emotional Dysregulation	3.20(0.69)	3.01(0.80)	0.41	.53	.00
Parental CR Strategies in Situations Requiring Child SR[2]			**1.88**	**.12**	
(3a) Call for child SR	3.06(0.58)	3.15(1.16)	0.06	.81	.00
(3b) Distraction	2.78(1.31)	3.50(0.93)	2.95	.10	.06
(3c) Withdrawal	2.39(0.70)	2.16(0.47)	1.16	.29	.01
(3d) Strictness	3.11(0.75)	3.68(0.63)	4.64	.04*	.11
(3e) Negotiations with the Child	4.33(0.98)	4.26(0.79)	0.05	.82	.00
(3f) Social Appreciation	4.67(1.00)	4.98(0.85)	0.75	.39	.00
(3g) Use of Rewards	2.30(0.70)	3.15(0.93)	6.01	.02*	.15

Note. [1] Scores ranging from 1 to 6; [2] Scores ranging from 0 to 6

When comparing Child's SR Responses to Goal-Frustration or Parental Requests, most parents used scores of 2 or 3 points (i.e., indicating that their child shows a given behavior rarely or sometimes). Highest scores were obtained for children's Goal-Perseverance in the Chilean sample and for Immediately Compliance in the German sample. In contrasts, Compliance under Physical

Pressure was reported to be used only rarely in the 4-year sample (both countries). None of the differences between countries were significant.

Concerning parental CR strategies, parents of 4-year-olds used Social Appreciation quite often, but also reached high scores on the scale Negotiation with the Child. German parents scored significantly higher than Chilean parents on scales referring to Strictness (i.e., firmly insisting on a given request or prohibition) and to the scale Use of Rewards (i.e., offer some material reward when the child meets parental expectations).

In general, there are similarities between the data reported by parents of 2- and 4-year-olds in both countries, with few significant differences of a rather low effect sizes (η^2 = .00 to .26). However, Compliance to Strict Prohibitions was reported far more often in German than in Chilean children, with *country* explaining 43% of the total variance.

Comparison of SECORE outcomes between age groups

In this and the following sections, comparisons are performed with observational data coded following the SECORE microanalytical coding scheme (for details see Appendix N). Descriptive and comparative analyses of the regulatory variables (i.e., SR, CR, call to CR) coded in both children and adults are presented below. Statistical analyses were performed using the total duration (summed across occurrences) for each code. A total of 152 minutes (9,120 seconds) were coded (i.e., 8 minutes/480 seconds per dyad). To assess developmental changes, age groups were compared using the pooled sample of both countries and all Task phases.

Child regulation. Expectedly, children showed mainly SR during the interaction with their parents. As documented in Table 14 and Figure 4, results revealed a significant increase in child SR with age. Further analysis showed that this effect was mainly due to a significant increase in SR of Motivational states.

Table 14

Comparison of child regulatory variables between age groups

	2 years	**4 years**	**T/W[1]**
	M(SD)	M(SD)	
SR	**141.87 (41.97)**	**181.6 (43.10)**	**11.85****
Cognitive	44.76 (35.50)	51.06 (33.47)	334
Emotional	60.32 (32.59)	56.26 (31.75	0.22
Motivational	35.78 (24.09)	74.44 (24.66)	34.21**

Call for CR	**41.66 (30.53)**	**37.50 (25.367)**	**396**
Cognitive	8.64 (9.72)	7.77 (5.61)	319
Emotional	28.70 (24.80)	27.35 (23.37)	376
Motivational	2.66 (5.10)	2.38 (3.46)	338
CR	**0.59 (1.66)**	**4.88 (5.75)**	**213****
Cognitive	0.00	3.28 (4.57)	197**
Emotional	0.00	0.15 (0.80)	362.5
Motivational	0.51(1.37)	1.44 (3.69)	330.5

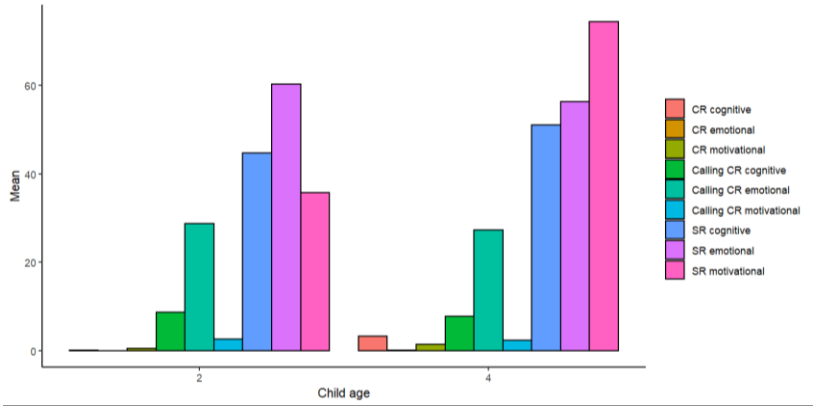
*p < .05/ **p < .01 / ***p < .001

Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met.

During the interaction, children also showed Call for CR directed to their parents, but no significant age differences were found between the total duration on any dimension. Lastly, although the duration for CR of children is rather low, 4-year-olds displayed more CR directed to their parents than 2-year-olds, specifically on the Cognitive dimension (see Figure 4).

Figure 4

Child regulation behaviors by dimension



Note. Duration in seconds of SR, CR and Call for CR behaviors observed in 2- and 4-year-old children interacting with their parents.

Adult regulation. Table 15 and Figure 5 show the duration in seconds of the regulatory variables displayed by adults. As hypothesized, parents show mainly CR behaviors and do so more often when their child was two years of age rather than four years of age. The differences relate mainly to the CR on the Cognitive and Motivational dimensions.

Table 15

Comparison of parental regulatory variables between age groups

	2 years	4 years	T/W[1]
	M(SD)	M(SD)	
SR	**13.25 (17.84)**	**31.72 (38.17)**	**242***
Cognitive	6.64 (12.05)	21.22 (26.90)	238*
Emotional	2.02 (4.19)	0.93 (2.49)	420
Motivational	4.19 (7.94)	9.58 (19.25)	270.5
Call for CR	**1.46 (2.51)**	**1.06 (2.10)**	**431.5**
Cognitive	1.57 (2.59)	0.75 (1.63)	460
Emotional	0.00	0.22 (1.23)	362.5
Motivational	0.00	0.08 (0.36)	350
CR	**242.29 (54.14)**	**159.62 (53.32)**	**35.32****
Cognitive	106.17 (39.28)	82.53 (32.63)	524*
Emotional	39.05 (31.30)	41.50 (29.90)	356.5
Motivational	72.87 (36.65)	35.59 (25.84)	597**

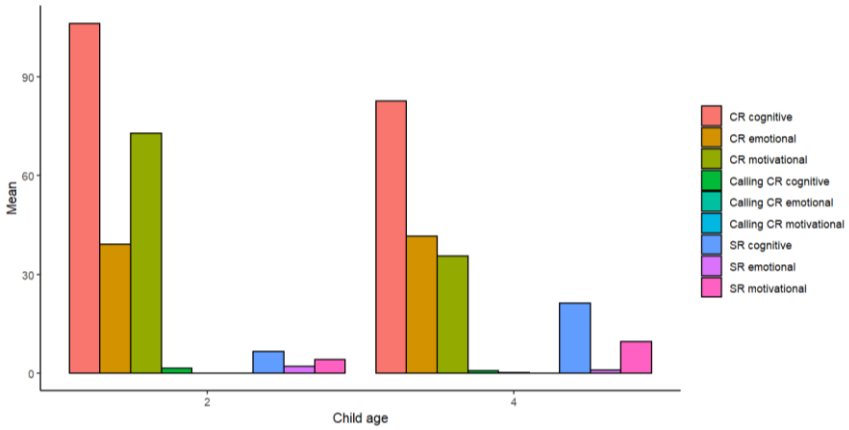
*p < .05/ **p < .01 / ***p < .001

Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met.

Surprisingly, parents also showed a greater use of SR strategies when their children were older. The difference is significant at the general level and most prominent when it comes to SR at the Cognitive level (see Figure 5).

Figure 5

Adult regulation behaviors by dimension



Note. Duration in seconds of SR, CR and Call for CR behaviors observed in parents interacting with their 2- and 4-year-old children.

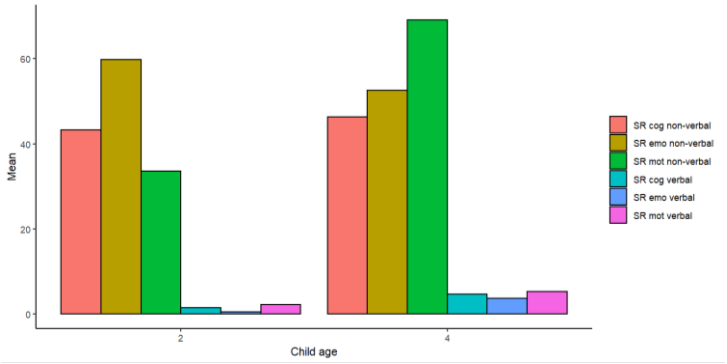
Comparison of verbal versus non-verbal regulation strategies between age groups

The following analysis differentiates between the use of children's SR strategies and parents' CR strategies at the verbal and non-verbal levels. It was hypothesized that verbal strategies, in both children and adults, become more prominent as children get older.

Verbal versus non-verbal child SR. Even though verbal strategies reach higher scores at four than at two years of age, children of both ages tend to verbal self-regulate only rarely, while non-verbal strategies clearly dominate (see Figure 6).

Figure 6

Verbal versus non-verbal child SR behaviors



Note. Duration in seconds of infant SR behaviors comparing verbal and non-verbal strategies

As shown in Table 16, there is a significant increase in the use of verbal strategies between two and four years on all dimensions. Whereas at the non-verbal level, the increase observed is mainly related to the Motivational dimension.

Table 16

Comparison of the use of verbal versus non-verbal child SR

	2 years	4 years	T/W[1]
	M(SD)	M(SD)	
Verbal SR	**5.27 (11.63)**	**13.44 (14.68)**	**173.5****
Cognitive	1.48 (5.17)	4.68 (7.43)	178.5**
Emotional	0.52 (1.47)	3.68 (6.52)	246**
Motivational	2.26 (6.65)	5.27 (9.86)	237*
Non-verbal SR	**136.60 (42.26)**	**168.13 (38.96)**	**8.29****
Cognitive	43.28 (35.04)	46.38 (30.53)	342
Emotional	59.80 (32.90)	52.57 (30.75)	0.71
Motivational	33.52 (23.30)	69.17 (22.66)	97**

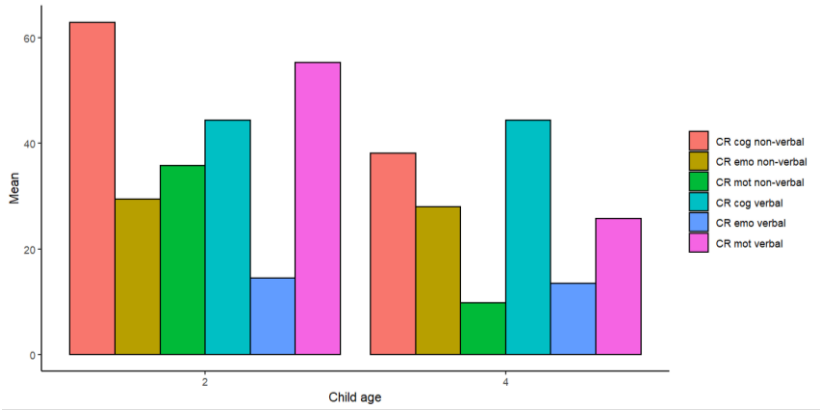
*p < .05/ **p < .01 / ***p < .001

Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met.

Verbal versus non-verbal parental CR. As reflected in Figure 7, parents use verbal and non-verbal strategies in parallel to offer CR to their two- and four-year-old children. This is true for all dimensions.

Figure 7

Verbal versus non-verbal adult CR behaviors



Note. Duration in seconds of parental CR behaviors comparing verbal and non-verbal strategies

When comparing results at the statistical level, a significant overall age-related decrease was observed for verbal and non-verbal strategies from two to four years of age. Caregivers provided less CR for older than younger children. This developmental trend was strongest for Motivational CR (verbal and non-verbal), but could also be observed for non-verbal Cognitive CR. The duration of Emotional CR (verbal and non-verbal) did not differ greatly between age-groups (See Table 17).

Table 17

Comparison of the use of verbal versus non-verbal parental CR

	2 years	4 years	T/W[1]
	M(SD)	M(SD)	
Verbal CR	**114.19 (31.49)**	**83.61 (32.72)**	**12.31****
Cognitive	44.38 (18.38)	44.35 (17.56(	389
Emotional	14.51 (9.13)	13.49 (10.02)	410.5
Motivational	55.30 (27.30)	25.76 (18.95)	611**
Non-verbal CR	**128.10 (41.46)**	**76.01 (34.28)**	**26.04****
Cognitive	62.94 (33.38(	38.17 (19.80)	11.63**
Emotional	29.39 (22.35)	28.01 (27.90)	0.04
Motivational	35.76 (23.01)	9.82 (12.22)	644**

*p < .05/ **p < .01 / ***p < .001

Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met.

Comparison of SECORE outcomes between countries

Table 18 presents the descriptive-comparative results splitting the sample by country and age group. Considering the low percentage of child CR and parental Call for CR behaviors, these two variables were not included in the upcoming analyses.

Table 18

Comparison of regulatory variables between countries by age group

	Chile	Germany	T/W[1]
	M(SD)	M(SD)	
2-years sample			
Child			
SR	**145.61 (37.57)**	**138.42 (46.93)**	**0.18**
Cognitive	44.02 (28.22	45.45 (42.30)	0.01
Emotional	53.08 (27.67)	67.00 (36.35)	1.15
Motivational	46.41 (27.16)	25.97 (16.35)	5.30*
Call for CR	**52.07 (38.13)**	**32.04 (17.99)**	**2.90**
Cognitive	11.10 (12.08)	6.37 (6.59)	99
Emotional	37.00 (31.64)	21.04 (16.78)	2.54
Motivational	3.96 (5.97)	1.46 (4.02)	106
Adult			
SR	**20.98 (23.28)**	**6.12 (4.99)**	**5.06***
Cognitive	12.99 (15.03)	0.77 (2.41)	125**
Emotional	2.12 (4.81)	1.92 (3.72)	74.5
Motivational	5.86 (10.74)	2.64 (3.88)	77.5
CR	**224.41 (61.56)**	**258.79 (42.11)**	**2.70**
Cognitive	87.63 (31.53)	123.28 (38.91)	6.27*
Emotional	44.10 (31.47)	34.38 (31.66)	93
Motivational	92.68 (41.77)	54.78 (18.22)	123*
4-years sample			
Child			
SR	**173.33 (52.36)**	**185.10 (39.41)**	**73**
Cognitive	53.13 (38.58)	50.18 (32.03)	94
Emotional	48.99 (30.33)	59.37 (32.56)	0.66
Motivational	71.85 (37.46)	75.55 (17.89)	0.14
Call for CR	**47.16 (36.70)**	**33.36 (18.28)**	**1.92**
Cognitive	7.99 (4.44)	7.68 (6.14)	108
Emotional	38.59 (33.71)	22.53 (16.00)	3.20
Motivational	0.58 (1.22)	3.15 (3.83)	52*
Adult			
SR	**59.41 (46.39)**	**19.86 (27.55)**	**160****
Cognitive	38.96 (16.15)	13.61 (27.25)	165**

Emotional	0.75 (2.26)	1.00 (2.63)	87
Motivational	19.70 (33.68)	5.24 (4.24)	81.5
CR	**186.52 (41.55)**	**148.09 (54.48)**	**149***
Cognitive	78.31 (84.34)	84.34 (21.44)	0.21
Emotional	60.72 (30.79)	33.26 (26.06)	6.28*
Motivational	47.48 (32.31)	30.49 (21.44)	2.90

*p < .05/ **p < .01 / ***p < .001

Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met

When comparing the duration of regulatory behaviors for children in each country, no substantial differences were found for individual SECORE codes with two exceptions: Chilean children at age two show more Motivational SR than German children, while German children at age four displayed more Motivational Call for CR compared to Chilean children.

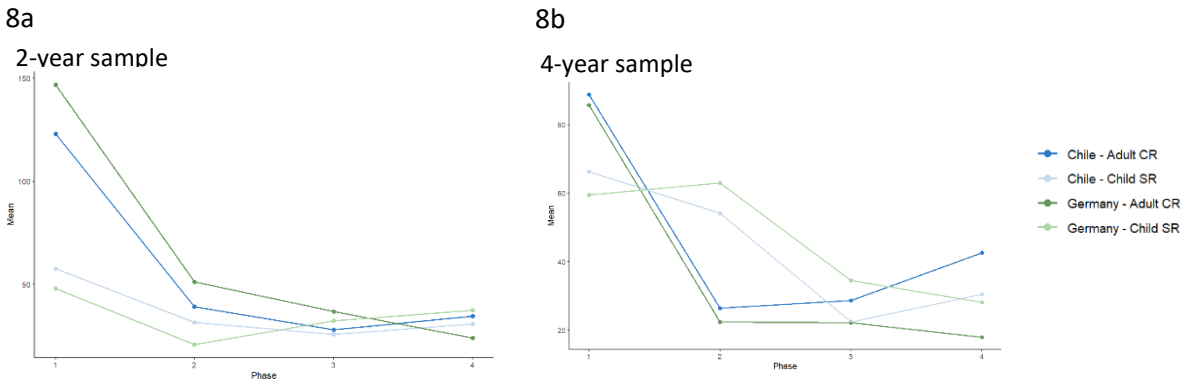
When comparing parental behaviors, the following significant differences were found: Chilean parents showed more Emotional CR in the 4-year-old group and exhibited greater Cognitive SR than German parents in both age-groups.

Comparison of parents' CR and children's SR by task phase

The performance of the two main study variables (i.e., parental CR and child SR) was compared across task phases. The phases were (1) *Puzzle* - cognitive challenge; (2) *Clean up* - motivational challenge; (3) *Wrong gift* and (4) *Surprise* - emotional challenge (for details see Appendix H). When results are compared across countries by phase in relation to child SR and parent CR, in general, dyads tend to behave similarly (see Figure 8).

Figure 8

Adult CR and Child SR by phase across age-groups



Note. Child SR and parental CR by phase for the 2-year-old (8a) and 4-year-old (8b) sample.

Figure 8a presents graphically the results for the 2-year-old sample. It is observed that parents offer greater CR in the Puzzle phase and subsequently its duration decreases, while child SR is usually remained at a low level in all four phases. Looking at the 4-year-old sample (see Figure 8b), parents again offered more CR during the Puzzle phase while children showed higher SR mainly in the Puzzle and Clean up phases and subsequently decreased. However, in the Surprise phase, both Chilean parents and children showed higher means compared to German dyads.

When comparing the results statistically, the only significant difference between countries was observed during the Surprise phase in the sample with 4-year-olds. Chilean parents offered significantly more Motivational CR in this phase than German parents did (Table 19).

Table 19

Comparison of adult CR and child SR by phase

	Chile M(SD)	**Germany** M(SD)	**T/W[1]**
2-years sample			
Child SR			
Phase 1: puzzle	57.56 (22.46)	48.03 (23.97)	1.05
Phase 2: clean up	31.51 (18.14)	20.70 (15.51)	2.57
Phase 3: wrong gift	25.73 (12.78)	32.32 (14.24)	1.47
Phase 4: surprise	30.80 (21.77)	37.36 (26.24)	0.46
Adult CR			
Phase 1: puzzle	122.97 (36.63)	146.94 (33.25)	2.94
Phase 2: clean up	39.12 (16.50)	51.13 (21.92)	2.36
Phase 3: wrong gift	27.84 (11.34)	36.77 (21.81)	1.60
Phase 4: surprise	34.47 (29.97)	23.96 (17.70)	1.16
4-years sample			
Child SR			
Phase 1: puzzle	66.27 (44.42)	59.43 (25.62)	0.29
Phase 2: clean up	54.14 (19.06)	62.98 (18.21)	1.44
Phase 3: wrong gift	22.44 (9.85)	34.53 (20.36)	2.84
Phase 4: surprise	30.49 (19.50)	28.17 (18.52)	0.09
Adult CR			
Phase 1: puzzle	88.84 (22.63)	85.69 (36.75)	114
Phase 2: clean up	26.45 (14.13)	22.34 (12.93)	0.60
Phase 3: wrong gift	28.60 (14.98)	22.15 (15.41)	1.12
Phase 4: surprise	42.62 (27.58)	17.90 (21.34)	150*

*p < .05/ **p < .01 / ***p < .001

Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met

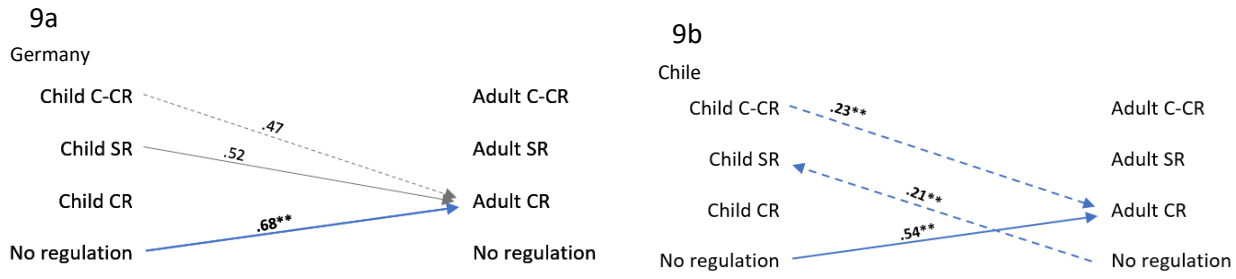
Sequential analysis of SECORE codes by country and age group

The evaluation of bidirectional relations between parent and child regulatory behaviors was performed through GSEQ (Bakeman & Quera, 2012). Analyses were performed dividing the sample by age (i.e., 2 and 4 years) and country (i.e., Chile and Germany), thus obtaining four subsamples. Within each group, GSEQ was performed on the children's behaviors as *target* (i.e., dependent or subsequent) and adult behaviors as *given* (i.e., independent or previous), and vice versa, to test the statistical significance of transitional probabilities to evaluate potential interactional patterns.

Figure 9 presents the transitional probabilities in the German (Figure 9a) and Chilean (Figure 9b) sample with 2-year-olds. In both countries the highest transition probability was found for the path from children behaving in a non-regulatory way (i.e., neither showing SR, CR, or Call for CR) to adult's offering CR. In other words: parents were most likely to offer CR spontaneously. In both countries, parents also tended to respond with CR to their child's Call for CR, but this transition was only significant for the Chilean sample. Finally, Chilean children also tend to show spontaneous SR behaviors whereas no corresponding path was found for German children.

Figure 9

Transition probabilities between adult and child behaviors in the 2-year sample by country



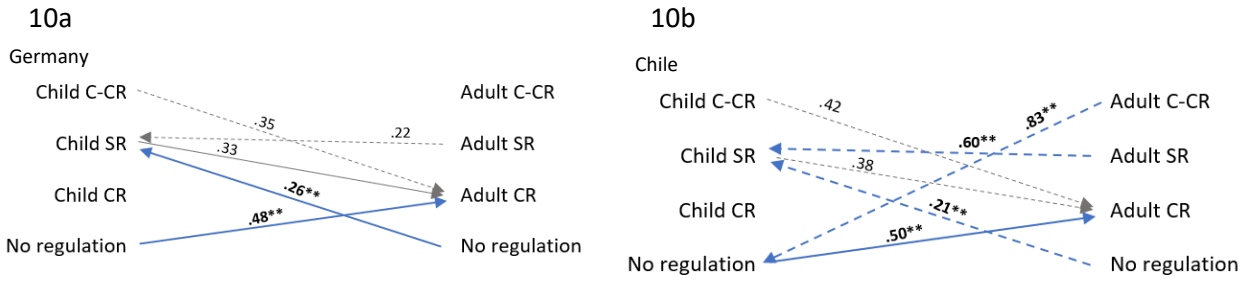
Note. Transition probabilities between adult and child behaviors. Verbal and non-verbal behaviors were pooled for the analysis. Only probabilities greater than .20 and with a number of permutations greater than 10 were included. Transitions with number of permutations less than 100 are presented with interrupted line, which indicates that they should be interpreted with caution. **p < .01

In the 4-year sample, similarities and differences in the transition probabilities between German (Figure 10a) and Chilean (Figure 10b) dyads were obtained. Again, parents offered CR spontaneously in both countries, with similar probabilities. At the age of four, Chilean and German children both showed spontaneous SR behaviors.

Additionally, we observed two more significant transition pathways in the Chilean sample: Chilean children showed SR behaviors immediately after parents showed SR behaviors, and parental Call for CR behaviors usually did not lead to a response by children.

Figure 10

Transition probabilities between adult and child behaviors in the 4-year sample by country



Note. Transition probabilities between adult and child behaviors. Verbal and non-verbal behaviors were pooled for the analysis. Only probabilities greater than .20 and with a number of permutations greater than 10 were included. Transitions with number of permutations less than 100 are presented with interrupted line, which indicates that they should be interpreted with caution. **p < .01

Correlation between variables

Lastly, using the pooled sample, the associations between the variables assessed with either reported instruments (i.e., sociodemographic questionnaire, IMMA and cultural scales) or observational assessment (i.e., SECORE) were tested. Significant associations ($p<.05$) are described below (for details see Appendix S).

Sociodemographics and variables assessed: Concerning the associations between cultural variables and sociodemographic variables, in families with more than one child, parents reached lower scores on the Self-Construal Independence-scale and reported to imply strict family rules more often (i.e., TLS family). Besides, parents whose children did not attend kindergarten reported higher Interdependence scores, while Independence scores increased with the hours of daily care.

Child age showed significant associations with several IMMA factors. Correlations indicate that parents of older toddlers had higher expectations regarding child SR, and increased the use of several strategies as Call for SR, Negotiation, Social Appreciation and Strictness. They further reported that their children also increased the use of Negotiation and show greater Compliance to verbal Demands with age. The educational level of the caregiver is the only other sociodemographic variable

associated with IMMA, indicating that the higher the level of education achieved, the lower the use of Call for SR as a strategy (i.e., requesting the child to calm down without assistance).

Cultural orientation and SECORE/IMMA: Looking at correlations between the cultural scales and the observational assessment of interaction (i.e., SECORE), parents who reported higher levels of Independence offered CR to a greater extent. The cultural scales were also related to what parents reported via questionnaire (i.e., IMMA): At higher Independence scores, parents reported that their children tend to show greater Compliance to Prohibitions, while higher scores of Interdependence related to a reduced use of Strictness.

SECORE and IMMA: When comparing children and parental regulation variables assessed through observation versus parent report, fewer relations than expected were found. When children revealed more Calls for CR in the SECORE setting, parents reported greater Goal-Perseverance in IMMA. Besides, parental Use of Rewards in IMMA was positively related to higher levels of SR and Call for CR in children at the behavioral level. Whereas parents who showed higher CR behaviorally reported less use of Social Appreciation in IMMA.

Study 2b: Longitudinal evaluation of the German sample

This stage relates to Hypothesis 6, concerning longitudinal data collected from a subsample of the participants included in the previous stage. All German participants reported in the Study 2a (i.e., 13 German 2-year-old dyads and 21 German 4-year-old dyads) were invited to participate again 18 months after the first measurement.

As reported in the methodology, data from 16 dyads (i.e., eight Initially 2-year and eight Initially 4-year dyads) are included in the following statistical analyses.

Comparison of IMMA subscales among measurements

This section compares the data collected with the IMMA questionnaire in the first and second measurements. Table 20 compares the factor scores for the Initially 2-year group at the first measurement and 18 months later.

Most factors show a degree of stability, with no significant differences between the two measurements. When comparing the Parental Ideas and Goals regarding Child SR, parents continued to have higher expectations with respect to how well their child deal with external requests (i.e., parental demands or prohibitions) than with respect to how they deal with internal challenges (i.e., needs, emotions, impulses). The greatest increase was observed on what parents believe children the same age as their child should be able to achieve in the face of external requests, indicating significantly higher expectations in this matter as children get older.

Table 20

Comparison between measurements of IMMA factors in the Initially 2-year group

	1st Measurement M(SD)	2nd Measurement M(SD)	F	p	η^2_p
Parental ideas and goals regarding child SR[1]			**2.83**	**.08**	
(1a) Ideas & Goals related to Child SR when Dealing with Internal Challenges	2.33 (0.75)	3.02 (0.77)	3.28	.09	.13
(1b) Ideas related Child SR when Dealing with External Requests	3.35 (0.69)	4.05 (0.54)	5.08	.04*	.21
(1c) Goals related to Child SR when Dealing with External Requests	4.05 (0.91)	4.45 (0.85)	0.83	.38	.00
Child's SR Responses to Goal-frustration or Parental Requests[2]			**5.52**	**.01***	
(2a) Goal-Perseverance	3.67 (1.18)	4.15 (1.00)	0.77	.39	.00
(2b) Immediate Compliance	3.48 (0.94)	3.12 (1.17)	0.44	.52	-.04
(2c) Compliance to Firm Demands	1.96 (1.08)	2.17 (0.90)	2.29	.15	.08
(2d) Compliance to Strict Prohibitions	3.17 (0.82)	2.38 (1.37)	1.96	.18	.06
(2e) Compliance under Physical Pressure	2.56 (1.11)	1.83 (1.17)	1.63	.22	.04
(2c) Negotiation with caregiver	1.92 (1.17)	3.40 (1.12)	6.71	.02*	.28
(2g) Evasion	2.83 (1.26)	2.29 (1.06)	0.86	.37	.00
(2h) Emotional Dysregulation	2.79 (0.59)	2.23 (1.12)	0.96	.34	.00
Parental CR Strategies in Situations Requiring Child SR[2]			**3.38**	**.05**	
(3a) Call for child SR	2.41 (0.89)	2.25 (0.74)	0.15	.71	-.06
(3b) Distraction	3.53 (1.29)	3.53 (0.95)	<0.01	1.00	-.07
(3c) Withdrawal	2.28 (0.74)	2.16 (0.46)	0.16	.69	-.06
(3d) Strictness	2.82 (0.63)	3.23 (0.91)	1.09	.31	.001
(3e) Negotiations with the Child	2.97 (1.28)	4.68 (0.94)	9.18	.009**	.35
(3f) Social Appreciation	5.50 (0.67)	5.28 (0.73)	0.39	.54	-.04
(3g) Use of Rewards	2.19 (0.98)	2.94 (0.96)	0.15	.14	.08

*p < .05/ **p < .01 / ***p < .001

Note. [1] Scores ranging from 1 to 6; [2] Scores ranging from 0 to 6

Regarding Part 2 of the questionnaire, the SR strategy that parents reported to be most frequently used by their child at three and a half years of age continues to be Goal-Perseverance, but at this age Negotiation with Caregiver showed a significant increase replacing Immediate Compliance. The strategies least used by the children at both measurement points were Compliance under Physical Pressure and Compliance to Strict Demands.

Lastly, in terms of parental behavior, the CR strategies most widely used by parents when trying to support their child in dealing with internal challenges or external demands continues to be, by far, Social Appreciation. Negotiation strategy again increased significantly, being widely used with 3.5-year-olds but not at age two.

In the Initially 4-year-old group, a certain stability in the scores is again evident. Table 21 provides the means and standard deviations by factor for the Initially 4-year group at each measurement.

Table 21

Comparison between measurements of IMMA factors in the Initially 4-year group

	1st Measurement M(SD)	2nd Measurement M(SD)	F	p	η^2_p
Parental ideas and goals regarding child SR[1]			**3.68**	**.04***	
(1a) Ideas & Goals related to Child SR when Dealing with Internal Challenges	3.63 (0.78)	4.12 (0.49)	2.34	.15	.08
(1b) Ideas related Child SR when Dealing with External Requests	4.00 (0.50)	4.90 (0.55)	11.81	.004**	.42
(1c) Goals related to Child SR when Dealing with External Requests	5.08 (0.54)	5.13 (0.58)	0.03	.86	-.07
Child's SR Responses to Goal-frustration or Parental Requests[2]			**0.31**	**.93**	
(2a) Goal-Perseverance	3.42 (0.78)	3.50 (1.66)	0.02	.90	-.07
(2b) Immediate Compliance	3.58 (0.59)	3.60 (0.93)	0.002	.96	-.07
(2c) Compliance to Firm Demands	2.63 (0.38)	2.88 (1.60)	0.18	.67	-.06
(2d) Compliance to Strict Prohibitions	3.20 (0.94)	3.00 (0.96)	0.19	.67	-.06
(2e) Compliance under Physical Pressure	2.46 (1.20)	2.19 (1.01)	0.24	.63	-.05
(2c) Negotiation with caregiver	3.33 (0.76)	3.35 (1.24)	0.001	.97	-.07
(2g) Evasion	2.81 (1.17)	2.50 (0.93)	0.35	.56	-.04
(2h) Emotional Dysregulation	3.38 (0.82)	2.73 (1.39)	1.28	.28	.02
Parental CR Strategies in Situations Requiring Child SR[2]			**0.64**	**.71**	
(3a) Call for child SR	3.25 (1.55)	3.16 (1.19)	0.02	.89	-.07
(3b) Distraction	3.53 (0.70)	3.03 (0.75)	1.90	.19	.06
(3c) Withdrawal	2.19 (0.48)	2.25 (0.79)	0.04	.85	-.07
(3d) Strictness	3.44 (0.55)	3.41 (0.57)	0.01	.90	-.07
(3e) Negotiations with the Child	4.23 (0.54)	3.83 (1.07)	0.89	.36	.00
(3f) Social Appreciation	4.72 (0.94)	5.06 (0.40)	0.91	.36	.00
(3g) Use of Rewards	3.22 (1.06)	3.28 (0.89)	0.02	.90	-.07

*p < .05/ **p < .01 / ***p < .001

Note. [1] Scores ranging from 1 to 6; [2] Scores ranging from 0 to 6

With respect to Parental Ideas and Goals regarding Child SR, parents reveal significantly higher expectations about their children's ability to cope with external requests (i.e., parental demands or prohibitions) on the second measure. In addition, overall higher means were found when children are 5.5 years compared to when they were 4 years old.

When comparing Child's SR Responses to Goal-Frustration or Parental Requests, no significant differences were observed between measures, and parents primarily used scores of 2-3 points (i.e., indicating that their child exhibits a certain behavior rarely or sometimes) to describe their child's behavior. The highest scores were obtained for Goal-Perseverance, Immediate Compliance, and Negotiation with the Caregiver. In contrast, Compliance under Physical Pressure was reported to be used only rarely.

Concerning parental CR strategies, parents used Social Appreciation quite frequently with their children at both 4 years and 5.5 years, but also reported employing Negotiation with the Child. The strategy least used by parents in this age group on both measures was Withdrawal. Overall, the strategies used at both measurement points remained stable, with no significant differences.

Overall, there are similarities between the data reported by parents of children at the first and second measurement, with few significant differences of a rather low effect size (η^2 = .00 to .08). The use of Negotiation, however, was reported much more frequently by caregivers and their children at older ages, showing a moderate effect size when explaining differences between ages 2 and 3.5 years (η^2 = .28 to .35). Furthermore, ideas about handling external requests increase in both age groups between the first and second measurements with moderate effect sizes (η^2 = .21 to .42).

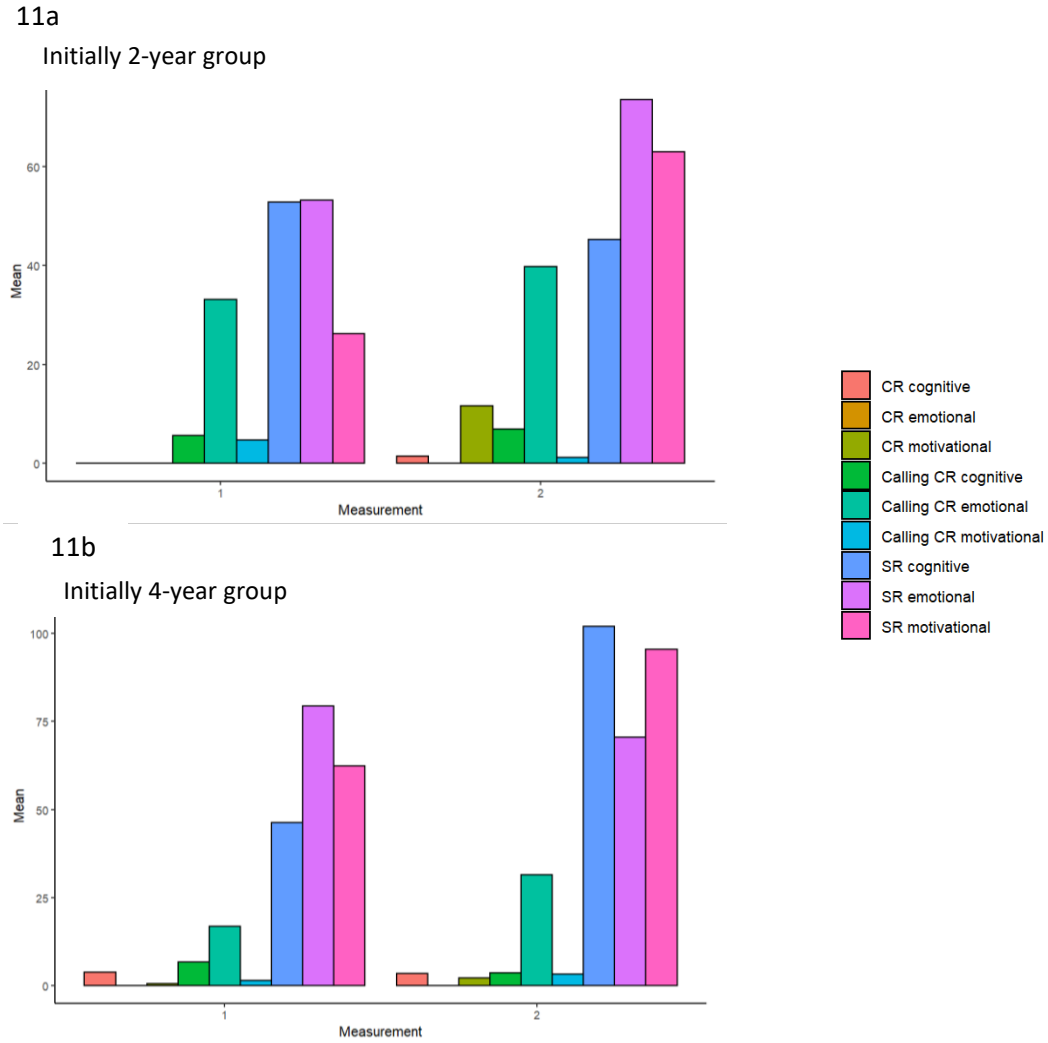
Comparison of SECORE outcomes among measurements

Descriptive and comparative analyses of regulatory variables (i.e., SR, CR, Call for CR) for children and adults are presented below. Statistical analyses refer to the total duration (summed up across different incidences) of each code.

Child regulation. Table 22 and Figure 11 present the results obtained for the children of both age groups in the first and second measurements. Children showed mainly SR during the interaction with their caregiver, and differences between measurements reflect significant changes: An increase in Emotional and Motivational SR is observed between 2 and 3.5 years of age, while between 4 and 5.5 years of age the increment is found at the Cognitive level.

Figure 11

Child regulation behaviors by dimension in each measurement



Note. Duration in seconds of SR, CR and Call for CR behaviors displayed by children at first (i.e., baseline assessment) and second measurement (i.e., 18 months later)

When assessing the significance of changes, children in the Initially 2-year group showed Call for CR mainly at the Emotional level with no significant differences between measurements. In addition, children increased the offer of Motivational CR directed to their parents between measurements. Regarding the Initially 4-year group, a significant decrease of Call for CR at the Cognitive level was observed.

Table 22

Comparison of child regulatory variables among measurements

	1st Measurement	2nd Measurement	T/W[1]
	M(SD)	M(SD)	
Initially 2-year group			
SR	**132.26 (49.43)**	**181.73 (41.08)**	**2.13**
Cognitive	52.86 (49.65)	45.22 (46.20)	0.37
Emotional	53.17 (26.03)	73.58 (31.00)	4.32**
Motivational	26.22 (14.33)	62.92 (38.67)	3.58**
Call for CR	**43.38 (11.58)**	**47.84 (37.94)**	**0.31**
Cognitive	5.58 (6.54)	6.90 (6.35)	0.34
Emotional	33.11 (14.88)	39.80 (22.54)	0.53
Motivational	4.68 (5.62)	1.13 (0.95)	29
CR	**0.00 (0.00)**	**13.06 (11.19)**	**3.30***
Cognitive	0.00 (0.00)	1.47 (4.15)	0
Emotional	0.00 (0.00)	0.00 (0.00)	0
Motivational	0.00 (0.00)	11.60 (10.84)	3.02*
Initially 4-year group			
SR	**188.20 (35.29)**	**268.13 (70.39)**	**2.74***
Cognitive	46.23 (31.55)	102.12 (33.12)	2.89*
Emotional	79.51 (31.75)	70.56 (26.80)	0.59
Motivational	62.46 (14.46)	95.45 (40.43)	2.31
Call for CR	**24.95 (18.17)**	**38.43 (20.11)**	**1.42**
Cognitive	6.75 (5.01)	3.66 (4.86)	3.36*
Emotional	16.74 (15.25)	31.45(21.91)	1.66
Motivational	1.47 (1.86)	3.32 (3.24)	2
CR	**4.36 (3.73)**	**5.63 (5.24)**	**0.62**
Cognitive	3.82 (3.45)	3.43 (3.52)	0.21
Emotional	0.00 (0.00)	0.00 (0.00)	0
Motivational	0.53 (1.00)	2.20 (4.82)	2

*p < .05/**p < .01 / ***p < .001

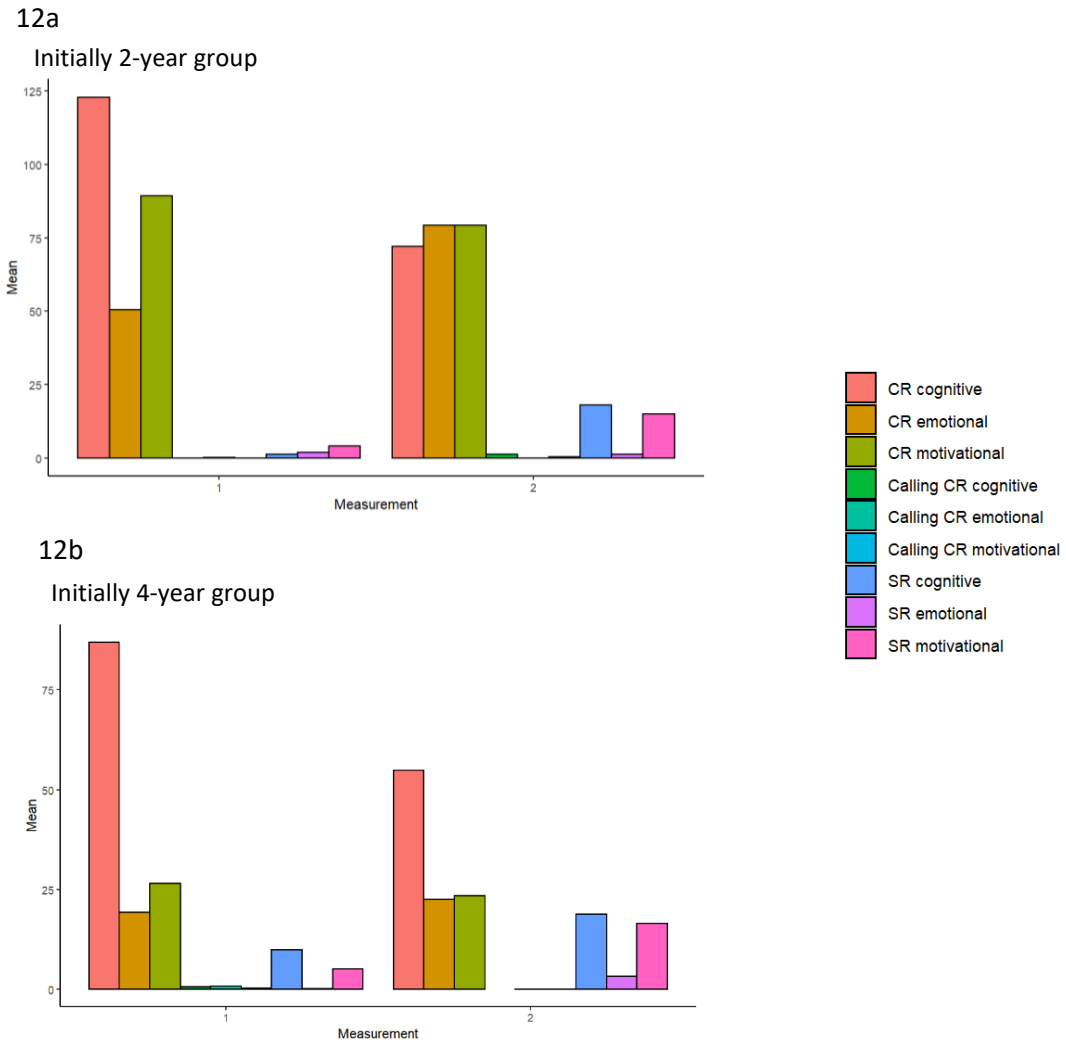
Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met

Overall, an increasing trend in children's SR skills is observed, as well as a decrease in Call for CR behaviors and an increasing ability to offer CR.

Adult regulation. Table 23 and Figure 12 show the duration in seconds of the regulatory variables shown by adults at each measurement point. As hypothesized, parents exhibit primarily CR behaviors and decrease their use as children get older, but the decline is only significant for the Cognitive dimension in the Initially 4-year group.

Figure 12

Parental regulation behaviors by dimension in each measurement



Note. Duration in seconds of SR, CR and Call for CR behaviors displayed by parents at first (i.e., baseline assessment) and second measurement (i.e., 18 months later)

In addition, an upward increase in the use of SR in adults is observed. This increase is shown both in the Initially 2-year group at the general SR level, and in the Initially 4-year group at the Motivational level. As expected, the Call for CR behaviors displayed by the parents were exhibited only at a rather low duration.

Table 23

Comparison of parental regulatory variables among measurements

	1st Measurement	2nd Measurement	T/W[1]
	M(SD)	M(SD)	
Initially 2-year group			
SR	**7.29 (5.51)**	**34.56 (22.68)**	**3.11***
Cognitive	1.26 (3.04)	18.09 (24.50)	2.06
Emotional	1.87 (2.53)	1.38 (2.56)	10
Motivational	4.16 (4.88)	15.09 (16.21)	1.77
Call for CR	**0.25 (0.69)**	**1.67 (2.37)**	**0**
Cognitive	0.00 (0.00)	1.19 (1.89)	0
Emotional	0.25 (0.69)	0.00 (0.00)	1
Motivational	0.00 (0.00)	0.48 (1.34)	0
CR	**262.83 (31.41)**	**230.56 (78.69)**	**1.39**
Cognitive	122.97 (28.35)	72.04 (27.82)	4.83**
Emotional	50.47 (22.79)	79.22 (56.80)	1.49
Motivational	89.40 (44.03)	79.31 (41.32)	0.53
Initially 4-year group			
SR	**15.13 (17.63)**	**38.44 (15.84)**	**2.90***
Cognitive	9.84 (16.59)	18.81 (15.14)	7
Emotional	0.22 (0.62)	3.21 (4.53)	1
Motivational	5.07 (4.36)	16.41 (7.39)	3.01*
Call for CR	**1.67 (3.09)**	**0.91 (1.54)**	**7**
Cognitive	0.59 (1.67)	0.92 (1.55)	4
Emotional	0.84 (2.38)	0.00 (0.00)	1
Motivational	0.24 (0.68)	0.00 (0.00)	1
CR	**132.70 (49.57)**	**100.86 (41.66)**	**1.85**
Cognitive	86.97 (35.62)	54.85 (30.80)	2.08
Emotional	19.19 (15.36)	22.52 (16.47)	0.36
Motivational	26.54 (20.09)	23.49 (26.93)	23

*p < .05/**p < .01 / ***p < .001

Note. [1] T-Test or Mann-Whitney-Wilcoxon test was performed depending on whether the normality requirement was met

In general, it is observed that as their children get older, parents decrease the offer of CR and increase SR behaviors.

Predictors of the observed variables at second measurement

As a last step, a multiple regression analysis was performed between the variables of measurement 1 and 2. Considering the low N of the analyses (i.e., N=16), the results should be taken as exploratory.

Forward-backward Stepwise procedure was used to enter the variables. Variables were entered (when significant correlations) in the following order: (1) child's age, (2) child's gender, (3) parental education level, (4) parental reported expectations, (5) parental reported CR strategies, (6) observed regulatory variables in previous measurement. Kindergarten attendance could not be entered as predictor because 100% of the participants attended kindergarten. Table 24 presents the significant results only.

Table 24

Results of multivariate multiple regression analysis

	ß	***t***	***Sig.***	**R^2**	**F**
Child observed variables					
Child SR				**.43**	**12.49****
Age Child	3.07	3.53	.003		
Child Call for CR					
No predictors					
Adult observed variables					
Adult CR				**.49**	**15.51****
Age Child	-4.83	-3.94	.001		
Adult SR					
No predictors					

*p < .05/ **p < .01 / ***p < .001

Note: R^2 considering only significant predictors.

The only predictor of the second measurement results on child SR and adult CR was the child's age. No sociodemographic or parent-reported variables predicted the observed variables during the coded interaction. That is, the changes observed between measures 1 and 2 in child SR and parental CR are exclusively predicted by the increase in child age at the present sample. In both cases the variance explained by child age is moderate (Rosenthal & Rosenthal, 2011).

DISCUSSION

Child SR can hardly be understood without considering the early dyadic interactions established between children and their primary caregivers, as well as the context in which these relationships unfold. Regulation takes place in a dyadic context where there is a continuous interplay between internal (i.e., SR) and external (i.e., CR) regulation (Eisenberg et al., 2010; Nigg, 2017; Pauen & EDOS group, 2016; Sameroff & Fiese, 2000). Both children and adults constantly regulate their internal states and behavior, either to adapt to a given context or to achieve a specific goal (Denham et al., 2014; Nigg, 2017). Therefore, SR and CR behaviors can only be understood in a meaningful manner when considering the relational and contextual aspects in which these behaviors occur.

Previous studies have shown the relevance of child SR for short- (Bornstein et al., 2018; Kim-Spoon et al., 2012; Montroy et al., 2016; Woodward et al., 2017) and long-term (Lin et al., 2016; Moffit et al. 2011; Poulton et al. 2015; Smithers et al., 2018) development. Likewise, the association between caregiver characteristics and the development of child SR is well documented (Jaramillo et al., 2017; Karreman et al., 2006; Lunkenheimer et al, 2017b). However, the mechanism by which parents influence the acquisition of child's SR skills, and moreover, the way in which children have an impact on relationship characteristics, are aspects that still need further investigation.

To help shed light on this process, in this thesis data was collected in Germany and Chile by applying two methodologies to address regulatory variables from a dyadic perspective. First, a parent report instrument (i.e., IMMA) was applied to assess parental expectations about child SR, co-regulatory strategies used by parents, and their children's behavior in situations eliciting SR. Second, a microanalytic observational instrument (i.e., SECORE) was employed to assess regulatory behaviors within parent-child dyad interactions.

The following is a summary of the results obtained at each stage of the research process: 1a) translation and validation of the IMMA-questionnaire in the Chilean population; 1b) comparison of data reported by German and Chilean parents collected online with the IMMA-questionnaire; 2a) cross-sectional comparison of parent-child dyads with 2- and 4-year-old children in Chile and Germany assessed with SECORE; and 2b) longitudinal analysis of changes in the German sample 18 months later after the first measurement.

Validation of the IMMA-Questionnaire in the Chilean population

At the statistical level, the IMMA instrument did not show a perfect fit in the Chilean sample compared to the original German version. However, more than 75% of the items remained in the same factor, and those that moved, did so as a block. It is possible that the models did not show a good fit

because in the CFA each item has a fixed weight in only one factor and a null weight in the remaining factors (Ferrando & Anguiano-Carrasco, 2010). This would imply assuming that each item is a pure measure of a given factor, a position that does not agree with the IMMA approach. Parents may score high on more than one factor, since caregivers often use different strategies depending on the situation (Nelson et al., 2011; Selin, 2014).

Moreover, the high internal consistency indices in the final Chilean version confirm that the instrument is suitable for use in this population. Even so, it is important to remember that internal consistency evaluates one type of validity of the instrument, and that it is still necessary to evaluate other types of validity (e.g., external validity, validity of content) (Goodwin, 2002; Vaughn & Daniel, 2012).

Based on the above, the first Hypothesis of this thesis, stating that the factorial structure of the IMMA instrument in the Chilean sample will be largely comparable to that of the German version, can be accepted.

Child SR and parental CR as reported by parents in Germany and Chile

A comparison of the findings collected with the IMMA instrument shows similarities but also differences between countries.

First, concerning *Parental ideas and goals regarding child SR***,** parents in both countries expected children of the same age as their own child to better deal with external requests (i.e., demands and prohibitions) than with internal challenges (i.e., needs, emotions, impulses). Young children are already able to follow instructions and rules provided by others, but they still find it difficult to regulate their internal states (Capella & Mendoza, 2011; Eisenberg et al., 2010; Kopp, 1982; Sowell et al., 2004). Moreover, consistent with the finding that SR capacities undergo substantial development during early childhood (Bechtel-Kuehne et al., 2016; Pauen & Evers, 2018) and that caregivers adapt their CR strategies throughout development (Pauen & EDOS group, 2016), parents from both countries raised their expectations regarding SR capacities of their children with age.

Differences between countries regarding *Parental Ideas and Goals about Child SR* were only found concerning dealing with external requests, with German parents reaching the highest scores overall. This suggests that German parents would have higher goals and attach greater importance to the development of regulatory skills in their children. One potential explanation for this finding is that German parents emphasize the autonomy of their child and that might lead to higher expectations regarding children's SR skills (e.g., Jaramillo et al., 2017; Rothbaum & Trommsdorff, 2007).

However, high kindergarten attendance in the German sample could also be a confounding factor (DIJ, 2020).

Second, with regard to *Child SR in Dealing with Goal-Frustration and Parental Requests***,** caregivers from Chile and Germany perceived their children as highly committed to reaching their own goals, but also willing to follow parental instructions. This confirms the idea that autonomy and relatedness are two separate needs which do not exclude each other and can be found in all cultures, even though they may differ in terms of their specific combination (Kagitcibasi, 2005; Keller, 2011, 2013; Keller & Kärtner, 2013; Rothbaum & Trommsdorff, 2007; Ryan & Deci, 2002; Tamis-LeMonda et al., 2020).

German children reached the highest scores on the scale Goal-Perseverance, suggesting high levels of self-management to achieve personal goals and to act autonomously. At the same time, they reached the highest scores on all compliance scales (except for Compliance under Physical Pressure), also showing a disposition to obey. Since compliance is an educational value more closely associated with relatedness than autonomy, this finding illustrates that both dimensions can be promoted in parallel (Kagitcibasi, 2005; Keller & Kärtner, 2013).

Third, when addressing *Parental CR in Situations Requiring Child SR*, parents of both countries preferred strategies like Social Appreciation and Distraction, thus seeking to promote a positive relation with their children and avoiding confrontation. Furthermore, both groups adjusted their parenting strategies to the child's age (at least to some extent), thereby showing sensitivity to age-related needs. This strengthens the view that parents share some natural and universal competences in caregiving (Papoušek & Papoušek, 2002).

Differences between cultures are more likely to be observed when focusing on situations involving a conflict of interest, as this requires caregivers to react by either seeking horizontal communication or highlighting vertical power differences (Halberstadt & Lozada, 2011; Hofstede et al., 1991). Chilean parents achieved higher scores in Distraction than German parents but reduced this strategy with the age of the child while increasing the use of Negotiation. This may suggest that they avoid conflict and negative feelings in early social interactions with their offspring, while promoting autonomy at the same time. Also, results suggest that as children grow older and begin to resist parental requests or prohibitions, their parents are likely to show more Strictness to promote socially acceptable behavior.

German parents scored highest on Social Appreciation as CR strategy, but also on Strictness. This combination indicates authoritative parenting because it combines high support with confrontative

control (Baumrind, 2012). German parents also revealed the strongest age-related increase in Negotiations with the Child, Use of Rewards, and Call for SR, which reflects differentiated knowledge about early childhood development. These findings are in line with the hypothesis that parents with a cultural background supporting autonomy encourage their child's self-determination and goal-perseverance. At the same time, this neither precludes confrontative control (Baumrind, 2012) nor does it prevent openness for negotiation.

In summary, there were similarities and differences in children SR and parental CR strategies reported in each country, with German parents reporting higher regulation expectations than Chilean parents. Therefore, the second hypotheses can be accepted.

Differences regarding cultural variables between countries

Findings from the cultural scales showed differences in the perception of the *self* (i.e., Self-Construal) but not in the perceived strictness in family and country norms (i.e., Tightness-Looseness) between Germany and Chile. Specifically, Chilean participants scored higher on both subscales, evidencing an emphasis on independence as well as interdependence in the conception of the individual and its relationship with others.

Previous studies in Chile had already reported high levels on both scales during the last decades (e.g., Benavides & Hur, 2019; Kolstad & Horpestad, 2009). On the one hand, high levels of interdependence are usually characteristic of Latin American cultures (Keller et al., 2006; Suizzo et al., 2019) whereby great importance is given to maintaining relationships with others and pursuing the well-being of the group. On the other hand, the increasing rise in independence scores in Chile has been attributed to the country's rapid economic development and societal changes in recent decades (Bush & Peterson, 2014).

Contrary to the findings of the study, previous literature describes Germany as a country in which the independent view strongly dominates (Keller, 2009; Weis et al., 2016a). In the present study, the expressions of the two variables of self-construction were somewhat lower than in Chile, but still in a medium to medium-high value range. Already more frequently, only medium expressions of the independent self-concept were shown among Germans (Thomas, 2011). Although it is surprising at first that the expression of interdependence is also in the same value range, there are empirical findings that found consistent results (Tang et al., 2016, 2017), and particularly in the young population (Tang et al., 2017).

As culture is a rich and dynamic concept with many different facets that is constantly evolving, there is a need to integrate more sociocultural variables into cross-cultural studies (Tang et al., 2017; Trommsdorff & Friedlmeier, 2010).

Microanalytic assessment of regulatory variables in parent-child interactions

Moving on to a more detailed assessment of regulatory variables, observational methodology was applied to evaluate regulatory behaviors (i.e., SR, CR, Call for CR) during parent-child interactions, again in Germany and Chile. As expected, neither Call for CR in caregivers nor CR in children was found to be very high. The procedure was not intended to be stressful or disruptive for the parents, while toddlers could concentrate on their own inner processes during the interaction with relaxed caregivers. Not only the nature of the task but also the selection of the sample may have contributed to this effect. After all, the current sample is dominated by highly educated parents and healthy dyads.

When testing for age-related differences, children in both age groups show mainly SR behaviors at the non-verbal level. Even so, a significant increase in SR behaviors is observed at both verbal and non-verbal levels between 2 and 4 years of age. These findings are consistent with earlier studies suggesting that the beginnings of language use for SR can be traced back to toddlerhood (Petersen et al., 2015; Vallotton & Ayoub, 2011). At the age of two years, corresponding skills may still be rudimentary, but at four years verbal SR becomes more relevant. In general, the results reveal that children's SR undergoes an important evolution during preschool years (Kochanska et al., 2001; LeCuyer-Maus & Houck, 2002).

Parents offered both verbal and non-verbal CR, but this decreased with the age of the child. The findings fit well with earlier studies showing that highly educated parents often use language to co-regulate their offspring – especially when helping their child to solve a cognitive task (Grolnick et al., 1998)-, and that caregivers typically downregulate CR with the age (and competence), thereby adapting their parenting strategies to the child's needs (Grolnick et al., 1998; Kochanska & Askan, 2004). Moreover, the increase of SR behaviors shown by parents with older children suggests that, as their children are able to self-regulate themselves, parents may be able to focus on their own internal states to a greater extent.

When differentiating by dimensions, the rise in child SR is mainly explained by an increase in Motivational SR, while the decrease in parental CR is mainly reflected in the Motivational and Cognitive dimensions. The absence of results in the Emotional dimension might have more to do with methodological and procedural issues. On the one hand, it is possible that the scenario does not elicit emotional distress in the dyad. Older children may have recognized the experimenter behind the mask,

and it was not always clear whether very young children understood the Wrong Gift situation. Besides, for parents the procedure may not pose a "real threat" for their children, so they might offer less CR than in everyday life situations. On the other hand, the differences are probably not reflected in the duration of regulatory variables, but instead in the strategies used (e.g., type or complexity), as it was shown in Study 1 as well as in previous research (Bechtel-Kuehne et al., 2016; Silkenbeumer et al., 2016).

Regarding the assumption that German and Chilean children differ in their SR abilities, this was only observed at the Motivational level in the 2-year-olds, with Chilean toddlers showing higher results. Aside from that, German 4-year-olds displayed more Call for CR behaviors in the Motivational dimension. There were no statistically significant differences between countries in the children's variables at the Emotional and Cognitive levels in either age group. Concerning parental CR, in the sample of 2-year-olds, Chilean parents offered more Motivational CR, while German parents provided more Cognitive CR. In the sample of 4-year-olds differences are reflected in the Emotional dimension, with Chilean children being Emotionally co-regulated for approximately twice as long as German children.

Overall, Chilean children and their parents showed more Motivational regulation compared to the German dyads. This could be related to the higher scores on the Independence and Interdependence scales being reported in Chile. It is possible that both internal motivation (e.g., self-concept, desire for the reward) as well as external motivation (e.g., seeking to fulfill the request) are involve when completing the activity in this sample (Markus & Kitayama, 1991; Trommsdorff, 2009). Likewise, the fact that German parents offer more Cognitive CR is supported by previous studies that point to the emphasis on cognitive stimulation within this culture (Eickhorst et al., 2008; Keller, 2003; Keller et al., 2004b, 2005; Rindermann et al., 2013).

As to the fact that Chilean parents show higher averages in Emotional CR in the 4-year-old sample, this could be related to higher scores on the Interdependence scale. In cultures with high levels of interdependence, positive value is placed on emotional support (Kitayama et al., 2010; Uchida et al., 2008), and attempts are made to regulate emotions that are considered negative (e.g., frustration, fear) (Ford & Mauss, 2015; Heikamp et al. 2013; Wang, 2003). Additionally, and as well associated with a stronger emphasis on interdependence, the fact that Chilean parents offered more Emotional CR may also be linked to a greater request of CR (i.e., Call for CR) displayed by Chilean children at ages two and four.

Finally, by assessing patterns of interaction within dyads, additional information on the sequence in which regulatory behaviors of parents and children are exhibited during social interactions emerges. A striking finding is that, even when parents tend to respond to their children's Call for CR, they mainly provide CR spontaneously. Studies using an interactional methodology between parents and young children often find that, even when a coordinated exchange is established, the interaction tends to be asymmetrical, with a greater likelihood of the adult following the child's cues than the contrary (Beebe et al., 2010, 2016). Over time, children become increasingly active and more symmetrical interactions are established (Aureli & Presaghi, 2010; Feldman, 2006; van Dijk et al., 2012), which is reflected in the current results by a greater likelihood of older children spontaneously displaying SR and the increase of children´s CR behaviors.

Three hypotheses (i.e., 3-5) relate to the data collected using SECORE. As expected, children show more SR as they get older and their parents decrease CR at the same time. Thus, Hypothesis 3 can be accepted. Regarding the Hypothesis 4, which states that German dyads will show more cognitive regulation while Chilean dyads will show more emotional regulation across-task, can only be partially accepted: German parents did provide more Cognitive CR and Chilean parents offered more Emotional CR, but the differences are not significant for child variables. Lastly, in accordance to Hypothesis 5, within a given dyad the regulatory behaviors of one partner were systematically related to the regulatory behaviors of the other partner. Hypothesis 5 can be therefore accepted.

Longitudinal changes in the German sample

Overall, the longitudinal data suggest a trend towards stability for both parent-reported and interaction-coded variables. Although it is clear that child SR increases with age and parental CR decreases, the changes are not always significant between measurements (i.e., within an 18-month window). This may be related to the fact that during development there are gradual cumulative changes and not as much acute variations (Aureli & Presaghi, 2010; Dishion et al. 2017), but also to the fact that parent-child interactions are established on the basis of previous interactions that determine a zone of tolerance to interplay (Aureli & Presaghi, 2010), thus seeking to maintain a certain stability.

In discussing IMMA outcomes, parents generally tend to increase their ideas and goals regarding their children's ability to cope with external demands and internal challenges as their children grow older. The sharpest change is observed in their ideas concerning children's ability to respond to external requests (i.e., demands and prohibitions) while parental expectations about how well their children can handle internal states remains at a lower level. This aligns with emotional regulation

milestones, according to which children would still need external help to handle strong emotions during the preschool years (Capella & Mendoza, 2011; Eisenberg et al., 2010). In addition, studies show that even when parents adapt their responses to their child's age and situation, they prefer to use certain strategies (Nelson et al., 2011; Selin, 2014).

Another change throughout development is the increased use of negotiation by both children and parents between 2 and 3.5 years of age. This may be due to the increase in children's verbal skills to express their ideas and desires (Stein & Albro, 2001), but also to the acquisition of theory of mind that would foster the understanding of a point of view different from one's own (Weerd et al., 2015). It could also be related to cultural aspects with emphasis on independence and the understanding of relationships as self-determined negotiations between separate interacting partners (Keller, 2013; Keller et al. 2006). Previous studies in the German population have reported that parents promote autonomy in their children and encourage horizontal interactions from an early age (Furnham & Kirkcaldy, 2000; Haerpfer et al., 2022; Keller, 2003; Keller et al., 2005; Otto & Keller, 2015).

When referring to the results obtained with the SECORE instrument, an increase in the time that children are able to self-regulate is observed. The increases are significant in Emotional and Motivational SR between the ages of 2 and 3.5 years, and at the Cognitive level between the ages of 4 and 5.5 years. This stands out the importance of evaluating the different dimensions of the regulatory variables separately. Considering the different developmental periods (Eisenberg et al., 2010; Kopp, 1982; Sowell et al., 2004) and the varying educational-goals of the different cultures (Bornstein & Cheah, 2006; Jaramillo et al., 2017; Keller et al., 2006; Trommsdorff & Korndat, 2003), it is coherent to consider these dimensions separately. Moreover, as children grow older, they also increase their ability to ask for help in regulating their internal states when needed (i.e., Call for CR) and even to offer CR to their parents at times. This again signals a transition toward more horizontal parent-child relationships as children get older.

Parents show a decrease in CR offered to their children when comparing means between measurements, with a significant decrease in Cognitive CR between the ages of 2 and 3.5 years. Nevertheless, although not significant, there is an increase in Emotional CR in both age groups. This could be related to the increase in Call for CR behaviors exhibited by the children as well, to which parents are likely to respond as observed in the previous results of sequential analysis. An increase in SR is also observed in adults as their children get older, with the stronger growth observed between the ages of 4 and 5.5 years at the Motivational level. It is possible that parents become bored in the experimental situation as their children do not rely on them to complete the activities.

The results show that, within the same dyad, parents' CR decreases and children's SR increases with the age of the child, but the changes are progressive and are revealed in particular regulatory dimensions. Thus, Hypothesis 6 can be partially accepted.

Summary of main findings

The results of the different stages provide complementary information to understand the complex path in which children learn to self-regulate and how parents accompany them. One of the cross-cutting findings presented above is the increase in children's SR skills and the parallel decrease in the need of parental CR. These changes are progressive and reflect an accumulation of gradual changes that promote variations throughout early childhood particularly in two aspects: the time that children are able to self-regulate and the SR strategies they use at different ages. During this stage parents are flexible and demonstrate understanding of child development, adapting their strategies according to the children's age and decreasing the CR offered as children are able to manage their internal states autonomously. The transition from external (i.e., CR) to internal (i.e., SR) regulation is thus supported by the results (Eisenberg et al., 2010; Nigg, 2017; Sameroff & Fiese, 2000).

Interestingly, the various regulatory dimensions exhibit distinct periods of change. Between 2 and 4 years of age, children primarily increase their ability to self-regulate at the Motivational level, demonstrating the capacity to set their own goals (Kopp, 1982; Montroy et al., 2016). Longitudinal results also show an increase in children's ability to self-regulate emotionally, although it seems to be a less prominent trend. Between these same ages, parents decrease CR at the Cognitive and Motivational levels, while Emotional CR actually appears to increase. Hypothetically, these changes in parental behavior would seem to be guided - rather than by their child's calls for CR- by parental expectations, by their knowledge of child development, and by their ability to recognize that the child has the self-regulatory capacities to cope with a given situation. Finally, after children reach 4 years of age, less acute changes are found in both parents and children.

The knowledge of child development that parents exhibit at different stages is also reflected on their increased expectations about their children's SR abilities (Bechtel-Kuehne et al., 2016; Pauen et al., 2019). Parents generally expect their children to deal better with external requests (i.e., demands and prohibitions) than with internal challenges (i.e., needs, emotions, impulses), but increase their expectations on both matters as their children get older. This is in line with previous research in child development, suggesting that young children are able to follow instructions and rules provided by caregivers, but often find it difficult to SR inner states (Eisenberg et al., 2010; Kopp, 1982; Sowell et al., 2004). Ideas and goals are important because they guide parental behavior (Bornstein et al., 2018;

Cote et al., 2015) and may vary depending on cultural aspects (Bornstein & Cheah, 2006; Jaramillo et al., 2017; Keller et al., 2006). According to the results, German parents showed higher expectations regarding their children's SR skills compared to Chilean parents, which might be related to the sharp increase in strategies such as Use of Rewards, Negotiation and Call for SR that German parents report as their children grow older.

When comparing the German and Chilean samples, it becomes clear that positive behaviors dominate parent-child relationships. Parents in both countries prefer strategies like Social Appreciation and Distraction, and adjust their parenting strategies to the age of the child showing sensitivity to age-related needs. Likewise, children are described by their parents as highly committed to reaching their own goals, but also willing to follow parental instructions in both countries. This reveals that toddlers in both countries are perceived as self-determined but socially oriented individuals, thus showing competences on the cultural dimensions of independence and interdependence at the same time (Kagitcibasi, 2005; Keller, 2011, 2013; Keller & Kärtner, 2013; Rothbaum & Trommsdorf, 2007; Ryan & Deci, 2002; Tamis-LeMonda et al., 2020).

Tentatively, the differences between cultures would be observed in situations when children refuse to follow instructions or become divergent, and how parents handle such situations, as this requires caregivers to react by either seeking horizontal communication or highlighting vertical power relationships. Besides, the differences found between countries in the present study are largely in line with common assumptions about the general cultural orientation of parental and child behavior: In Germany, parents hold high expectations regarding children's SR skills and their compliance, thus using mainly strategies that promote children´s autonomy while also making their expectations very clear. In Chile, on the other hand, parents express less clear expectations regarding child SR at the age-range tested and they seem to use more hierarchical strategies to promote corresponding skills

Nonetheless, when talking about cross-country differences, it is important to keep in mind what previous studies have shown: The same practices may be regarded as adequate in one country but not in another, just as certain parental characteristics may suit some children and cultures better (e.g., Bornstein & Cheah, 2006; Iyengar & Lepper, 1999; Jaramillo et al., 2017; Selin, 2014; Tamis-LeMonda, 2020) and will be related differently to long-term well-being (Ford & Mauss, 2015; Kitayama et al., 2010). Whether a given parental strategy is assumed to have positive or negative impact has more to do with what is regarded as normative in a cultural context and the emotional value that parents and children attribute to that strategy (Putnick et al., 2014; Rudy & Grusec, 2006). Thus, for example, Tamis-LeMonda (2020) speaks of *affiliative obedience* in Latin American

cultures, referring to the fact that on the one hand parents emphasize vertical relationships and promote obedience of their children, while on the other hand children tend to negotiate less and accept demands or prohibitions more easily without attempting to challenge authorities.

Another relevant insight revealed by the results are the individual differences. The generally high standard deviations of the regulatory variables and the specific dimensions indicate that individuals from the same country strongly differ in their ability to exhibit SR, CR and Call for CR. Presumably, this indicates that other factors beyond state affiliation influence children's SR and parents' CR, evidencing that SR is a complex and multicomponent construct (Blair & Raver, 2012; McClelland et al., 2010; Schunk & Zimmerman, 1997; Vohs & Baumeister, 2011) which is further determined by factors ranging from genetic aspects to complex skills (for a review see Bridgett et al., 2015, 2018). Therefore, it is important to foster multi-method studies incorporating variables at different levels when assessing regulatory variables during early childhood.

Clinical implications

SR has great implications for children's cognitive and socio-emotional development (Kim-Spoon, 2012; Montroy et al., 2016; Woodward et al., 2017) and later life outcomes, including mental and physical health as well as socio-economic status and well-being (Moffitt et al., 2011; Pandey et al., 2018; Poulton et al., 2015; Smithers et al., 2018). Nevertheless, a child-centered approach dominates when assessing SR (Karreman et al., 2006; Mata & Pauen, under review; Muñoz-Muñoz, 2017; Pallini, et al., 2018; Rademacher & Koglin, 2018), thus neglecting the role of CR.

Greater positive parental CR and flexible CR patterns during the early years have been associated with fewer externalizing and inattention/impulsive behaviors in children (Bardack et al., 2017; Lunkenheimer et al. 2011; Valentovich et al. 2018), as well as higher executive functions and IQ, which in turn predicted better academic competence and peer relationships in a sample of children from homeless families (Herbers et al., 2014). In addition, studies suggest that certain interaction characteristics, such as dyadic flexibility, can be affected by challenging situations (e.g., Face-to-Face Still-Face paradigm) (Busuito & Moore, 2017; Guo et al., 2015; Provenzi et al., 2015), or in populations with specific diagnoses (Guo et al. 2017; Valentovich et al 2018; Williams et al 2012).

The results presented in this thesis highlight the importance of understanding child regulation as a dyadic construct in which caregivers play a fundamental role. Approaching children's SR from an interactional and contextualized perspective becomes evident, a need that has been previously underlined (De Mol & Buysse, 2008; Li et al., 2019; McClelland et al. 2015). Accordingly, it becomes essential that at the clinical level the focus is not on the child only, but should rather be broadened to

the dyad, or even to the family and/or community level. Both child and parental behaviors can hardly be understood in isolation, and the inter-influence between different contextual levels in which the parent-child relationship takes place (Bornstein & Cheah, 2006; Bridgett et al., 2015) highlight the importance of fostering multi-level interventions.

In general terms, interventions aimed at improving children's SR skills have shown a moderate effect in the short and long term (i.e., pooled effect size: 0.42, range: 0.32-0.53; Pandey et al., 2018), even in populations with attention problems (Pooled effect size >1.00 (0.02 < 3.00); Reid et al., 2005), yet very few of them usually involve parents or family (Pandey et al., 2018). In addition, early childhood interventions show higher economic return on a large scale (Doyle et al., 2009; Hoddinott et al., 2013).

This thesis seeks to contribute to the understanding of the development of child SR from a dyadic and contextualized perspective. The use of different methodologies at different levels, also including interactional statistical analysis, allows to deepen the understanding of inter-influences between multiple variables. This, in turn, may enable the design of specific interventions to promote the quality of interaction and the development of SR, as well as to identify contextual aspects that could be related to the development of this skill. It is expected that the contribution will encourage the adoption of a dyadic approach at the preventive and intervention levels.

Limitations and future studies

One of the main limitations of the present study is the reduced sample size due to the Covid-19 pandemic in the Study 2. The pandemic may not only have affected the data collection, but should also be considered as an intervening variable that is not controlled in the current study. Family routines and parent-child interactions were strongly affected by restrictions (e.g., curfews, confinements, isolation, contact limitations) in both countries, some of which have shown negative impact on mental health in different cultures according to initial studies (Babulal et al., 2021; Duarte & Jiménez-Molina, 2022; Uribe et al., 2021). In addition, some statistical analyses initially planned could not be performed due to the lack of power. Future studies should include larger samples to perform more complex statistical analyses (e.g., cross-lagged, multi-level models) and address the specific mechanisms through which parental and child regulatory variables influence each other over time. Still, it is important to consider that the pandemic likely increased the willingness of parents to participate in Study 1, which was conducted online and yielded a fairly large sample size.

Another limitation is given by an overrepresentation of a healthy, highly educated population, with medium-high socioeconomic level. Likewise, in Studies 1b and 2a there were significant differences

in some sociodemographic variables: in the German population there was a higher percentage of children attending kindergarten and there were more married/cohabitant parents, whereas in the Chilean population the children in the 2-year-old group were older on average and their parents reported more hours of care. Therefore, it cannot be ruled out that the effects attributed to cultural orientation are confounded with the effects of these contextual factors.

There is also a limitation with respect to the culture variable. The complexity of operationalizing this variable has been pointed out previously (Keller et al., 2006; Lansford et al., 2016; Selin, 2014), suggesting that rather than trying to assess "culture" as a whole, beliefs and behaviors directly related to the variable under study should be assessed (Lansford et al., 2016). The present study overcame the criticized tendency to treat country as synonymous with culture, as different cultural orientations may exist within the same country (Keller et al., 2006; Trommsdorff & Kornadt, 2003), but it is still possible that the cultural scales employed are not appropriate for the contemporary times. Since culture is a rich and dynamic concept with many different facets that is constantly evolving (e.g., also through immigration), dichotomous terms such as independence and interdependence may not be able to depict complex cultural differences, which is why it would make sense to include further sociocultural variables into integrated intercultural studies (Tang et al., 2017; Trommsdorff & Friedlmeier, 2010).

Lastly, it is suggested that future studies assess parent-child interactions in naturalistic environments. Although both naturalistic and laboratory settings have advantages and disadvantages, elicitation of deregulated states is not always achieved during laboratory observation time. Consequently, naturalistic studies could capture a greater range of variability and can be complementary to laboratory assessments (Repetti et al., 2012).

CONCLUSIONS

This thesis combines a cross-sectional and a longitudinal design in two related studies. A multimethod approach is adopted, collecting data on regulatory variables in parent-child dyads applying two methods: parental reports and direct observation of interactions.

Findings obtained during the different stages of the study allow to state that there is a gradual acquisition of regulation skills throughout early childhood (Eisenberg et al., 2010;Pauen & Evers, 2018), a process that is concurrently accompanied by parents, who initially act as a source of external regulation and promote the development of child regulatory skills by adjusting their CR strategies (Pauen & EDOS group, 2016; Silkenbeumer et al., 2016). Results also underscore the importance of assessing the development of child SR within a given dyad to evaluate how established interaction patterns contribute to their development (Beebe et al., 2016; Lavelli et al., 2019) and how these change over time (Fogel, 2000, 2009; Harrist & Waugh, 2002). Furthermore, findings support the claim that regulation proceeds from the interpersonal (CR) to the intrapersonal (SR) level (Nigg, 2017; Pauen & the EDOS group, 2016; Sameroff & Fiese, 2000), with parent-child interactions evolving towards more symmetrical interactions (Aureli & Presaghi, 2010; Beebe et al., 2010, 2016) as the child grows older.

As for the differences between countries, there is evidence of both universality and cultural specificity in the development of parent-child regulation. The strategies most commonly used by parents and children in both countries are similar and indicate a propensity to relate positively to one another. Differences seem to arise in moments of opposition or disagreement, situations in which the strategies employed are in line with cultural aspects. Nevertheless, rather than trying to evaluate parenting practices based on some abstract and universal standard, future studies may address the question whether CR strategies in a specific combination allow the child to become a well-adjusted member of a given culture (Tamis-LeMonda, 2020; Selin, 2014; Trommsdorff, 2009; Pinquart & Kauser, 2018), thereby keeping in mind that the effects and benefits of parental interventions always vary with the age of the child and with the chosen outcome measures, as well as the specific educational goals.

In general, the current study highlights the need for a complex approach when trying to understand children's SR development and the role of cultural orientation, parental goals and ideas, the social context in which children grow up and the strategies that parents prefer in order to support their children in becoming autonomous, but also socially related members of a given society.

REFERENCES

Aber, J., Jones, S. & Cohen, J. (2000). The impact of poverty on the mental health and development of very young children. In C. H. Zeanah (Eds.), *Handbook of Infant Mental Health* (pp. 113-128). Guilford Press.

Achenbach, T. & Rescorla, L. (2001). *Manual for the ASEBA school-age forms & profiles: an integrated system of mult-informant assessment.* University of Vermont, Research Center for Children, Youth & Families.

Achnu (2006). Estilos de crianza y cuidado infantil en Santiago de Chile. Algunas reflexiones para comprender la violencia educativa en la familia. *Resource Centre*. https://resourcecentre.savethechildren.net/node/3026/pdf/3026.pdf

Adamson, L. & Frick, J. (2003). The Still Face: A History of a Shared Experimental Paradigm. *Infancy*, *4*(4), 451–473.

Allan, N. & Lonigan, C. (2014). Exploring dimensionality of effortful control using hot and cool tasks in a sample of preschool children. *Journal of Experimental Child Psychology, 122*, 33-47. https://doi.org/10.1016/j.jecp.2013.11.013

Ambrose, H. & Menna, R. (2013) Physical and relational aggression in young children: The role of mother–child interactional synchrony. *Early Child Development and Care 183,* 207–222. https://doi.org/10.1080/03004430.2012.669756

Aureli, T. & Presaghi, F. (2010). Developmental Trajectories for Mother–Infant co-regulation in the Second Year of Life. *Infancy, 15*(6), 557–585. https://doi.org/10.1111/j.1532-7078.2010.00034.x

Aureli, T., Presaghi, F.& Garito, M.(2018). Mother–infant co-regulation in dyadic and triadic contexts at 4 and 6 months of age. *Infant Child Development, 27,* e2072. https://doi.org/10.1002/icd.2072

Awang, Z. (2014) *A Handbook on SEM*, MPWS Publisher.

Babulal, G., Torres, V., Acosta, D., Agüero, C., Aguilar-Navarro, S., Amariglio, R., Ussui, J., Baena, A., Bocanegra, Y., Brucki, S., Bustin, J., Cabrera, D., Custodio, N., Díaz, M., Peñailillo, L., Franco, I., Gatchel, J., Garza-Naveda, A., Lara, M....Quiroz, Y. (2021). The impact of COVID-19 on the well-being and cognition of older adults living in the United States and Latin America. *eClinical Medicine, 35,* 100848. https://doi.org/10.1016/j.eclinm.2021.100848

Bakeman, R. & Gottman, J. (1987). *Observing interaction: An introduction to sequential analysis.* (2nd edition). Cambridge University Press.

Bakeman, R. & Quera, V. (2012). *Sequential analysis and observational methods for the behavioral sciences.* Cambridge University Press. https://doi.org/10.1017/CBO9781139017343

Bakeman, R., Robinson, B. & Quera, V. (1996). Testing Sequential Association: Estimating Exact p Values Using Sampled Permutations. *Psychological Methods, 1*(1), 4-15.

Bardack, S., Herbers, J. & Obradovic, J. (2017). Unique Contributions of Dynamic Versus Global Measures of Parent–Child Interaction Quality in Predicting School Adjustment. *Journal of Family Psychology, 31*(6), 649–658. http://dx.doi.org/10.1037/fam0000296

Barkley, R. (2011). Attention-Deficit/Hyperactivity disorder, self-regulation, and executive functioning. In K. Vohs, & R. Baumeister (Eds.), *Handbook of Self-regulation: Research, theory, and applications* (551-564). Guilford Press.

Baumrind, D. (2012). Differentiating between Confrontive and Coercive Kinds of Parental Power-*Assertive Disciplinary Practices. Human Development, 55*(2), 35-51. https://doi.org/10.1159/000337962

Bechtel-Kuehne, S., Strodthoff, A. & Pauen, S. (2016). Co- and self-regulation in the caregiver-child dyad: Parental expectations, children's compliance, and parental practices during early years. *Journal of Self-Regulation and Regulation, 2.* DOI: 10.11588/josar.2016.2.34352

Beebe, B. & Steele, M. (2013). How does microanalysis of mother–infant communication inform maternal sensitivity and infant attachment? *Attachment & Human Development,* 15(5-6), 583-602. https://doi.org/10.1080/14616734.2013.841050

Beebe, B., Hoven, C., Kaitz, M., Steele, M., Musa, G., Margolis, A., Ewing, J., Sossin, M. & Lee, S. (2020). Urgent engagement in 9/11 pregnant widows and their infants: Transmission of trauma. *Infancy, 25*(2), 165-189. https://doi.org/10.1111/infa.12323

Beebe, B., Jaffe, J., Markese, S., Buck, K., Chen, H., Cohen, P., Bahrick, L., Andrews, H. & Feldstein, S. (2010). The origins of 12-month attachment: A microanalysis of 4-month mother–infant interaction. *Attachment & Human Development, 12*(1–2), 3–141. https://doi.org/10.1080/14616730903338985

Beebe, B., Knoblauch, S., Rustin, J. & Sorter, D. (2005). *Forms of Intersubjectivity in Infant Research and Adult Treatment.* Other press

Beebe, B., Messinger, D., Bahrick, L., Margolis, A., Buck, K. & Chen, H. (2016), A systems view of mother–infant face-to-face communication. *Developmental Psychology, 52*, 556. https://doi.org/10.1037/a0040085

BEEG (2016). *Gesetz zum Elterngeld und zur Elternzei*t. https://www.gesetze-im-internet.de/beeg/

Beeghly, M. & Tronick, E. (2011). Early resilience in the context of parent-infant relationships: A social developmental perspective. *Current Problems in Pediatric and Adolescent Health Care, 41,* 197–201. http://dx.doi.org/10.1016/j.cppeds.2011.02.005

Belsky, J., Rha, J. & Park, S. (2000). Exploring reciprocal parent and child effects in US and Korean samples. *International Journal of Behavioral Development, 24,* 338–347. https://doi.org/10.1080/01650250050118321

Benavides, P. & Hur, T. (2019). Self-Construal Differences in Chile and South Korea: A Brief Report. *Psychological reports, 0*(0), 1-8. https://doi.org/10.1177/0033294119868786

Black, B. & Logan, A. (1995). Links between communication patterns in mother–child, father–child, and child–peer interactions and children's social status. *Child Development, 66,* 255– 271.

Blair, C. & Raver, C. (2012). Child development in the context of adversity: Experiential canalization of brain and behavior. *American Psychologist, 67*(4), 309–318. https://doi.org/10.1037/a0027493

Bornstein, M., & Cheah C. (2006). The place of "culture and parenting" in the ecological contextual perspective on developmental science. In K. Rubin & O. Chung (Eds.), *Parenting beliefs, behaviors, and parent-child relations: A cross-cultural perspective* (pp. 3-33). Psychology Press.

Bornstein, M., Putnick, D. & Suwalsky, J. (2018). Parenting Cognitions → Parenting Practices → Child Adjustment?: The Standard Model. *Development and Psychopathology, 30*(2), 399–416. https://doi.org/10.1017/S0954579417000931

Brauner, E., Boos, M. & Kolbe, M. (2018). *The Cambridge handbook of group interaction analysis*. Cambridge University Press.

Bretherton, I. (2013) Revisiting Mary Ainsworth's conceptualization and assessments of maternal sensitivity-insensitivity. *Attachment & Human Development, 15*(5-6), 460-484. http://dx.doi.org/10.1080/14616734.2013.835128

Bridgett, D., Burt, N., Edwards, E. & Deater-Deckard, K. (2015). Intergenerational Transmission of self-regulation: A Multidisciplinary Review and Integrative Conceptual Framework. *Psychological Bulletin, 141*(3), 602-654. https://doi.org/10.1037/a0038662

Bridgett, D., Ganiban, J., Neiderhiser, J., Natsuaki, M., Shaw, D., Reiss, D. & Leve, L. (2018). Contributions of mothers' and fathers' parenting to children's self-regulation: Evidence from an adoption study. *Developmental science, 21*(6), 11 S. https://doi.org/10.1111/desc.12692

Bronfenbrenner, U. (1979). *The ecology of human development: experiment by nature and design*. Cambridge.

Brown, L. & Iyengar, S. (2008) Parenting Styles: The Impact on Student Achievement, *Marriage & Family Review*, *43*(1-2), 14-38. https://doi.org/10.1080/01494920802010140

Bush, K. & Peterson, G. (2014). Parenting and Parent-Child Relationships in Chile. In H. Selin (eds) *Parenting Across Cultures. Science Across Cultures: The History of Non-Western Cultures, vol 7* (pp. 307-322). Springer

Busuito, A. & Moore, G. (2017). Dyadic flexibility mediates the relation between parent conflict and infants' vagal reactivity during the Face-to-Face Still-Face. *Developmental Psychobiology, 59*(1), 449–459. https://doi.org/10.1002/dev.21508

Calkins, S. (2011). Caregiving as co-regulation: Psychobiological processes and child functioning. In A. Booth, S. McHale, & N. Landale (Eds.), *Biosocial foundations of family processes* (pp. 49–59). Springer. http://dx.doi.org/10.1007/978-1-4419-7361-0_3

Capella, C. & Mendoza, M. (2011). Regulación emocional en niños y adolescentes: artículo de revisión. Nociones evolutivas y clínica psicopatológica. *Revista chilena de psiquiatria y neurologia de la infancia y adolescencia*, *22*(2), 165-168.

Chan, S., Bowes, J. & Wyver, S. (2009). Parenting style as a context for emotion socialization. *Early Educational Development*, *20*(4), 631–656. https://doi.org/10.1080/10409 28080 2541973

Chow, C. & Tan, C. (2018). The role of fat talk in eating pathology and depressive symptoms among mother-daughter dyads. *Body Image, 24*, 36–43. https://doi.org/10.1016/j.bodyim.2017.11.003

Cohen, D., Cassel, R., Saint-Georges, C., Mahdhaoui, A., Laznik, M., Apicella, F., Muratori, P., Maestro, S., Muratori, F. & Chetouani, M. (2013) Do parentese prosody and fathers' involvement in interacting facilitate social interaction in infants who later develop autism? *Plos One, 8,* e61402–e61402. https://doi.org/10.1371/journal.pone.0061402

Cole, P. Hall, S. & Radzioch, A. (2009). Emotional dysregulation and the development of serious misconduct. In S. Olson & A. Sameroff (Eds.), *Biopsychosocial regulatory processes in the development of childhood behavioral problems* (pp. 186–211). Cambridge University Press. https://doi.org/10.1017/CBO9780511575877.009

Cote, L., Kwak, K., Putnick, D., Chung, H. & Bornstein, M. (2015). The Acculturation of Parenting Cognitions: A Comparison of South Korean, Korean Immigrant, and European American Mothers. *Journal of Cross-Cultural Psychology*, *46*(9), 1115–1130. https://doi.org/10.1177/0022022115600259

Crugnola, C., Ierardi, E., Bottini, M., Verganti, C. & Albizzati, A. (2019). Childhood experiences of maltreatment, reflective functioning and attachment in adolescent and young adult mothers: Effects

on mother-infant interaction and emotion regulation. *Child Abuse & Neglect, 93,* 277–290. https://doi.org/10.1016/j.chiabu.2019.03.024

Curran, T. & Yoshimura, S. (2016). Mother-Child Reports of Affectionate Communication with Fathers: Associations with Family Satisfaction and Life Satisfaction. *Communication Reports, 29*(3), 163-174. ps://doi.org/10.1080/08934215.2016.1170171

Daniels, E., Mandleco, B. & Luthym, K. (2012). Assessment, management and prevention of childhood temper tantrums. *Journal of the American Academy of Nurse Practitioners, 24*(10), 569-573. https://doi.org/10.1111/j.1745-7599.2012.00755.x

Davenport, N. & Russell, J. (2008). *National Commission on Libraries and Information Science W DC Meeting the Information Needs of the American People: Past Actions and Future Initiatives.* https://www.govinfo.gov/app/details/GOVPUB-Y3_L61-0506935b335e70b88ba7e49802d6f9f1

De Falco, S., Emer, A., Martini, L., Rigo, P., Pruner, S. & Venuti, P. (2014). Predictors of mother–child interaction quality and child attachment security in at-risk families. *Frontiers in Psychology, 5,* 898. https://doi.org/10.3389/fpsyg.2014.00898

De Mol, J. & Buysse, A. (2008). Understandings of children's influence in parent-child relationships: A Q-methodological study. *Journal of Social and Personal Relationships, 25*(2), 359–379. https://doi.org/10.1177/0265407507087963

Denham, S., Bassett, H., Zinsser, K. & Wyatt, T. (2014). How Preschoolers' Social–Emotional Learning Predicts Their Early School Success: Developing Theory-Promoting, Competency-Based Assessments. *Infant and Child Development, 23,* 426–454. https://doi.org/10.1002/icd.1840

Dennis-Tirawy, T. (2019). The Future of Emotion Regulation Research Is in How We Measure the Dynamics of Change. *Developmental Psychology, 55*(9). http://dx.doi.org/10.1037/dev0000752

Di Giunta, L., Rothenberg, W., Lunetti, C., Landsford, J., Pastorelli, C., Eisenberg, N., Thartori, E., Basili E., Favini, A., Yotanyamaneewong, S., Alampay, L., Al-Hassan, S., Bacchini, D., Borsntein, M., Chang., L., Deater-Deckard, K., Dodge, K., Oburu, P., Skinner, A., Sorbring, E., Steinberg, L. Tapanya, S. & Tirado, L. (2020). Longitudinal associations between mothers' and fathers' anger/irritability expressiveness, harsh parenting, and adolescents' socioemotional functioning in nine countries. *Developmental Psychology, 56*(3), 458–474. https://doi.org/10.1037/dev0000849

Diamond, A. & Goldman-Rakic, R. (1989). Comparison of human infants and rhesus monkeys on Piaget's AB task: evidence for dependence on dorsolateral prefrontal cortex. *Experimental brain research, 74,* 24-40.

DiDonato, M, England, D., Martin, C. & Amazeen, P. G. (2013). Dynamical analyses for developmental science: a primer for intrigued scientists. Human Development, 56, 59–75. https://doi.org/10.1159/000342936

DIJ (2020). *Der Betreuungsbedarf bei U3 und U6 Kindern. DIJ Kinderbetreuungsreport*. https://www.dji.de/fileadmin/user_upload/dasdji/themen/Kinderbetreuung/DJI-Kinderbetreuungsreport_2020_U3-U6-Kinder_Studie1.pdf.pdf

Dinsmore, D., Alexander, P. & Loughlin, S. (2008). Focusing the Conceptual Lens on Metacognition, Self-regulation, and Self-regulated Learning. *Educational psychology review, 20*(4), 391-409. https://doi.org/10.1007/s10648-008-9083-6

Dishion, T., Mun, C., Tein, J., Kim, H., Shaw, D., Gardner, F., Wilson, M. & Peterson, J. (2017). The Validation of Macro and MicroObservations of Parent–Child Dynamics Using the Relationship Affect Coding System in Early Childhood. *Prevention Science, 18*, 268-280. https://doi.org/10.1007/s11121-016-0697-5

Doyle, O., Harmon, C., Heckman, J. & Tremblay, R. (2009). Investing in Early Human Development: Timing and Economic Efficiency. *Economics & Human Biology, 7*(1), 1-6. http://dx.doi.org/10.1016/j.ehb.2009.01.002

Draper, Z. & O'Connor, B. (2019). *LagSequential: Lag-Sequential Categorical Data Analysis. R package version 0.1.1*. https://cran.r-project.org/web/packages/LagSequential/LagSequential.pdf

Duarte, F. & Jiménez-Molina, A. (2022). A Longitudinal Nationwide Study of Psychological Distress During the COVID-19 Pandemic in Chile. *Frontiers in Psychiatry, 13*, 744204. https://www.frontiersin.org/articles/10.3389/fpsyt.2022.744204

EAG (2014). *Education at a Glance.* Retrieved from http://www.oecd.org/education/Germany-EAG2014-Country-Note.pdf

Eickhorst, A., Lamm, B., Borke, J. & Keller, H. (2008). Fatherhood in different decades: Interactions between German fathers and their infants in 1977 and 2001. *European Journal of Developmental Psychology*, *5*(1), 92-107. https://doi.org/10.1080/17405620601106495

Eisenberg, N., Spinrad, T.& Eggum, N. (2010): Emotion-related self-regulation and its relation to children's maladjustment. *Annual Review of Clinical Psychology, 31,* 89–97. https://doi.org/10.1146/annurev.clinpsy.121208.131208

ELPI (2017). *Encuesta Longitudinal de Primera Infancia. Resultados preliminares*. http://observatorio.ministeriodesarrollosocial.gob.cl/elpi/docs/resultados2017/ELPI-PRES_Resultados_2017.pdf

ENPI (2010). *Encuesta Nacional de la Primera Infancia*. https://www.crececontigo.gob.cl/wp-content/uploads/2015/12/Informe-Final-Preliminar-Primera-ENCUESTA-NACIONAL-DE-PRIMERA-INFANCIA.pdf

Eyberg, S., Nelson, M., Duke, M. & Boggs, S. (2005). *Manual for the Dyadic parent–child interaction coding system* (3rd ed.) [Unpublished manuscript]. University of Florida, Gainesville.

Faran, Y. & Zanbar, L. (2019). Do required fields in online surveys in the social sciences impair reliability? *International Journal of Social Research Methodology, 22*(6). ps://doi.org/10.1080/13645579.2019.1630899

Feldman, R. (2003). Infant–mother and infant–father synchrony: The co-regulation of positive arousal. *Infant Mental Health Journal, 24*(1), 1–23. https://doi.org/10.1002/imhj.10041

Feldman, R. (2006). From Biological Rhythms to Social Rhythms: Physiological Precessors of Mother–Infant Synchrony. *Developmental Psychology, 42*(1), 175–188. https://doi.org/10.1037/0012-1649.42.1.175

Feldman, R. (2007a). Mother-infant synchrony and the development of moral orientation in childhood and adolescence: direct and indirect mechanisms of developmental continuity. *American Journal of Orthopsychiatry, 77*(4), 582-97. https://doi.org/10.1037/0002-9432.77.4.582

Feldman, R. (2007b). Parent–infant synchrony and the construction of shared timing; physiological precursors, developmental outcomes, and risk conditions. Journal of Child Psychology and Psychiatry, 48(3/4), 329–354. https://doi.org/10.1111/j.1469-7610.2006.01701.x.

Feldman, R., Eidelman, A. & Rotenberg, A. (2004). Parenting Stress, Infant Emotion Regulation, Maternal Sensitivity, and the Cognitive Development of Triplets: A Model for Parent and Child Influences in a Unique Ecology. *Child Development, 75*(6), 1774-1791. https://doi.org/10.1111/j.1467-8624.2004.00816.x

Feldman, R., Greenbaum, C. & Yirmiya, N. (1999). Mother–infant affect synchrony as an antecedent of the emergence of self-control. *Developmental Psychology, 35*, 223–231.

Feng, X., Shaw, D., Skuban, E. & Lane T. (2007). Emotional exchange in mother-child dyads: stability, mutual influence, and associations with maternal depression and child problem behavior. *Journal of family psychology, 21*(4), 714-25. https://doi.org/10.1037/0893-3200.21.4.714

Ferrando, J. & Anguiano-Carrasco, C. (2010). El análisis factorial como técnica de investigación en psicología. *Papeles del Psicólogo, 31*, 18-33.

Figueroa, A., Aburto, M. & Acevedo, R. (2012). Conflicto trabajo-familia, autoeficacia parental y estilos parentales percibidos en padres y madres de la ciudad de Talca, Chile. *Acta Colombiana de Psicología, 15*(1), 57-65.

Fitzpatricka, J., Gareaua, A., Lafontainea, M. & Gaudreaua, P. (2016). How to Use the Actor-Partner Interdependence Model (APIM) To Estimate Different Dyadic Patterns in MPLUS: A Step-by-Step Tutorial. *The Quantitative Methods for Psychology, 12*(1), 74-86.

Flavell, J. (1979). Metacognition and cognitive monitoring: A new area of cognitive–developmental inquiry. *American Psychologist, 34*(10), 906–911. https://doi.org/10.1037/0003-066X.34.10.906

Fogel, A. (2000). Beyond individuals: A relational-historical approach to theory and research on communication. In M. L. Genta (Ed.), *Mother-infant communication* (pp. 123–161). Carocci.

Fogel, A. (2009). What is a transaction. In A. Sameroff (Ed.), *The transactional model of development: How children and contexts shape each other.* American Psychological Association.

Fogel, A., Koeyer, I., Secrist, C., Sipherd, A., Hafen, T. & Fricke, M. (2003). *The Revised Relational Coding System*. https://www.researchgate.net/publication/352996410_The_Revised_Relational_Coding_System

Ford, B. & Mauss, I. (2015). Culture and emotion regulation. *Current Opinion in Psychology*, *3*, 1-15. http://dx.doi.org/10.1016/j.copsyc.2014.12.004

Fox, N. & Calkins, S. (2003). The Development of Self-Control of Emotion: Intrinsic and Extrinsic Influences. *Motivation and Emotion, 27*, 7–26. DOI 10.1023/A:1023622324898

Freund, H., Zimmermann, J., Pfeiffer, N., Conradi, A., Hunger, C., Riedel, F., Boysen, F., Schwinn, L., Rost, R., Cierpka, M., & Kämmerer, A. (2012). Wie lässt sich der Einfluss von Kultur auf Erleben und Verhalten messen? Konzeptuelle und empirische Einführung einer multidimensionalen Kultur-Fragebogenbatterie. *Diagnostica, 58*, 53-63. https://doi.org/10.1026/0012-1924/a000045

Friedlmeier, W., Schäfermeier, E., Vasconcellos, V. & Trommsdorf, G. (2008). Self-construal and cultural orientation as predictors for developmental goals: A comparison between Brazilian and German caregivers. *European Journal of Developmental Psychology, 5*(1), 39-67. https://doi.org/10.1080/17405620600751085

Furnham, A. & Kirkcaldy, B. (2000). Economic socialization: German parents´ perceptions and implementation of allowances to educate children. *European Psychologist, 5*(3), 202.

Garcia, F., Serra, E., Garcia, O., Martinez, I., & Cruise, E. (2019). A Third Emerging Stage for the Current Digital Society? Optimal Parenting Styles in Spain, the United States, Germany, and Brazil.

International Journal of Environmental Research and Public Health, 16(13), 2333. https://doi.org/10.3390/ijerph16132333

Garon, N., Bryson, S. & Smith, I. (2008). Executive Function in Preschoolers: A Review Using an Integrative Framework. *Psychological Bulletin, 134*(1), 31–60. https://doi.org/10.1037/0033-2909.134.1.31

Garon, N., Johnson, B. & Steeves, A. (2011): Sharing with others and delaying for the future in preschoolers. *Cognitive Development: 26,* 383–396. https://doi.org/10.1016/j.cogdev.2011.09.007

Gates, K. & Liu, S. (2016). Methods for quantifying patterns of dynamic interactions in Dyad. Assessment, 1–13. https://doi.org/10.1177/1073191116641508

Gelfand, M., Raver, J., Nishii, L., Leslie, L., Lun, J., Chong, B., Duan, L., Almaliach, A., Ang, S., Arnadottir, J., Aycan, Z., Boehnke, K., Boski, P., Cabecinhas, R., Chan, D., Chhokar, J., D'Amato, A., Ferrer, M., Fischlmayr, I.…. Yamaguchi, S. (2011). Differences between tight and loose cultures: a 33-nation study. *Science, 332,* 1100-1104. https://doi.org/10.1126/science.1197754

Georgas, J., Berry, J., Van de Vijver, F., Kagitçibasi, C. & Poortinga, Y. (2006). *Families across cultures: A 30-nation psychological study.* Cambridge University Press.

Gewirtz, A., DeGarmo, D. & Medhaine, A. (2011). Effects of mother's parenting practices on child internalizing trajectories following partner Violence. *Journal of family psychology, 25*(1), 29-38. http://dx.doi .org/10.1037/a0022195

Goodwin, L. (2002). Changing Conceptions of Measurement Validity: An Update on the New Standards. *Journal of Nursing Education, 41*(3). https://doi.org/10.3928/0148-4834-20020301-05

Grolnick, W., Kurowski, C., McMenamy, J., Rivkin, I. & Bridges, L. (1998). Mothers´strategies for regulating their toddlers´ distress. *Infant Behavior & Development, 21*(3), 437-450.

Gross, J. J. (2014). Emotion regulation: Conceptual and empirical foundations. In J. J. Gross (Ed.), *Handbook of emotion regulation* (pp. 3–20). The Guilford Press.

Gross, J., & Thompson, R. (2007). Emotion regulation: Conceptual foundations. In J. Gross (Eds.), *Handbook of emotion regulation* (pp. 3-24). Guilford Press.

Guntzviller, L. (2015). Testing Multiple Goals Theory With Low-Income, Mother-Child Spanish-Speakers: Language Brokering Interaction Goals and Relational Satisfaction. *Communication Research, 44*(5), 717-742. https://doi.org/10.1177/0093650215608238

Guo, Y., Garfin, D., Ly, A. & Goldberg, W. (2017). Emotion co-regulation in Mother-Child Dyads: A Dynamic Systems Analysis of Children with and without Autism Spectrum Disorder. *Journal of Abnormal Child Psychology, 45*(7), 1369–1383. https://doi.org/10.1007/s10802-016-0234-9

Guo, Y., Leu, S., Barnard, K., Thompson, E. & Spieker, S. (2015). An Examination of Changes in Emotion co-regulation Among Mother and Child Dyads During the Strange Situation. *Infant Child Development, 24*(3), 256–273. https://doi.org/10.1002/icd.1917

Haerpfer, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano J., Lagos, P., Norris, E., Ponarin, E. & Puranen, B. (2022). *World Values Survey: Round Seven - Country-Pooled Datafile Version 3.0. Madrid, Spain & Vienna, Austria*. JD Systems Institute & WVSA Secretariat. https://doi.org/10.14281/18241.16

Hair, J., Babin, B., Money, A. & Samouel, P. (2003). *Essential of business research methods*. John Wiley & Sons.

Halberstadt, A. & Lozada, F. (2011). Emotion Development in Infancy through the Lens of Culture. *Emotion review, 3*(2), 158-168. http://doi.org/10.1177/1754073910387946

Hamilton, J., Mays, D., DeMarco, T. & Tercyak, K. (2016). Modeling the dyadic effects of parenting, stress, and coping on parent–child communication in families tested for hereditary breast-ovarian cancer risk. *Familial Cancer, 15*(4): 513–522. https://doi.org/10.1007/s10689-016-9876-6

Hamilton, V., Matthews, J. & Crawford, S. (2015). *Me as a Parent Questionnaire*. APA PsycTests. https://doi.org/10.1037/t45911-000

Hancock D. (2014). Consequences of Parenting on Adolescent Outcomes. *Societies, 4*(3), 506-531. https://doi.org/10.3390/soc4030506

Harrist, A. & Waugh, R. (2002). Dyadic synchrony: Its structure and function in children's development. *Developmental Review, 22,* 555–592. https://doi.org/10.1016/S0273-2297(02)00500-2

Haskett, M., Nears, K., Ward, C. & McPherson, A. (2006). Diversity in adjustment of maltreated children: Factors associated with resilient functioning. *Clinical Psychology Review, 26,* 796–812. https://doi.org/10.1016/j.cpr.2006.03.005

Healey, D., Gopin, C., Grossman, B., Campbell, S. & Halperin, J. (2010). Mother–child dyadic synchrony is associated with better functioning in hyperactive/inattentive preschool children. *The Journal of Child Psychology and Psychiatry, 51*(9), 1058-1066. https://doi.org/10.1111/j.1469-7610.2010.02220.x

Heikamp, T., Trommsdorff, G. & Fäsche, A. (2013). Development of self-regulation in context. In G. Sebaas, M. Schmitz, & P. Gollwitzer (Ed.) *Acting Intentionally and Its Limits: Individuals, Groups, Institutions* (pp. 193–222). De Gruyter.

Herbers, J., Cutuli, J., Supkoff, L., Narayan, A. & Masten, A. (2014). Parenting and Coregulation: Adaptive Systems for Competence in Children Experiencing Homelessness. *American Journal of Orthopsychiatry, 84*(4), 420–430. http://dx.doi.org/10.1037/h0099843

Hoddinott, J., Alderman, H., Behrman, J., Haddad, L. & Horton, S. (2013). The economic rationale for investing in stunting reduction. *Maternal & Child Nutrition, 9*(2), 69-82. https://doi.org/10.1111/mcn.12080

Hoffman, C., Crnic, K. & Baker, J. (2006). Maternal depression and parenting: Implications for children's emergent emotion regulation and behavioral functioning. *Parenting: Science and Practice, 6*(4), 271–295. https://doi.org/10.1207/s15327922par0604_1

Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Thousand Oaks.

Hofstede, G., Hofstede, G. & Minkov, M. (1991). *Cultures and organizations: Software of the mind* (Vol. 2). McGraw-Hill.

Holden, G. (1997). *Parents and the dynamics of child rearing*. Perseus.

Holodynski, M. & Friedlmeier, W. (2006). *Development of emotions and emotion regulation,* Springer.

Iyengar, S. & Lepper, M. (1999). Rethinking the value of choice: A cultural perspective on intrinsic motivation. *Journal of Personality & Social Psychology, 76,* 349 366.

Jaramillo, J., Rendón, M., Muñóz, L., Weis, M. & Trommsdorff, G. (2017). Children's self-regulation in Cultural Contexts: The Role of Parental Socialization Theories, Goals, and Practices. *Frontiers in Psychology, 8,* 923. https://doi.org/10.3389/fpsyg.2017.00923

Kagitcibasi, C. (2005). Autonomy and Relatedness in Cultural Context. Implications for Self and Family. *Journal of Cross-Cultural Psychology, 36*(4), 403-422. https://doi.org/10.1177/0022022105275959

Kalpidou, M., Rothbaum, F., & Rosen, K. (1998). A longitudinal study of mothers' and preschool children's aversive behaviors during dyadic interactions. *Journal of Genetic Psychology, 159,* 103–116. https://doi.org/10.1080/00221329809596138

Karreman, A., van Tujil, C., van Aken, M., Dekovic, M. (2006). Parenting and self-regulation in Preschoolers: A Meta-Analysis. *Infant and Child Development, 15*, 561–579. https://doi.org/10.1002/icd.478

Keller, H. & Kärtner, J. (2013). Development-The culture-specific solution of universal developmental tasks. In M. Gelfand, C., Chiu, & Hong, Y. (Eds.), *Advances in culture and psychology, Vol. 3* (pp. 63-116). Oxford University Press.

Keller, H. (2003). Socialization for competence: Cultural models of infancy. *Human Development, 46*, 288-311. https://doi.org/10.1159/000071937

Keller, H. (2009). Cultures of infancy. The foundation of developmental pathways. In G. Aikaterini & K. Mylonas (Hrsg.), *Quod Erat Demonstrandum: From Herodotus' ethnographic journeys to cross-cultural research: Proceedings from the 18th International Congress of the International Association for Cross-Cultural Psychology*. https://scholarworks.gvsu.edu/iaccp_papers/63/

Keller, H. (2011). *Kinderalltag. Kulturen der Kindheit und ihre Bedeutung für Bindung, Bildung und Erziehung.* Springer.

Keller, H. (2013). Culture and Development: Developmental Pathways to Psychological Autonomy and Hierarchical Relatedness. *Online Readings in Psychology and Culture, 6*(1). https://doi.org/10.9707/2307-0919.1052

Keller, H., Borke, J., Yovsi, R., Lohaus, A & Jensen, H. (2005). Cultural orientations and historical changes as predictors of parenting behavior. *lnternational Journal of Behavioral Development, 29*(3),229-237. https://doi.org/10.1177/01650250544000017

Keller, H., Lamm, B., Abels, M., Yovsi, R., Borke, J., Jensen, H., Papaligoura, Z., Holub, C., Lo, W., Tomiyama, A., Su, Y., Wang. Y. & Chaudhary, N. (2006). Cultural models, socialization goals, and parenting ethnotheories: A multicultural analysis. *Journal of Cross-Cultural Psychology, 37*(2), 155-172. https://doi.org/10.1177/0022022105284494

Keller, H., Lohaus, A., Künsemüller, P., Abels, M., Yovsi, R., Voelker, S., Jensen, H., Papaligoura, Z., Rosabal-Coto, M., Kulks, D. & Mohite, P. (2004a). The bio-culture of parenting. Evidence from five cultural communities. *Parenting: Science and Practice,4*(1), 25-50. https://doi.org/10.1207/s15327922par0401_2

Keller, H., Yovsi, R., Borke, J., Kartner, J., Jensen, H. & Papaligoura, Z. (2004b). Developmental Consequences of Early Parenting Experiences: Self-Recognition and self-regulation in Three Cultural Communities. *Child Development, 75*(6), 1745-1760. https://doi.org/10.1111/j.1467-8624.2004.00814.x.

Kelley, N., Gallucci, A., Riva, P., Lauro, L. & Schmeichel, B. (2019). Stimulating self-regulation: A Review of Non-invasive Brain Stimulation Studies of Goal-Directed Behavior. *Frontiers in behavioral neuroscience. 12,* 337. https://doi.org/10.3389/fnbeh.2018.00337

Kemp, C., Lunkenheimer, E., Albrecht, E. & Chen, D. (2016). Can We Fix This? Parent–Child Repair Processes and Preschoolers' Regulatory Skills. *Family Relations, 65*(4), 576–590. http://dx.doi.org/10.1111/fare.12213

Kim, S., Nordling, J., Yoon, J., Boldt, L. & Kochanska, G. (2013). Effortful Control in "Hot" and "Cool" Tasks Differentially Predicts Children's Behavior Problems and Academic Performance. *Journal of Abnormal Child Psychology, 41*(1), 43-56. https://doi.org/10.1007/s10802-012-9661-4

Kim-Spoon, J., Haskett, M., Longo, G. & Nice, R. (2012). Longitudinal study of self-regulation, positive parenting, and adjustment problems among physically abused children. *Child Abuse & Neglect, 36*, 95-107. https://doi.org/10.1016/j.chiabu.2011.09.016

Kitayama, S., Karasawa, M., Curhan, K., Ryff, C. & Markus, H. (2010). Independence and interdependence predict health and wellbeing: divergent patterns in the United States and Japan. *Frontiers in Psychology.* https://doi.org/10.3389/fpsyg.2010.00163

Kochanska, G. & Askan, N. (2004). Development of Mutual Responsiveness Between Parents and Their Young Children. *Child Development, 75*(6), 1657 – 1676. https://doi.org/10.1111/j.1467-8624.2004.00808.x

Kochanska, G., & Aksan, N. (1995). Mother–child mutually positive affect, the quality of child compliance to requests and prohibitions, and maternal control as correlates of early internalization. *Child Development, 66,* 236–254. DOI: 10.1111/1467- 8624.ep9503233359

Kochanska, G., & Knaack, A. (2003). Effortful control as a personality characteristic of young children: Antecedents, correlates, and consequences. *Journal of Personality, 71,* 1087–1112. https://doi.org/10.1111/1467-6494.7106008

Kochanska, G., Coy, K., & Murray, K. (2001). The development of self-regulation in the first four years of life. *Child Development, 72,* 1091–1111. http://dx.doi.org/10.1111/1467-8624.00336

Kolstad, A. & Horpestad, S. (2009). Self-Construal in Chile and Norway. Implications for Cultural Differences in Individualism and Collectivism. *Journal of Cross-Cultural Psychology, 40*(2), 275-281. https://doi.org/10.1177/0022022108328917

Kopp, C. (1982). Antecedents of self-regulation: A developmental perspective. *Developmental Psychology, 18,* 199-214.

Landy, S. & Menna, R. (2001) Play between aggressive young children and their mothers. *Clinical Child Psychology and Psychiatry, 6,* 223–240. https://doi.org/10.1177/1359104501006002005

Lansford, J., Bornstein, M., Deater-Deckard, K., Dodge, K., Al-Hassan, S., Bacchini, D., Bombi, A., Chang, L., Chen, B., Di Giunta, L., Malone, P., Oburu, P., Pastorelli, C., Skinner, A., Sorbring, E., Steinberg, L., Tapanya, S., Alampay, L., Uribe, L. & Zelli, A. (2016). How international research on parenting advances understanding of child development. *Child Development Perspectives, 10*(3), 202-207. https://doi.org/10.1111/cdep.12186

Lansford, J., Godwin, J., Al-Hassan, S., Bacchini, D., Bornstein, M., Chang, L., Chen, L., Deater-Deckard, K., Di Giunta, L., Dodge, K., Malone, P., Oburu, P., Pastorelli, C., Skinner, A., Sorbring, E., Steinberg, L., Tapanya, S., Alampay, L., Uribe, L. & Zelli, A. (2018). Longitudinal associations between parenting and youth adjustment in twelve cultural groups: Cultural normativeness of parenting as a moderator. *Developmental Psychology Journal, 54*(2), 362-377. https://doi.org/10.1037/dev0000416

Lansford, J., Sharma, C., Malone, P., Woodlief, D., Dodge, K., Oburu, P, Pastorelli, C., Skinner, A., Sorbring, E., Tapanya, S., Tirado, L., Zelli, A., Al-Hassan, S., Alampay, L., Bacchini, D., Bombi, A., Bornstein, M., Chang, L., Deater-Deckard, K. & Di Giunta, L. (2014). Corporal punishment, maternal warmth, and child adjustment: A longitudinal study in eight countries. *Journal of Clinical Child & Adolescent Psychology, 43*, 670–685. https://doi.org/10.1080/15374416.2014.893518

Laurin, J. & Joussemet, M. (2017). Parental autonomy-supportive practices and toddlers' rule internalization: A prospective observational study. *Motivation and Emotion, 41,* 562–575. https://doi.org/10.1007/s11031-017-9627-5

Lavelli, M., Carra, C., Rossi, G. & Keller, H. (2019). Culture-Specific Development of Early Mother–Infant Emotional co-regulation: Italian, Cameroonian, and West African Immigrant Dyads. *Developmental Psychology, 55*(9), 1850 –1867. http://dx.doi.org/10.1037/dev0000696

LeCuyer-Maus, E. & Houck, G. (2002). Mother–toddler interaction and the development of self-regulation in a limit-setting context. *Journal of Pediatric Nursing, 17,* 184–200. https://doi.org/10.1053/jpdn.2002.124112

Leith, G., Yuill, N., & Pike, A. (2018). Scaffolding under the microscope: Applying self-regulation and other-regulation perspectives to a scaffolded task. *British Journal of Educational Psychology, 88*(2), 174-191. https://doi.org/10.1111/bjep.12178

Lemelin, J., Tarabulsy, G. & Provost, M. (2006). Preschool cognitive development from infant temperament, maternal sensitivity and psychosocial risk. *Merrill-Palmer Quarterly, 52,* 779–806. https://doi. org/10.1353/mpq.2006.0038

Lemery-Chalfant, K., Doelger, L. & Goldsmith, H. (2008). Genetic relations between effortful and attentional control and symptoms of psychopathology in middle childhood. *Infant Child Development, 17*, 365–85. http://doi.org/10.1002/icd.581

Li, J., Fung, H., Bakeman, R., Rae, K. & Wie, W. (2014). How European American and Taiwanese Mothers Talk to Their Children About Learning. *Child Development, 85*(3), 1206-1221. https://doi.org/10.1111/cdev.12172

Li, J., Willems, Y., Stok, F., Dekovic´, M., Bartels, M. & Finkenauer, C. (2019). Parenting and Self-Control Across Early to Late Adolescence: A Three-Level Meta-Analysis. *Perspectives on Psychological Science, 14*(6), 967–1005. https://doi.org/10.1177/1745691619863046

Liao, P. & Hsieh, J. (2017). Does Internet-Based Survey Have More Stable and Unbiased Results than Paper-and-Pencil Survey? *Open Journal of Social Sciences, 5, 69*-86. http://dx.doi.org/10.4236/jss.2017.51006

Liebermann, D., Giesbrecht, G. & Müller, U. (2007). Cognitive and emotional aspects of self-regulation in preschoolers. *Cognitive Development, 22,* 511–529. https://doi.org/10.1016/j.cogdev.2007.08.005

Lin, B., Coburn, S., & Eisenberg, N. (2016). Self-regulation and reading achievement. In C. Connor (Eds), *The Cognitive Development of Reading and Reading Comprehension* (pp.67–86). Routledge.

Linblom, J., Punamäki, R., Flykt, M., Vänskä, M., Nummi, T., Sinkkonen, J., Tiitinen, A. & Tulppala, M. (2016). Early Family Relationships Predict Children's Emotion Regulation and Defense Mechanisms. *SAGE Open,* 1–18. https://doi.org/10.1177/2158244016681393

Lindsey, F., Mize, J. & Pettit, G. (1997). Mutuality in parent–child play: Consequences for children's peer competence. *Journal of Social and Personal Relationships, 14*, 523–538.

Lobo, F. & Lunkenheimer, E. (2020). Understanding the Parent-Child co-regulation Patterns Shaping Child self-regulation. *Developmental Psychology, 56*(6). 1121–1134, http://dx.doi.org/10.1037/dev0000926

Lohaus, A. & Glüer, M. (2018). Selbstregulation bei Kindern im Rahmen der Entwicklungs- und Erziehungspsychologie. Springer Berlin Heidelberg.

Lucassen, N., Tharner, A., Van Ijzendoorn, M., Bakermans-Kranenburg, M., Volling, B., Verhulst, F., Lambregtse-Van den Berg, M. & Tiemeier, H. (2011). The Association Between Paternal Sensitivity and Infant–Father Attachment Security: A Meta-Analysis of Three Decades of Research. *Journal of Family Psychology, 25*(6), 986-992. https://doi.org/10.1037/a0025855

Lunkenheimer, E., Kemp, C., Lucas-Thompson, R., Cole, P. & Albrecht, E. (2017a). Assessing Biobehavioural self-regulation and co-regulation in Early Childhood: The Parent-Child Challenge Task. *Infant Child Development, 26*(1). https://doi.org/10.1002/icd.1965

Lunkenheimer, E., Olson, S., Hollenstein, T., Sameroff, A. & Winter, C. (2011). Dyadic flexibility and positive affect in parent–child co-regulation and the development of child behavior problems. *Development and Psychopathology, 23*(2), 577–591. http://dx.doi.org/10.1017/S095457941100006X

Lunkenheimer, E., Ram, N., Skowron, E. & Yin, P. (2017b). Harsh Parenting, Child Behavior Problems, and the Dynamic Coupling of Parents' and Children's Positive Behaviors. *Journal of Family Psychology, 31*(6), 689–698. http://dx.doi.org/10.1037/fam0000310

Markus, H. & Kitayama, S. (1991). Culture and the self. Implications for cognition, emotion and motivation. *Psychological Review, 98*, 224-253.

Martensen, B. (2021). *Eine mikroanalytische Erfassung der Selbst- und Ko-Regulation in dyadischer Bezugsperson-Kind-Interaktion mit SECORE* [Unpublished master thesis]. Ruprecht-Karls-Universität Heidelberg.

Mata, C. & Pauen, S. (under review). Self- and Co-Regulation in Parent-Child Interactions: A Systematic Review of Microanalytic and Bidirectional Assessments.

Mayer, B., Trommsdorff, G., Kagitcibasi, C. & Mishra, R. (2012). Family models of independence/interdependence and their generational similarity in Germany, Turkey and India. *Family Science, 3*(1), 64-74. https://doi.org/10.1080/19424620.2011.671503

McClelland, M., Cameron Ponitz, C., Messersmith, E. & Tominey, S. (2010). Self-regulation: The integration of cognition and emotion. In W. Overton & R. Lerner (Ed.), *Handbook of life-span human development: Vol. 1. Cognition, biology and methods* (pp. 509–553). Wiley.

McClelland, M., Geldhof, G., Cameron, C. & Wanless, S. (2015). Development and self-regulation. In R. Lerner & W. Damon (7th Ed), *Handbook of Child Psychology and Developmental Science: Theoretical Models of Human Development* (pp. 1-43). Wiley

McCurdy, M., Kunz, G. & Sheridan, S. (2006). Temper tantrums. In G. Bear & K. Minke (Eds.), *Children's needs III: Development, prevention, and intervention* (pp. 149– 157). National Association of School Psychologists.

Milfont, T. & Fischer, R. (2010). Testing measurement invariance across groups: Applications in cross-cultural research. *International Journal of Psychological Research, 3*(1), 111-121. https://doi.org/10.21500/20112084.857

Miller, J., Kim., S., Boldt, L., Goffin, K. & Kochanska, G. (2019). Long-Term Sequelae of Mothers' and Fathers' Mind-Mindedness in Infancy: A Developmental Path to Children's Attachment at Age 10. *Developmental psychology, 55*(4), 675-686. https://doi.org/10.1037/dev0000660

Ministery of Social Development (2017). *3ª Encuesta Longitudinal de Primera Infancia ELPI 2017.* http://observatorio.ministeriodesarrollosocial.gob.cl/

Miyake, A., Friedman, N., Emerson, M., Witzki, A. & Howerter, A. (2000). The unity and diversity of executive functions and their contribution to complex ' 'frontal lobe" tasks: A latent variable analysis. *Cognitive Psychology, 41,* 49-100. https://scite.ai/reports/10.1006/cogp.1999.0734

Moffitt, T., Arseneault, L., Belsky, D., Dickson, N., Hancox, R., Harrington, H., Houts, R., Poulton, R., Roberts, B., Ross, S., Sears, M., Thomson, M. & Caspi, A. (2011). A gradient of childhood self-control predicts health, wealth, and public safety. *Proceedings of the National Academy of Sciences* 108(7), 2693–2698. https://doi.org/10.1073/pnas.1010076108

Montroy, J., Bowles, R., Skibbe, L., McClelland, M. & Morrison, F. (2016). The development of self-regulation across early childhood. *Developmental psychology*, *52*(11), 1744-1762. http://dx.doi.org/10.1037/dev0000159

Mundfrom, D., Shaw, D. & Ke, T. (2009). Minimum Sample Size Recommendations for Conducting Factor Analyses. *International Journal of Testing, 5*(2). https://doi.org/10.1207/s15327574ijt0502_4

Muñoz-Muñoz, L. (2017). La autorregulación y su relación con el apego en la niñez. *Revista Latinoamericana de Ciencias Sociales, Niñez y Juventud, 15* (2), 807-821. https://doi.org/10.11600/1692715x.1520201082016

Nauck, B. & Lotter, V. (2015). Parenting styles and perceived instrumentality of schooling in native, Turkish, and Vietnamese families in Germany. *Zeitschrift für Erziehungswissenschaft, 18,* 845–869. https://doi.org/10.1007/s11618-015-0630-x

Nelson, C., Fox, N. & Zeanah, C. (2014). *Romania's Abandoned Children: Deprivation, Brain Development, and the Struggle for Recovery.* Harvard University Press. https://doi.org/10.4159/harvard.9780674726079

Nelson, L., Padilla-Walker, L., Christensen, K., Evans, C. & Carroll, J. (2011) Parenting in emerging adulthood: an examination of parenting clusters and correlates. *Journal of Youth and Adolescence, 40*(6), 730–43. https://doi.org/10.1007/s10964-010-9584-8.

Nigg, J. (2017). Annual Research Review: On the relations among self-regulation, self-control, executive functioning, effortful control, cognitive control, impulsivity, risk-taking, and inhibition for developmental psychopathology. *Journal of Child Psychology and Psychiatry 58*(4), 361–383. https://doi.org/10.1111/jcpp.12675

Olhaberry, M. (2011). *Early mother-child interactions in low-income, single-mother families attending Chilean day nurseries, and cultural differences between German and Chilean dyads.* [Unpublished doctoral thesis]. Heidelberg University in cooperation with Pontificia Universidad Católica de Chile and Universidad de Chile.

Olhaberry, M., Crempien, C., Biedermann, K., Cruzat, C., Martínez, V. Martínez, F. & Krause, M. (2011). Batería multidimensional de cuestionarios culturales para la investigación en salud mental: aplicación en una muestra poblacional chilena. *Revista de psiquiatría clínica, 49*(2), 9-21.

Olhaberry, M., Escobar, M., Morales, I., Cierpka, M., Frey, B., Eickhorst, A. & Siddor, A. (2015). Díadas Madre Adolescente-Bebé Chilenas y Alemanas Institucionalizadas: Estudio comparativo sobre depresión, calidad vincular, desarrollo infantil y variables culturales. *Revista argentina de clínica psicológica, XXIV,* 79-92.

Ossa, C., Navarrete, L. & Jiménez, A. (2014). Parental styles and family quality of life in parents of adolescents in a primary school in Chillan (Chile). *Investigación y Desarrollo, 22*(1), 20-37.

Ostfeld-Etzion, S., Golan, O., Hirschler-Guttenberg, Y., Zagoory-Sharon, O. & Feldman, R. (2015). Neuroendocrine and behavioral response to social rupture and repair in preschoolers with autism spectrum disorders interacting with mother and father. *Molecular Autism, 6*(11), 1-13. https://doi.org/10.1186/s13229-015-0007-2

Otto, H. & Keller, H. (2015). A good child is a calm child: How maternal conceptions of proper demeanor impact the development of stranger anxiety in Cameroonian Nso children. *Psychological Topics, 24*, 1-25.

Palacios-Barrios, E. & Hanson, J. (2019). Poverty and self-regulation: Connecting psychosocial processes, neurobiology, and the risk for psychopathology. *Comprehensive Psychiatry, 90*, 52-64. https://doi.org/10.1016/j.comppsych.2018.12.012

Pallini, S., Chirumbolo, A., Morelli, M., Baiocco, R., Laghi, F. & Eisenberg, N. (2018). The Relation of Attachment Security Status to Effortful self-regulation: A Meta-Analysis. *Psychological Bulletin, 144*, 501-531. http://dx.doi.org/10.1037/bul0000134

Pandey, A., Hale, D., Das, S., Goddings, A., Blakemore, S. & Viner, R. (2018). Effectiveness of Universal Self-regulation–Based Interventions in Children and Adolescents A Systematic Review and Meta-analysis. *JAMA Pediatrics.* DOI:10.1001/jamapediatrics.2018.0232

Papoušek, H., & Papoušek, M. (2002). Intuitive parenting. In M. Bornstein (Eds.), *Handbook of parenting: Biology and ecology of parenting* (pp. 183–203). Lawrence Erlbaum Associates Publishers.

Papoušek, M. (2007). Communication in early infancy: an arena of intersubjective learning. *Infant Behavior & Development 30,* 258–266. https://doi.org/10.1016/j.infbeh.2007.02.003

Pauen, S. & EDOS group (2016). Understanding early development of self-regulation and co-regulation: EDOS and PROSECO. *Journal of self-regulation and Regulation, 2*. https://doi.org/10.11588/josar.2016.2.34350.

Pauen, S. & Evers, W. (2018). Self-regulation in the first 3 years of life: A key to predict successful development? *Emerging Trends in Social and Behavioral Science*. https://doi.org/10.1002/9781118900772.etrds0453

Pauen, S., Hochmuth, A., Schulz, A. & Bechtel, S. (2014). *IMMA 1-6: IMpuls-MAnagement vom Kleinkind- bis zum Vorschulalter – Ein Elternfragebogen zur Beziehungsgestaltung im Umgang mit Erwartungen, Zielen und Gefühlen.* https://www.kindergartenpaedagogik.de/2308.pdf/

Pauen, S., Mata, C. & Kläger, K. (2020, July 6-9). *Self- and co-regulation in Caregiver-Child Interactions: Reliability and Validity of a New Microanalytic Coding Scheme (SECORE).* vICIS 2020. Glasgow, Scotland. https://infantstudies.org/congress-2020/

Pauen, S., Strodthoff, C. & Bechtel-Küehne, S. (2019). Kindliche Selbst- und elterliche Ko-Regulation parallel erfassen. *Kindheit und Entwicklung, 28*(1), 46–58. https://doi.org/10.1026/0942-5403/a000270

Petersen, I., Bates, J. & Staples, A. (2015). The role of language ability and self-regulation in the development of inattentive–hyperactive behavior problems. *Development and Psychopathology, 27,* 221–237. https://doi.org/10.1017/s0954579414000698

Pinquart, M. & Kauser, R. (2018). Do the Associations of Parenting Styles with Behavior Problems and Academic Achievement Vary by Culture? Results From a Meta-Analysis. *Cultural Diversity and Ethnic Minority Psychology, 24*(1), 75–100. http://dx.doi.org/10.1037/cdp0000149

Pinquart, M. (2017). Associations of Parenting Dimensions and Styles with Externalizing Problems of Children and Adolescents: An Updated Meta-Analysis. *Developmental Psychology, 53*(5), 873–932. http://dx.doi.org/10.1037/dev0000295

Poulton, R., Moffitt, T. & Silva, P. (2015). The Dunedin Multidisciplinary Health and Development Study: overview of the first 40 years, with an eye to the future. *Social Psychiatry and Psychiatric Epidemiology 50*(5), 679−693. https://doi.org/10.1007/s00127-015-1048-8

Provenzi, L., Borgatti, R., Menozzi, G. & Montirosso, R. (2015). A dynamic system analysis of dyadic flexibility and stability across the Face-to-Face Still-Face procedure: Application of the State Space Grid. *Infant Behavior & Development, 38,* 1–10. DOI: 10.1016/j.infbeh.2014.10.001

Putnam, S., Gartstein, M. & Rothbart, M. (2006). Measurement of fine-grained aspects of toddler temperament: The early childhood behavior questionnaire. *Infant Behavior and Development, 29,* 386-401. DOI: 10.1016/j.infbeh.2006.01.004

Putnam, S., Spritz, B. & Stifter, C. (2002). Mother-Child co-regulation During Delay of Gratification at 30 Months. *Infancy, 3*(2), 209-225. https://doi.org/10.1207/S15327078IN0302_6

Putnick , D., Bornstein, M., Landsford, J., Malone, P., Pastorelli, C., Skinner, A., Sorbring, E., Tapanya, S., Tirado, L., Zelli, A., Alampay, L., Al-Hassan, S., Bacchii, D., Bombi, A., Chang, L., Deater-Deckard, K., Di Giunta, L., Dodge, K. & Oburu, P. (2014). Perceived mother and father acceptance-rejection predict four unique aspects of child adjustment across nine countries. *Journal of Child Psychology and Psychiatry, 56*(8): 923–932. https://doi.org/10.1111/jcpp.12366

Rademacher, A. & Koglin, U. (2018). The concept of self-regulation and preschoolers´ social-emotional development: a systematic review. *Early Child Development and Care, 189*(14). https://doi.org/10.1080/03004430.2018.1450251

Rakoczky, H. & Schmidt, M. (2012). The early ontogeny of social norms. *Child Development Perspectives*, *7*(1), 17-21. https://doi.org/10.1111/cdep.12010

Ramsey, M., Moran, K., Pubal, A. & Gentzler, A. (2018). Parent-Child Relationships and Happiness Across Cultures. In Demir, M., Sümer, N. (Eds), *Close Relationships and Happiness across Cultures. Cross-Cultural Advancements in Positive Psychology* (pp. 41–54). Springer. https://doi.org/10.1007/978-3-319-89663-2_3

Ravn, I., Smith, L., Lindemann, R., Smeby, N., Kyno, N., Bunch, E. & Sandvik, L. (2011). Effect of early intervention on social interaction between mothers and preterm infants at 12 months of age: A randomized controlled trial. *Infant Behavior & Development 34*, 215–225. https://doi.org/10.1016/j.infbeh.2010.11.004

Razza, R., Bergen-Cico, D. & Raymond, K. (2015). Enhancing Preschoolers' self-regulation Via Mindful Yoga. *Journal of child and family study*, *24*, 372–385. https://doi.org/10.1007/ s10826-013-9847-6

Reid, R., Trout, A. & Schartz, M. (2005). Self-regulation interventions for children with attention deficit/Hyperactivity disorder. *Council for Exceptional Children, 71*(4), 361-377.

Repetti, R., Robles, T., Reynolds, B. & Sears, M. (2012). A Naturalistic Approach to the Study of Parenting. *Parenting: Science and Practice, 12*(2-3), 165-174. http://dx.doi.org/10.1080/15295192.2012.683343

Rindermann, H., Hoang, Q. & Baumeister, A. (2013). Cognitive ability, parenting and instruction in Vietnam and Germany. *Intelligence 41,* 366–377. https://doi.org/10.1016/j.intell.2013.05.011

Rosenthal, G. & Rosenthal, J. (2011). *Statistics and Data Interpretation for Social Work.* Springer Publishing Company.

Rosseel, Y. (2012). lavaan: An R Package for Structural Equation Modeling. *Journal of statistical software*, *48*(2), 1–36. https://doi.org/10.18637/jss.v048.i02

Rothbart, M., Ahadi, S., Hershey, K. & Fisher, P. (2001). Investigations of temperament at 3-7 years: The Children's Behavior Questionnaire. *Child Development, 72,* 1394-1408.

Rothbaum, F. & Trommsdorff, G. (2007). Do Roots and Wings Complement or Oppose One Another? The Socialization 01 Relatedness and Autonomy in Cultural Context. In J. Grusec & P. Hastings (Ed.), *The handbook of socialization* (pp. 461-489). The Guilford Press.

Rudy, D., & Grusec, J. (2006). Authoritarian parenting in individualist and collectivist groups: Associations with maternal emotion and cognition and children's self-esteem. *Journal of Family Psychology*, *20*, 68–78. https://doi.org/10.1037/0893-3200.20.1.68

Ryan, R. & Deci, E. (2002). Overview of self-determination theory: An organismic-dialectical perspective. In E. Deci & R. Ryan (Eds.), *Handbook of Self-Determination Research* (pp. 3-33). University of Rochester Press.

Saint-Georges, C., Guinchat, V., Chamak, B., Apicella, F., Muratori, F. & Cohen, D. (2013) Signes pre´ coces d'autisme: D'ou` vient-on ? Ou` va-t-on? 5 Early signs of autism: Where have we been? Where are we going? *Neuropsychiatrie de l'Enfance et de l'Adolescence, 61,* 400–408. https://doi.org/10.1016/j.neurenf.2013.05.005

Sameroff, A. & Fiese, B. (2000). Transactional regulation: The developmental ecology of early intervention. In J. P. Shonkoff & S. J. Meisels (Eds.), *Early intervention: A handbook of theory, practice, and analysis* (pp. 135-159). Cambridge University Press.

Sameroff, A. (2009). The transactional model. In A. Sameroff (Ed.), *The transactional model of development: How children and contexts shape each other* (pp. 3–21). American Psychological Association. https://doi.org/10.1037/11877-001

Sameroff, A. (2010). A Unified Theory of Development: A Dialectic Integration of Nature and Nurture. *Child Development, 81*(1), 6-22. https://doi.org/10.1111/j.1467-8624.2009.01378.x

Santamaría-Vázquez, M., Del Líbano, M., Martínez-Lezaun, I., & Ortiz-Huerta, J. H. (2021). Self-regulation of Motivation and Confinement by COVID-19: A Study in Spanish University Students. Sustainability (Basel, Switzerland), 13, 5435. https://doi.org/10.3390/su13105435

Santelices, M., Vallotton, C., Farkas, C., Chang, T., Franco, E. & Gallardo, A. (2021). Mothers' Use of Regulatory Talk with Toddlers in Chile and the US: How Do Cultural Values and Children's Gender Affect Mothers' Regulatory Talk at 12 and 30 Months? *Children,* 8, 874. https://doi.org/10.3390/children8100874

Santosh, S., Roy, D. & Kundu, P. (2015). Cognitive Self-regulation, social functioning and psychopathology in schizophrenia. *Industrial psychiatry journal, 24,* 129-134. https://doi.org/10.4103/0972-6748.181728

Schore, A. (2001). Effects of a secure attachment relationship on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal, 22*(1-2), 7–66. https://doi.org/10.1002/1097-0355(200101/04)22:1<7::AID-IMHJ2>3.0.CO;2-N

Schunk, D. & Zimmerman, B. (1997). Social origins of self-regulatory competence. *Educational Psychologist, 32*(4), 195–208. https://doi.org/10.1207/s15326985ep3204_1

Selin, H. (2014). *Parenting across cultures: Childrearing, Motherhood and Fatherhood in non-western Cultures*. Springer. https://doi.org/10.1007/978-94-007-7503-9

Sethna, V., Pote, I., Wang, S., Gudbrandsen, M., Blasi, A., McCusker, C., Daly, E., Perry, E., Adams, K., Kuklisova-Murgasova, M., Busuulwa, P., Lloyd-Fox, S., Murray, L., Johnson, M., Williams, S., Murphy, D., Craig, M. & McAlonan, G. (2017). Mother–infant interactions and regional brain volumes in infancy: an MRI study. *Brain Structure and Function, 222,* 2379–2388. https://doi.org/10.1007/s00429-016-1347-1

Silk, J., Shaw, D., Skuban, E., Oland, A. & Kovacs, M. (2006). Emotion regulation strategies in offspring of childhood-onset depressed mothers. *Journal of Child Psychology and Psychiatry, 47*(1), 69–78. https://doi.org/10.1111/j.1469-7610.2005.01440.x.

Silkenbeumer, J., Schiller, E., Holodynski, M. & Kärtner, J. (2016). The Role of co-regulation for the development of socialemotional competence. *Journal of Self-regulation and Regulation, 2*. https://doi.org/10.11588/josar.2016.2.34351

Singelis T. (1994). The measurement of independent and interdependent self-construals. *Personality and Social Psychology Bulletin, 20*(5), 580-91.

Singh, L. (2011). Accuracy of Web Survey Data: The State Of Research on Factual Questions in Surveys. *Information Management and Business Review, 3*(2), 48-56.

Slot, P., Mulder, H., Verhagen, J., Leseman, P., Education, Learning, C., Motor, D. & Leerstoel, L. (2017). Preschoolers' cognitive and emotional self-regulation in pretend play: Relations with

executive functions and quality of play. *Infant and child development, 26*(6), e2038. https://doi.org/10.1002/icd.2038

Smithers, L., Sawyer, A., Chittleborough, C., Davies, N., Smith, G. & Lynch, J. (2018). A systematic review and meta-analysis of effects of early life non-cognitive skills on academic, psychosocial, cognitive and health outcomes. *Nature Human Behavior, 12,* 867-880. https://doi.org/10.1038/s41562-018-0461-x

Sowell. E., Thompson, P., Leonard, C., Welcome, S., Kan, E. & Toga, A. (2004) Longitudinal mapping of cortical thickness and brain growth in normal children. *Journal of Neuroscience, 24,* 8223–8231. https://doi.org/10.1523/JNEUROSCI.1798-04.2004

Stein, N. & Albro, E. (2001). The origins and nature of arguments: studies in conflict understanding. *Discourse Processes, 32*(2-3), 113-133. https://doi.org/10.1207/S15326950DP3202&3_02

Stern, D. (1985) *The interpersonal world of the infant.* Basic Books.

Stifter, C. & Rovine, M. (2015). Modeling dyadic processes using hidden Markov models: A time series approach to mother–infant interactions during infant immunization. *Infant and Child Development, 24*(3), 298–321. https://doi.org/10.1002/icd.1907

Strand, P. (2002). Coordination of maternal directives with preschoolers' behavior: Influence of maternal coordination training on dyadic activity and child compliance. *Journal of Clinical Child and Adolescence Psychology, 31,* 6–15. http://dx.doi.org/10.1207/S15374424JCCP3101_03

Suizzo, M., Tedford, L. & McManus, M. (2019). Parental Socialization Beliefs and Long-term Goals for Young Children Among Three Generations of Mexican American Mothers. *Journal of Child and Family Studies, 28,* 2813–2825. https://doi.org/10.1007/s10826-019-01461-1

Sun, J. & Tang Y. (2019) Maternal scaffolding strategies and early development of self-regulation in Chinese preschoolers. *Early Child Development and Care, 189*(9), 1525-1537. https://doi.org/10.1080/03004430.2017.139587

Super, C. & Harkness, S. (1986). The developmental niche: A conceptualization at the interface of child and culture. *International Journal of Behavioral Development, 9,* 545-569. https://doi.org/10.1177/016502548600900409

Tabachnick, B. & Fidell, L. (2001). *Using multivariate statistic.*Allyn & Bacon.

Tamis-LeMonda, C. & Song, L. (2012). Parent-infant communicative interactions in cultural context. In R. Weiner, E. Easterbrooks, & J. Mistry (Eds.), *Handbook of psychology: Developmental psychology* (pp. 143–170). John Wiley & Sons.

Tamis-LeMonda, C., Caughy, M., Rojas, R., Bakeman, R., Adamson, L., Pacheco, D., Owen, M., Suma, K. & Pace, A. (2020). Culture, parenting, and language: Respeto in Latine mother–child interactions. *Social Development, 29*(3), 689-712. https://doi.org/10.1111/sode.12430

Tamis-LeMonda, C., Kuchirko, Y. & Tafuro, L. (2013). From Action to Interaction: Infant Object Exploration and Mothers' Contingent Responsiveness. *IEEE Transactions on Autonomous Mental Development, 5*(3), 202-209. http://dx.doi.org/10.1109/TAMD.2013.2269905

Tamis-Lemonda, C., Song, L., Leavell, A., Kahana-Kalman, R. & Yoshikawa, H. (2012). Ethnic differences in mother=infant language and gestural communications are associated with specific skills in infants. *Developmental Science, 15*(3), 384-397. https://doi.org/10.1111/j.1467-7687.2012.01136.x

Tang, M., Hu, W. & Zhang, H. (2017). Creative Self-Efficacy From the Chinese Perspective: Review of Studies in Mainland China, Hong Kong, Taiwan, and Singapore. In M. Karwowski & J. Kaufman (Hrsg.), *The Creative Self* (S. 237-257). Academic Press. https://doi.org/10.1016/B978-0-12-809790-8.00013-3

Tang, M., Werner, C. & Karwowski, M. (2016). Differences in creative mindset between Germany and Poland: The mediating effect of individualism and collectivism. *Thinking skills and creativity, 21*, 31-40. https://doi.org/10.1016/j.tsc.2016.05.004

Thomas, A. (2011). Individuelle und kollektive Orientierung. In A. Thomas (Hrsg.), *Interkulturelle Handlungskompetenz: Versiert, angemessen und erfolgreich im internationalen Geschäft* (pp. 169-184). Gabler Verlag. https://doi.org/10.1007/978-3-8349-6880-7_11

Tiberio, S., Capaldi, D., Kerr, D., Bertrand, M., Pears, K. & Owen, L. (2016). Parenting and the development of effortful control from early childhood to early adolescence: A transactional developmental model. *Development and Psychopathology, 28,* 837–853. https://doi.org/10.1017/S0954579416000341

Trommsdorff, G. & Kornadt, H. (2003). Parent-child relations in cross-cultural perspective. In L. Kuczynski (ed.), *Handbook of dynamics in parent-child relations* (pp. 271-306). Sage.

Trommsdorff, G. (2009). Culture and Development of self-regulation. *Social and Personality Psychology Compass 3*(5), 687–701. https://doi.org/10.1111/j.1751-9004.2009.00209.x

Trommsdorff, G., & Friedlmeier, W. (2010). Preschool girls' distress and mothers' sensitivity in Japan and Germany. *European journal of developmental psychology*, *7*(3), 350-370. https://doi.org/10.1080/17405620802252742

Tronick, E. & Beeghly, M. (2011). Infants' meaning-making and the development of mental health problems. *American Psychology, 6,* 107–119. http://dx.doi.org/10.1037/a0021631

Tronick, E. (2007). Depressed mothers and infants: The failure to form dyadic states of consciousness In E. Tronick (Ed.) *The neurobehavioral and social-emotional developments of infants and children* (pp. 274–304). New York Norton & Company.

Uchida, Y., Kitayama, S., Mesquita, B., Reyes, J. & Morling, B. (2008). Is perceived emotional support beneficial? Well-being and health in independent and interdependent cultures. *Personality and Social Psychology Bulletin, 34*(6), 741-54. http://dx.doi.org/10.1177/0146167208315157

United Nations (2019). *Inequality adjusted human development Indicator*. UNDATA. http://data.un.org/DocumentData.aspx?id=423#32

United Nations (2022). *World Happiness Report*. https://worldpopulationreview.com/country-rankings/happiest-countries-in-the-world

Uribe, F., Arteaga, O., Bruchhausen, W., Cheung, G., Cullum., S., Fuentes-Garcia, A., Castillo, C., Kerse, N., Kirk, R., Muru-Lanning, M., Ríos, R., Schrott, L., Slachevsky, A. & Roes, M. (2021). Dementia and COVID-19 in Chile, New Zealand and Germany: A Research Agenda for Cross-Country Learning for Resilience in Health Care Systems. *Sustainability, 13*(18), 10247. https://doi.org/10.3390/su131810247

Valentovich, V., Goldberg, W., Garfin, D. & Guo, Y. (2018). Emotion Coregulation Processes between Mothers and their Children With and Without Autism Spectrum Disorder: Associations with Children's Maladaptive Behaviors. *Journal of Autism and Developmental Disorders, 48*(4), 1235–1248. https://doi.org/10.1007/s10803-017-3375-y

Vallotton, C. & Ayoub, C. (2011). Use your words: The role of language in the development of toddlers' self-regulation. *Early Childhood Research Quarterly, 26*(2), 169-181, https://doi.org/10.1016/j.ecresq.2010.09.002

van Dijk, M., Hunnius, S. & van Geert, P. (2012). The dynamics of feeding during the introduction to solid food. *Infant Behavior & Development, 35*(2), 226– 239. https://doi.org/10.1016/j.infbeh.2012.01.001

Vaughn, B. & Daniel, S. (2012). Conceptualizing validity. In G. Tenenbaum, R. Eklund, & A. Kamata (Eds.), *Measurement in sport and exercise psychology* (pp. 33–39). Human Kinetics. https://doi.org/10.5040/9781492596332.ch-004

Vohs, K. & Baumeister, R. (2004). Understanding self-regulation. In R. Baumeister & K. Vohs (Eds.), *Handbook of self-regulation* (pp. 1-9). Guilford Press.

Vohs, K. & Baumeister, R. (2011). *Handbook of self-regulation: Research, theory, and applications*. Guilford Press.

Wang, Q. (2003). Emotion situation knowledge in American and Chinese preschool children and adults. *Cognitive Emotions, 17*(5), 725–746. https://doi.org/10.1080/02699 93030 2285

Weerd, H., Verbrugge, R. & Verheij, B. (2015). Negotiating with other minds: the role of recursive theory of mind in negotiation with incomplete information. *Autonomous Agents and Multi-Agent Systems, 31*, 250–287. https://doi.org/10.1007/s10458-015-9317-1

Weijers, D., van Steensel, F. & Bögels, S. (2018). Associations between Psychopathology in Mothers, Fathers and Their Children: A Structural Modeling Approach. *Journal of Child and Family Studies 27*(6), 1992–2003. https://doi.org/10.1007/s10826-018-1024-5

Weinberg, M., Olson, K., Beeghly, M. & Tronick, E. (2006). Making up is hard to do, especially for mothers with high levels of depressive symptoms and their infant sons. *Journal of Child Psychology and Psychiatry, 47*(7), 670–683. https://doi.org/10.1111/j.1469-7610.2005.01545.x

Weis, M., Trommsdorff, G. & Muñoz, L. (2016a). Children´s self-regulation and school achievement in cultural contexts: The role of maternal restrictive control. *Frontiers in Psychology, 7*, 772. https://doi.org/10.3389/fpsyg.2016.00722

Weis, M., Trommsdorff, G., Heikamp, T., Redondo, J. & Muñoz, L. (2016b). Developmental Aspects of self-regulation in Germany and Chile: Links among Maternal Warmth, Children's self-regulation, and Social Competence. *International Association for Cross-Cultural Psychology*, 340-344. https://doi.org/10.1207/s15374424jccp2802_7

Willems, Y., Dolan, C., van Beijsterveldt, C., de Zeeuw, E., Boomsma, D., Bartels, M. & Finkenauers, C. (2018). Genetic and Environmental Influences on Self-Control: Assessing Self-Control with the ASEBA Self-Control Scale. *Behavior Genetics, 48,* 135–146. https://doi.org/10.1007/s10519-018-9887-1

Williams, W., Kertz, S., Schrock, M. & Woodruff-Borden, J. (2012). A Sequential Analysis of Parent–Child Interactions in Anxious and Nonanxious Families. *Journal of Clinical Child & Adolescent Psychology, 41*(1), 64–74. https://doi.org/10.1080/15374416.2012.632347

Winter, J., Dodou, D. & Wieringa, P. (2009). Exploratory factor analysis with small sample sizes. *Multivariate Behavioral Research, 44,* 147-18. https://doi.org/10.1080/00273170902794206

Wolters, C. & Benzon, M. (2013). Assessing and Predicting College Students' Use of Strategies for the self-regulation of Motivation. *The Journal of experimental education, 81,* 23 S. http://dx.doi.org/10.1080/00220973.2012.699901

Woodward, L., Lu, Z., Morris, A. & Healey, D. (2017). Preschool self-regulation predicts later mental health and educational achievement in very preterm and typically developing children. *The Clinical Neuropsychologist, 31*(2), 404-422. http://dx.doi.org/10.1080/13854046.2016.1251614

Xerxa, Y., Rescora, L., vander Ende, J., Hillegers, M., Verhulst, F. & Tiemeier, H. (2020). From Parent to Child to Parent: Associations Between Parent and Offspring Psychopathology. *Child Development, 92*(1), 291-307. https://doi.org/10.1111/cdev.13402

Yoshikawa, H., Aber, J.& Beardslee, W. (2012). The effects of poverty on the mental, emotional, and behavioral health of children and youth implications for prevention. *American Psychologist Journal, 67*, 272–284. https://doi.org/10.1037/a0028015

Zaidman-Zait, A., Marshall, S., Young, R. & Hertzman, C. (2014). Beyond Compliance: Mother–Child Joint Action During a ‘‘Do’’ Task. *Journal of Child and Family Studies, 23*(6), 1034–1049. https://doi.org/10.1007/s10826-013-9760-z

Zelazo, P. & Müller, U. (2002). Executive Function in Typical and Atypical Development. In U. Goswami (Eds.). *Blackwell Handbook of Childhood Cognitive Development* (pp. 445−469). Blackwell Publishing. https://doi.org/10.1002/9780470996652.ch20

Zelazo, P., Muller, U., Frye, D. & Marcovitch, S. (2003). The development of executive function in early childhood. *Monographs of the Society for Research in Child Development, 68*(3), 274. https://doi.org/10.1111/j.0037-976x.2003.00260.x

Zhou, Q., Chen, S. & Main, A. (2012). Commonalities and Differences in the Research on Children’s Effortful Control and Executive Function: A Call for an Integrated Model of self-regulation. *Child Development Perspectives, 6*(2), 112–121. https://doi.org/10.1111/j.1750-8606.2011.00176.x

Zimmerman, B. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich & M. Zeidner (Eds.), *Handbook of Self-regulation* (pp. 13-40). Academic Press.

APPENDICES

Appendix A

Backup of the online version used during the IMMA validation process in Chile

Estimados padres:

Como parte del proyecto COSER (CO- and SElf-Regulation in caregiver-child dyads) dirigido por la profesora Sabina Pauen en la Universidad de Heidelberg Alemania, nos encontramos realizando un estudio cuyo objetivo es analizar los cambios que ocurren en las interacciones diádicas entre madre/padre e hijos/as en distintas edades en cuanto a la regulación en distintos países. La aplicación de este instrumento en Chile está dirigida por la candidata a doctora en Psicoterapia Cecil Mata y la profesora Claudia Capella de la Universidad de Chile.

Estamos interesados en saber cuánta libertad y limitaciones necesitan los niños/as a cierta edad, qué tan bien pueden autorregularse y qué hacen los padres para ayudarlos a hacer frente a las demandas internas o externas. Si vives en Chile y tienes un hijo/a entre los 12 meses y los 6 años 11 meses te invitamos a responder las siguientes preguntas que te tomarán entre 15 a 20 minutos. Si tienes más de un hijo/a entre 1 y 6 años, escoge uno y piensa solamente en él/ella durante la completación de este cuestionario. Recuerda que no hay respuestas buenas o malas pues todo comportamiento está enmarcado dentro de las características de la relación de cada niño/a con sus padres.

Nuestro objetivo es recoger el mayor número de respuestas de familias que viven actualmente en Chile. Los datos serán utilizados para obtener datos generales de la muestra y serán publicados como resultados globales. Nadie conocerá tus respuestas y la información que entregues será manejada de manera estrictamente confidencial. Tu participación es completamente voluntaria y puedes dejar de responder si así lo deseas. Al completar IMMA 1-6 ayudas a profundizar nuestra comprensión sobre primera infancia. ¡Muchísimas gracias!

Nota: Instrumento traducido del original "IMpuls-Management vom Säuglings-bis zum Vorschulalte" - IMMA1-6 (Pauen, Strodthoff, & Bechtel-Kühne, 2018) con la autorización correspondiente y dentro del marco de tesis doctoral. Esta versión online es parte del proceso de validación en Chile, para lo cual necesitamos el mayor número de respuestas posibles. ¡Ayúdanos a compartirlo!

En caso de dudas o contacto: cmmata@uc.cl - Cecil Mata, Candidata a Doctora, Universidad de Chile.

¿Aceptas voluntariamente responder IMMA 1-6?*

- Si
- No

*Pregunta obligatoria

Datos sociodemográficos:

- Región de residencia:
    1. Tarapacá
    2. Antofagasta
    3. Atacama
    4. Coquimbo
    5. Valparaíso
    6. O´Higgins
    7. Maule
    8. Bio-Bio
    9. La araucanía
    10. Los lagos
    11. Aisén
    12. Magallanes y la antártida chilena
    13. Metropolitana de Santiago
    14. Los ríos
    15. Arica y parinacota
    16. Ñuble

- Edad exacta del niño/a (ejemplo: 3 años, 4 meses)
  _____ (pregunta abierta)

- Sexo del niño/a
    - Femenino
    - Masculino
    - Prefiero no decirlo

- ¿Tiene hermanos?
    - No
    - Solamente hermanos mayores
    - Solamente hermanos menores
    - Tiene hermanos mayores y menores

- ¿Asiste usualmente a sala cuna/jardín infantil? (responde en base a los últimos 2 años)
    - Si
    - No
    - De manera intermitente

- ¿Cual es la nacionalidad del niño/a?
  _____ (pregunta abierta)

- Persona que responde
    - Madre
    - Padre
    - Familiar a cargo del niño/a
    - No familiar a cargo del niño/a

- Nivel educativo alcanzado de la persona que responde
    - Educación básica incompleta (menor a 8vo básico)
    - Educación básica completa (8vo básico aprobado)
    - Educación media o media técnica completa
    - Educación superior técnica completa
    - Educación universitaria completa
    - Educación de postgrado (Master, doctor o equivalente)

- Ingreso familiar mensual
    - $106.214 ó menos
    - entre $106.214 y $300.000
    - entre $300.000 y $500.000
    - entre $500.000 y $800.000
    - entre $800.000 y $1.500.000
    - entre $1.500.000 y $3.000.000
    - entre $3.000.000 y $5.000.000
    - más de $5.000.000
    - Prefiero no decir

- ¿Cual es la nacionalidad de los padres o personas a cargo? _____ (pregunta abierta)

- ¿Cuanto tiempo solía pasar al día con su hijo/a antes de la pandemia (no cuente las horas en que está dormido?
    - 1 a 2 horas
    - 3 a 4 horas
    - 5 a 8 horas
    - 9 horas o más

- ¿Cuanto tiempo pasa actualmente con su hijo/a?
    - 1 a 2 horas
    - 3 a 4 horas
    - 5 a 8 horas
    - 9 horas o más

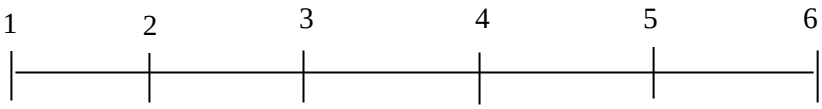
IMMA 1-6

A continuación preguntaremos distintos aspectos relacionados con la regulación infantil, la cual nos ayudará a conocer el desarrollo y necesidades de los niños/as a distintas edades. Recuerde que no hay respuestas buenas o malas pues todo comportamiento está enmarcado dentro de las características de cada díada.

Nota: *Instrumento traducido del original "IMpuls-Management vom Säuglings-bis zum Vorschulalte" - IMMA1-6 (Pauen, Hochmuth, Schulz & Bechtel, 2014) con la autorización correspondiente.*

Parte 1:
¿Cuáles son sus ideas/expectativas acerca de la autorregulación infantil?

Por favor, considere qué tan cierto es cada una de las declaraciones desde su punto de vista. Haga una cruz para cada declaración en el recuadro correspondiente siguiendo la siguiente escala:



no es nada cierto — **completamente cierto**

Los niños de la misma edad de mi hijo/a suelen ser capaces de...

	1	**2**	**3**	**4**	**5**	**6**
regular sus sentimientos						
controlar sus necesidades						
controlar su voluntad						
responder las peticiones y requerimientos de otras personas						
aceptar las limitaciones y prohibiciones de otras personas						
seguir las reglas						
ser considerado con otras personas						
ser educado con otras personas						

Es muy importante para mí que el niño/a aprenda a esta edad ...

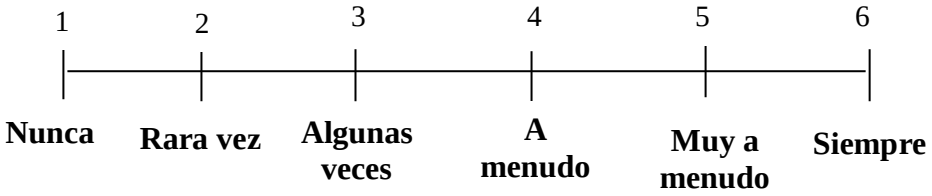
	1	**2**	**3**	**4**	**5**	**6**
a regular sus sentimientos						
a controlar sus necesidades						

a controlar su voluntad						
a responder las peticiones y requerimientos de otras personas						
a aceptar las limitaciones y prohibiciones de otras personas						
a seguir las reglas						
a ser considerado con otras personas						
a ser educado con otras personas						

Parte 2:
¿Cómo manejan los niños los desafíos, las exigencias y las prohibiciones?

Por favor, marque con qué frecuencia ocurre cada comportamiento descrito. Considere que IMMA 1-6 puede contener declaraciones que sean apropiadas solo para niños/as mayores o menores que su hijo/a. Si, debido a la edad, un comportamiento todavía no ocurre, marque la casilla "N/A=no aplica"(¡pero solo en este caso!).

Haga una cruz para cada declaración en el recuadro correspondiente siguiendo la siguiente escala:



¿Qué hace su niño/a si no logra hacer lo que quiere hacer?

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
Empieza a llorar							
Se lamenta fuertemente							
Despotrica y se queja							
Se enoja en voz alta							
Se pone agresivo contra los objetos							
Se pone agresivo contra las personas							
Se rinde después de poco tiempo							
Deja caer su objetivo pronto							
Rápidamente pone su atención en otra cosa							
Sigue motivado							

Intenta persistentemente de alcanzar su objetivo.							
No se da por vencido							

¿Qué hace el/la niño/a cuando le pides que haga algo específico?

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
Sigue fácilmente mi petición							
Sólo sigue mi petición cuando regaño en voz alta							
Hace esfuerzos para satisfacer mi demanda de inmediato							
Sólo sigue cuando lo miro estrictamente							
Sigue la indicación inmediatamente y sin contradicción							
Sólo sigue cuando lo amenazo con consecuencias desagradables							
Sólo obedece cuando intervengo							
Sólo obedece cuando lo agarro							
Sólo obedece cuando muestro fuerza física							
Empieza a discutir, para hacerme caer la petición							
Quiere convencerme de algo más							
Argumenta en contra de ello							
Se me escapa, se esconde, va corriendo							
Ignora mi petición							
Se niega a cumplir mi petición							

¿Qué hace el/la niño/a si le prohíbes hacer algo específico?

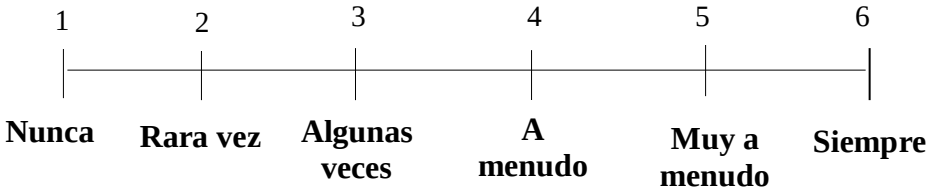
	1	**2**	**3**	**4**	**5**	**6**	**N/A**
Acepta mi prohibición sin objeción							
Está dispuesto a atender a la prohibición							
Respeta la prohibición sin protesta							
Solo respeta la prohibición cuando le amonesté varias veces							
Respeta la prohibición solo cuando muestro claramente mi desagrado							
Solo sigue la prohibición cuando hablo en tono de mando							

Solo la sigue cuando evito activamente que lleve a cabo la acción prohibida							
Solo sigue mis instrucciones cuando lo sostengo							
Solo sigue mis instrucciones cuando lo agarro fuerte							
Empieza a discutir para que retire la prohibición							
Suplica y lloriquea para que yo retire la prohibición.							
Argumenta en contra de la prohibición							
Hace como si no hubiera escuchado la prohibición							
Ignora la prohibición							
Simplemente hace lo que quiere de todos modos							

Parte 3:
Manejo propio de las reacciones infantiles

Ahora se trata de usted. Queremos saber más acerca de cómo usted reacciona frente al comportamiento del niño/a. ¡Solo nos sirven respuestas honestas! De nuevo considere que IMMA 1-6 puede contener declaraciones que sean apropiadas solo para niños/as mayores o menores que su hijo/a. Si, debido a la edad, un comportamiento todavía no ocurre, marque la casilla "N/A= no aplica"(¡pero solo en este caso!).

Haga una cruz para cada declaración en el recuadro correspondiente siguiendo la siguiente escala:



Si el/la niño/a está frustrado porque no puede hacer lo que se propuso yo ...

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
trato de distraerlo							
trato de hacerle interesarse en otra cosa							
le animo a desahogar su frustración							
le digo que no se debe enfadar							
le pido que se tranquilice solo							
le amonesto para que controle su frustración							

Si el/la niño/a hace lo que le pido yo ...

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
le doy una pequeña recompensa							
puede elegir una pequeña recompensa							
lo alabo explícitamente							
le doy crédito por es							
muestro lo satisfecho que estoy con su comportamiento							
destaco lo bueno que encuentro eso							

Si el/la niño/a NO hace lo que le pido yo ...

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
repito mi petición con firmeza							
le miro estrictamente							
le hablo fuerte							
le amenazo con consecuencias							
obligo al niño a cumplir con mi petición							
le niego algo que le gusta mucho							
prometo una recompensa por el comportamiento obediente							
tiento al niño con una pequeña recompensa para cumplir con mi solicitud							
le ofrezco un compromiso							
negocio una solución junto con el niño							
explico mi petición más detalladamente							
le pregunto por sus razones							
explico mi reclamo en detalle							
me rindo							
dejo caer mi solicitud							

Si el/la niño/a se molesta por mis instrucciones ...

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
mando que deje el show							
le muestro mi desagrado por su reacción							
sigo insistiendo en la implementación inmediata de mi petición							
muestro dureza y me mantengo consistente.							
No tolero los juegos							
lo distraigo							
le hago pensar en otra cosa							
cedo							
dejo de insistiro en lo que le pedí							

¡Muchas gracias por su colaboración!

Appendix B

Original German version of the IMMA questionnaire

IMMA 1-6

IMpuls-MAnagement vom Säuglings- bis zum Vorschulalter

Ein Elternfragebogen
zum gemeinsamen Umgang mit Bedürfnissen, Zielen und Gefühlen

Studien-Nr.:_____

VP-Nr:_____

Revidierte Fassung 4.0 (Januar 2018)

Teil 1:
Welche Vorstellungen / Erwartungen haben Sie zur kindlichen Selbstregulation?

Bitte überlegen Sie, wie gut die einzelnen Aussagen aus Ihrer Sicht zutreffen.
Machen Sie zu jeder Aussage ein Kreuz in das passende Kästchen (nicht dazwischen!)

Kinder im gleichen Alter sind normalerweise in der Lage...

	Trifft überhaupt nicht zu 1	2	3	4	5	Trifft voll und ganz zu 6	
ihre Gefühle zu regulieren.							VKSR1
ihre Bedürfnisse zu kontrollieren.							VKSR2
ihren Willen zu beherrschen.							VKSR3
Bitten und Aufforderungen anderer Menschen nachzukommen.							VKEB1
Begrenzungen und Verbote anderer Menschen zu akzeptieren.							VKEB2
Regeln zu beachten.							VKEB3
sich anderen Menschen gegenüber rücksichtsvoll zu verhalten.							VKRK2
anderen Menschen gegenüber höflich zu sein.							VKRK3

Es ist für mich sehr wichtig, dass das Kind <u>im jetzigen Alter</u> lernt...

	1	2	3	4	5	6	
seine Gefühle zu regulieren.							EZSR1
seine Bedürfnisse zu kontrollieren.							EZSR2
seinen Willen zu beherrschen.							EZSR3
Bitten und Aufforderungen anderer Menschen nachzukommen.							EZEB1
Begrenzungen und Verbote anderer Menschen zu akzeptieren.							EZEB2
Regeln zu beachten.							EZEB3
sich anderen Menschen gegenüber rücksichtsvoll zu verhalten.							EZRK2
anderen Menschen gegenüber höflich zu sein.							EZRK3

Teil 2:
Wie gehen Kinder mit Herausforderungen, Aufforderungen und Verboten um?

Bitte kreuzen Sie an, wie häufig jede nachfolgend beschriebene Verhaltensweise vorkommt!

ACHTUNG:
IMMA 1-6 enthält möglicherweise Aussagen, die nur für ältere oder jüngere Kinder passend sind. Sollte ein Verhalten bei Ihrem Kind altersbedingt noch nicht oder nicht mehr vorkommen (aber nur dann!), kreuzen Sie bitte „unpassend“ an.

Was macht das Kind, wenn es nicht gleich schafft, was es sich etwas vorgenommen hat?

	1 *Nie*	2 *Sehr selten*	3 *Eher selten*	4 *Eher häufig*	5 *Sehr häufig*	6 *Immer*	*Unpassend*	
Es fängt an zu weinen.								EE_AE_01
Es jammert lautstark.								EE_AE_02
Es schimpft und meckert.								EE_AE_03
Es ärgert sich lautstark								EE_AE_04
Es wird aggressiv gegen Objekte								EE_AE_05
Es wird aggressiv gegen Menschen.								EE_AE_06
Es gibt nach kurzer Zeit auf.								EE_ZB_01
Es lässt sein Ziel bald fallen.								EE_ZB_02
Es wendet sich rasch etwas anderem zu.								EE_ZB_03
Es bleibt motiviert bei der Sache.								EE_ZB_04
Es probiert hartnäckig, sein Ziel doch noch zu erreichen.								EE_ZB_05
Es lässt nicht locker.								EE_ZB_06

Was macht das Kind, wenn Sie es auffordern, etwas Bestimmtes zu tun?

	Nie 1	2	3	4	5	immer 6		
Es kommt bereitwillig meiner Aufforderung nach.								FE_DA_01
Es folgt erst, wenn ich laut schimpfe.								FE_DA_02
Es ist bemüht, meine Forderung gleich zu erfüllen.								FE_DA_03
Es folgt erst, wenn ich es streng anschaue.								FE_SD_01
Es folgt sofort und ohne Widerspruch.								FE_SD_02
Es folgt erst, wenn ich ihm mit unangenehmen Konsequenzen drohe.								FE_SD_03
Es folgt erst, wenn ich handelnd eingreife.								FE_KD_01
Es folgt erst, wenn ich es mir schnappe.								FE_KD_02
Es folgt erst, wenn ich Körpereinsatz zeige.								FE_KD_03
Es fängt an zu diskutieren, um zu erreichen, dass ich die Forderung fallen lasse.								FE_WN_01
Es will mich von etwas anderem überzeugen.								FE_WN_02
Es argumentiert dagegen.								FE_WN_03
Es entzieht sich mir, versteckt sich, läuft weg.								FE_VK_01
Es ignoriert meine Bitte.								FE_VK_02
Es verweigert sich, meiner Aufforderung nachzukommen.								FE_VK_03

Was macht das Kind, wenn Sie ihm etwas Bestimmtes verbieten?

	1 Nie	2 Sehr selten	3 Eher selten	4 Eher häufig	5 Sehr häufig	6 Immer	 Unpassend	
Es akzeptiert mein Verbot ohne Widerworte.								FE_DA_04
Es beachtet bereitwillig das Verbot.								FE_DA_05
Es folgt dem Verbot ohne Protest.								FE_DA_06
Es beachtet das Verbot erst, wenn ich es mehrmals ermahnt habe.								FE_SD_04
Es beachtet das Verbot erst, wenn ich deutlich meinen Unmut zeige.								FE_SD_05
Es beachtet das Verbot erst, wenn ich im Befehlston spreche.								FE_SD_06
Es folgt mir erst, wenn ich es aktiv daran hindere, die verbotene Handlung auszuführen.								FE_KD_04
Es folgt meiner Anweisung erst, wenn ich es festhalte.								FE_KD_05
Es folgt meiner Anweisung erst, wenn ich es energisch anfasse.								FE_KD_06
Es fängt an zu diskutieren, um zu erreichen, dass ich das Verbot aufhebe.								FE_WN_04
Es bittet und quengelt, dass ich das Verbot zurücknehme.								FE_WN_05
Es argumentiert gegen das Verbot.								FE_WN_06
Es tut, als habe es das Verbot nicht gehört.								FE_VK_04
Es ignoriert das Verbot.								FE_VK_05
Es macht einfach trotzdem was es will.								FE_VK_06

Teil 3: Eigener Umgang mit kindlichen Reaktionen

Jetzt geht es wieder um Sie selbst. Wir möchten mehr darüber erfahren, wie Sie auf das Verhalten des Kindes reagieren. Nur ehrliche Antworten sind dabei für uns nützlich!

ACHTUNG:
IMMA 1-6 enthält möglicherweise Aussagen, die nur für ältere oder jüngere Kinder passend sind. Sollte ein Verhalten bei Ihrem Kind altersbedingt noch nicht oder nicht mehr vorkommen (aber nur dann!), kreuzen Sie bitte „unpassend“ an.

Wenn das Kind frustriert ist, weil es nicht schafft, was es sich vorgenommen hat...

	Nie	Sehr selten	Eher selten	Eher häufig	Sehr häufig	Immer	Unpassend	
	1	2	3	4	5	6		
bemühe ich mich, es abzulenken.								ER_PK_03
versuche ich, es für etwas anderes zu interessieren.								ER_PK_04
ermutige ich es, seinen Frust abzureagieren.								ER_KF_01
sage ich ihm, es solle sich nicht aufregen.								ER_KF_03
fordere ich es auf, sich selbst zu beruhigen.								ER_KF_04
ermahne ich es, seinen Frust zu kontrollieren.								ER_KF_05

Wenn das Kind tut, was ich von ihm verlange, ...

	Nie	Sehr selten	Eher selten	Eher häufig	Sehr häufig	Immer	Unpassend	
	1	2	3	4	5	6		
gebe ich ihm eine kleine Belohnung.								ER_MB_01
darf es sich eine kleine Belohnung aussuchen.								ER_MB_03
lobe ich es ausdrücklich.								ER_SB_02
schenke ich ihm dafür Anerkennung.								ER_SB_03
zeige ich, wie zufrieden ich mit seinem Verhalten bin.								ER_SB_05
betone ich, wie gut ich das finde.								ER_SB_06

Wenn das Kind <u>nicht</u> tut, was ich verlange...

	Nie	Sehr selten	Eher selten	Eher häufig	Sehr häufig	Immer	Unpassend	
	1	2	3	4	5	6		
wiederhole ich meine Forderung mit Nachdruck.								ER_NK_01
schaue ich es streng an.								ER_NK_02
werde ich laut.								ER_NK_03
drohe ich mit Konsequenzen.								ER_NK_04
zwinge ich das Kind, meiner Forderung nachzukommen.								ER_NK_05
verweigere ich dem Kind etwas, das es besonders mag.								ER_NK_06
stelle ich eine Belohnung für folgsames Verhalten in Aussicht.								ER_MB_04
locke ich das Kind mit einer kleinen Belohnung, meiner Bitte nachzukommen.								ER_MB_06
biete ich einen Kompromiss an.								ER_AV_01
handle ich mit dem Kind gemeinsam eine Lösung aus.								ER_AV_02
erkläre ich meine Forderung genauer.								ER_AV_03
frage ich das Kind nach seinen Gründen.								ER_AV_04
erkläre ich meinen Anspruch ausführlich.								ER_AV_05
gebe ich auf.								ER_RR_01
lasse ich meinen Anspruch fallen.								ER_RR_02

Wenn das Kind sich über meine Anweisungen aufregt...

	Nie	Sehr selten	Eher selten	Eher häufig	Sehr häufig	Immer	Unpassend	
	1	2	3	4	5	6		
fordere ich es auf, das Theater sein zu lassen.								ER_NK_07
zeige ich meinen Unmut über seine Reaktion.								ER_NK_08
bestehe ich trotzdem auf sofortige Umsetzung meiner Forderung.								ER_NK_09
zeige ich Härte und bleibe konsequent.								ER_NK_10
dulde ich keine Spielchen.								ER_NK_11
sorge ich für Ablenkung.								ER_PK_09
bringe ich es dazu, an etwas anderes zu denken.								ER_PK_10
lenke ich ein.								ER_RR_05
bestehe ich nicht länger auf meiner Forderung.								ER_RR_06

Vielen Dank für Ihre Hilfe!

Haben Sie noch Anmerkungen? _____

_____

Appendix C

Backup of the online consent and sociodemographic questionnaire used in Study 1b

Dear Caregiver:

These days, it can be difficult to know how to raise children properly: how much freedom, how many boundaries they need at a given age; how well they're already able to regulate themselves; how best to help them cope with internal or external demands. Education always arises from the interaction between parents and children. The IMMA questionnaire is designed to help you better understand this interaction.

We ask about your general ideas and expectations about children's self-regulation (Part 1). Next, we look at how your child handles frustrating situations, and how he/she responds when you want him/her to do something specific or when you want to forbid something (Part 2). Finally, we want to know how you behave in such situations (Part 3).

We would like you to fill out the questionnaire spontaneously, truthfully and completely. Of course, your data will be treated confidentially and the evaluation will be strictly anonymous: there will be no way to derive your identity from it.

By completing the IMMA, you make a significant contribution to deepening our understanding of early childhood education. For this, we thank you in advance! But we also hope that one or more of the questions will inspire you to think in a new way about yourself and your child...

It is of utmost importance that you honestly state what you personally think and not consider what others may think about it. Only then will the data be truly meaningful for later evaluation!

And we hope you have some fun filling it out!

The data you provide will be used to obtain general sample data and will be published as overall results. No one will know your answers and the information you provide will be kept strictly confidential.

Do you voluntarily agree to answer IMMA?

- Yes
- No

I. PERSONAL BACKGROUND OF THE CHILD:

1. Birthdate (dd/mm/yy): _____

2. Exact age of the child (example: 3 years, 4 months) _____

3. Gender
   - Female
   - Male
   - I prefer not to say

4. Does he/she has siblings?
   - No
   - Yes, older siblings
   - Yes, younger siblings
   - Yes, older and younger siblings

5. How many months have your child already attended to kindergarden/daycare?
   _____

6. How many hours spend by the child in the nursery/kindergarten?
   _____

7. What is the child's nationality?
   _____

8. How many weeks did the pregnancy last?
   - _____

9. Were there any complications during pregnancy or delivery?
   - Yes
   - No

10. Until what age was he/she breastfeeding?
    - _____
    - Still breastfeeding

11. How often the child sleeps in same beed or room with the mother/father?
    - Never
    - Between 1-3 times per week
    - Almost every night

12. Does he/she has any medical or psychological diagnosis?
    _____

II. PERSONAL BACKGROUND OF THE ADULT RESPPONDING:

13. Adult responding
- Mother
- Father
- Family member in charge of the child
- Non-relative in charge of the child

14. Age of the adult responding
_____

15. Civil status:
- Married /Cohabiting
- Single
- Divorce
- Widower

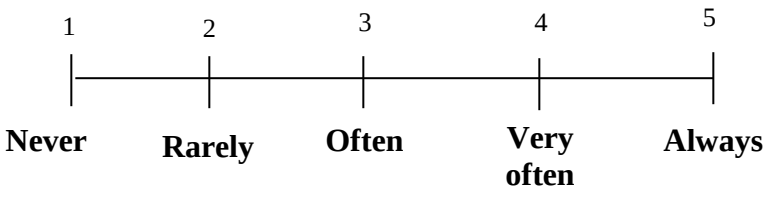
16. Highest educational level
- Incomplete basic education (less than 8th grade)
- High school
- Technical education
- Bachelor
- Postgraduate studies

17. What is the nationality of the parents?
_____

18. Does any of the parents have any medical or psychological diagnosis?
_____ How many (awake) hours per week does the **mother** spend with the child
- Between 7-14
- Between 15-35
- More than 36

19. How many (awake) hours per week does the **father** spend with the child
- Between 7-14
- Between 15-35
- More than 36

COVID QUESTIONS:
Answer the following four questions considering the following scale:



	1	**2**	**3**	**4**	**5**
Do you think the pandemic situation has influenced your daily interaction with your child?					
Do you think the pandemic situation has affected your mental health?					
Do you think the pandemic situation has affected your child's mental health?					
Do you think the pandemic situation has affected family stress levels?					

Appendix D

Welcome letter for parents (Spanish)

Estimados padres:

Gracias por aceptar nuestra invitación para apoyar nuestra investigación sobre la co-regulación parental y los comienzos de la autorregulación infantil. ¡Apreciamos mucho tu ayuda!

Para empezar es importante que su hijo/a no sepa de antemano lo que sucederá, por lo que le pedimos que no lo comparta. El experimento no requiere ninguna preparación de su parte, después de todo, no es una prueba de rendimiento. Más bien, queremos que usted y su hijo reaccionen de la manera más espontánea y natural posible.

En el presente estudio, estamos interesados principalmente en comparar la autorregulación entre distintos grupos de edad (de 2 y 4 años) y culturas (Chile y Alemania). Además, queremos estudiar cómo se relaciona la autorregulación infantil con la co-regulación parental. Por **autorregulación** entendemos la capacidad de los niños para lidiar con situaciones cognitivas, motivacionales y emocionales desafiantes. Esta capacidad generalmente sufre cambios importantes a través del desarrollo en la primera infancia. Por **co-regulación** nos referimos a todo aquel comportamiento de los cuidadores que acompaña este desarrollo.

Con este propósito, les pedimos a usted y a su hijo/a que jueguen durante aproximadamente 10 minutos en tres situaciones diferentes. La sesión será grabada en video y luego será analizada por asistentes de investigación capacitados. Más información del manejo de los videos puede encontrarla en el consentimiento informado.

A continuación nos gustaría informarle en detalle en qué consistirá la situación del juego. Si tiene preguntas nos complace responderlas. Luego de tener su consentimiento para participar estaremos listos para partir.

Procedimiento general:

La sesión tendrá lugar en una de nuestras salas especialmente equipadas para la situación de juego. Usted estará con su hijo/a todo el tiempo, mientras que el experimentador saldrá y entrará en distintos momentos, guiándolo a través de la sesión.

El procedimiento consiste en tres fases/juegos:

1) Rompecabezas

Aquí, le pediremos a usted y a su hijo/a que jueguen con un rompecabezas durante 5 minutos. De esa manera podemos ver cómo su hijo/a se enfrenta a una situación cognitiva exigente. No hay necesidad de terminar el rompecabezas. Estamos interesados principalmente en la interacción social entre usted y su hijo/a.

2) El Regalo equivocado

En el segundo juego, el experimentador le mostrará a su hijo/a tres juguetes y le preguntará cuál le gusta más. Luego, el experimentador le ofrecerá un regalo a su hijo/a, pero le indicará que no lo abra antes de que todas las piezas del rompecabezas sean recogidas y guardadas en la caja.

Le pedimos que NO ayude a su hijo/a a recolectar las piezas del rompecabezas. Puede guiarle, pero no ayudarle. Asimismo, también le pedimos que evite que su hijo/a toque el regalo hasta guardar todas las piezas. Una vez que todo esté limpio, toque la campana (para que el experimentador sepa que han terminado de recoger las piezas) y permita a su hijo/a abrir el regalo para descubrir qué hay dentro.

Este no será el juguete favorito. Por lo tanto, su hijo/a se enfrentará a una situación un tanto desafiante, que podría causar cierta frustración. Le pedimos que no permita que su hijo/a juegue con la campana, pues queremos ver su reacción frente al regalo equivocado.

3) Sorpresa

El tercer juego nos permitirá investigar cómo los niños pequeños enfrentan situaciones emocionalmente exigentes. Para ese propósito, provocaremos una respuesta sorpresa (primero negativa, luego positiva).

Al iniciar, el experimentador ingresará a la habitación con una máscara blanca neutra frente a su cara y se acercará lentamente a su hijo/a. Muchos niños pequeños encontrarán esto extraño o incluso pueden asustarse un poco. Esta sería una respuesta natural. ¡Le aseguramos de que no queremos abrumar o asustar a su hijo/a! Por supuesto él/ella puede buscarle a usted en busca de alivio o protección si lo necesita. Además, el experimentador solo avanzará y se sentará frente a su hijo/a si él/ella se mantiene en calma. Si su hijo/a muestra algún signo de gran ansiedad, el experimentador se detendrá inmediatamente y mantendrá la distancia. Si su hijo/a incluso comienza a llorar, la máscara se quitará inmediatamente y el experimentador le sonreirá, explicándole la situación.

Al final de este juego, el experimentador le entregará a su hijo el juguete elegido como favorito. Por tanto, el juego terminará con una sorpresa positiva.

No dude en decirnos si no se siente cómodo/a. Queremos asegurarnos de que todo lo que hacemos está bien para ambos. Asimismo, si su hijo normalmente usa un chupete, le pedimos que lo deje a un lado durante la grabación, ya que podría interferir en la interacción entre ustedes. Úselo sólo si siente que es absolutamente necesario y trate de limitar su uso.

Finalmente, para ver cómo cambia la autorregulación a través del desarrollo, planeamos contactarlo a usted y a su hijo/a nuevamente el próximo año para llevar a cabo una secuencia de juego muy similar. Eso nos permitirá monitorear el progreso que probablemente su hijo/a habrá tenido. Aunque le agradeceríamos mucho que estuviera dispuesto a venir nuevamente para verificar los cambios en el desarrollo después de un año, no es obligación que lo haga. Siéntase libre de decidir en su momento.

Con su participación, nos ayudará a profundizar nuestra comprensión de cómo los niños pequeños de diferentes edades y antecedentes culturales interactúan con sus padres en situaciones que requieren autorregulación y co-regulación. Sin su apoyo, esto no sería posible.

¡Muchas gracias por ser parte de este estudio!

Appendix E

Welcome letter for parents (German)

Liebe Eltern:

Danke, dass Sie unserer Einladung gefolgt sind und unsere Forschung zu den Anfängen der kindlichen Selbstregulation, sowie der elterlichen Koregulation unterstützen wollen. Wir wissen das sehr zu schätzen!

Es ist wichtig, dass das Kind vorab nicht weiß, was passieren wird. Sprechen Sie also bitte nicht mit ihm darüber. Der Versuch braucht keinerlei Vorbereitung Ihrerseits, schließlich handelt es sich nicht um einen Leistungstest. Vielmehr möchten wir, dass Sie und Ihr Kind so spontan und natürlich wie möglich reagieren.

Mit ***Selbstregulation*** meinen wir die Fähigkeit von Kindern, mit geistig, motivational oder emotional herausfordernden Situationen umzugehen. Diese Fähigkeit durchläuft in der frühen Kindheit typischerweise wichtige Veränderungen.

Mit ***Koregulation*** meinen wir das Verhalten, das wichtige Bezugspersonen zeigen, wenn sie diese Entwicklung begleiten.

Wir sind insbesondere daran interessiert, Prozesse der Selbstregulation in verschiedenen Altersgruppen (bei 2- und 4-Jährigen) und Kulturen (Chile, Japan, Deutschland, China) zu untersuchen. Außerdem wollen wir herausfinden, wie die kindliche Selbstregulation mit der elterlichen Koregulation zusammenhängt.

Zu diesem Zweck werden wir Sie und Ihr Kind bitten, 10 Minuten in drei verschiedenen Situationen miteinander zu spielen. Diese Interaktion zeichnen wir auf Video auf. Die Videos werden später von geschulten Hilfswissenschaftlerinnen ausgewertet. Wir haben ein spezielles Formblatt, auf dem wir erklären, wie wir mit Video-Material umgehen.

Zunächst möchten wir Sie aber ausführlich über das konkrete Vorgehen in der Spielsituation informieren. Bitte lesen Sie dazu die nachfolgenden Informationen. Wenn Sie weitere Fragen haben, werden wir diese gerne im Vorfeld beantworten. Sobald Sie das Formblatt zu den Video-Aufnahmen gelesen und schriftlich Ihr Einverständnis erklärt haben, kann es dann losgehen.

Ablauf der Studie

Der Versuch findet in einem unserer speziell dafür eingerichteten Laborräume statt. Sie werden während des gesamten Versuches bei Ihrem Kind sein, die Versuchsleiterin wird nur zeitweise bei Ihnen sein. Der Ablauf sieht drei aufeinander folgende Spielphasen vor:

1) Puzzle Spiel Hier bitten wir Sie und ihr Kind, sich für 5 Minuten mit einem Puzzle zu beschäftigen. Dabei können wir beobachten, wie sich Ihr Kind in geistig herausfordernden Situationen verhält. Es geht nicht darum, das Puzzle unbedingt fertig zu legen. Wir interessieren uns vor allem für die soziale Interaktion zwischen Ihnen und Ihrem Kind.

2) Falsches Geschenk Spiel Zu Beginn der zweiten Spielphase wird die Versuchsleiterin Ihrem Kind drei Spielzeuge zeigen und es fragen, welches davon ihm am besten gefällt. Anschließend gibt sie Ihrem Kind eine verschlossene Geschenk-Schachtel, die es erst aufmachen darf, wenn alle Puzzle-Teile vom Teppich aufgesammelt und zurück in die Box gelegt wurden. Die Versuchsleiterin wird Sie dazu auffordern, das Kind daran zu hindern, die Geschenk-Schachtel anzufassen, bevor es fertig aufgeräumt hat. Gleichzeitig bitten wir Sie, Ihrem Kind NICHT dabei zu helfen, die Puzzle-Teile einzusammeln. Sobald alles aufgeräumt ist, darf das Kind die

Geschenk-Schachtel öffnen und herausfinden, was sich darin befindet. Dabei handelt es sich allerdings nicht um das bevorzugte Spielzeug.

Ihr Kind wird also mit einer motivational herausfordernden Situation konfrontiert, die kurzfristig auch Frustrationsgefühle auslösen kann. Wir stellen aber sicher, dass diese Situation nur kurz andauert. Nur, indem wir das Kind erst in eine solche Situation bringen, können wir etwas über die Entwicklung der Impulsregulation mit dem Alter lernen.

3) Überraschungsspiel Mit dem dritten Spiel möchten wir untersuchen, wie kleine Kinder mit einer emotional herausfordernden Situation umgehen. Zu diesem Zweck wollen wir beim Kind eine Überraschungsreaktion erzeugen (erst eine negative, dann eine positive Reaktion). Dafür wird die Versuchsleiterin mit einer weißen neutralen Maske vor dem Gesicht den Versuchsraum betreten and langsam auf das Kind zugehen. Viele Kinder im erhobenen Alter finden das zunächst komisch oder sogar etwas beängstigend. Das ist ganz normal. Seien Sie versichert, dass wir Ihr Kind keinesfalls überfordern möchten! Es kann jederzeit Sicherheit und Schutz bei Ihnen suchen, wenn es das braucht. Nur wenn das Kind ruhig bleibt, wird sich die Versuchsleiterin weiter annähern und versuchen, sich neben es setzen.

Sobald Ihr Kind Anzeichen von Angst zeigt, bleibt sie stehen und hält Abstand. Sollte das Kind anfangen zu weinen, wird sie die Maske sofort vom Gesicht nehmen, das Kind freundlich anlachen und die Situation auflösen. Anschließend gibt sie dem Kind das gewünschte Spielzeug als Geschenk. Die Situation endet folglich mit einer positiven Überraschung.

Außerdem würden wir Sie bitten, falls Ihr Kind normalerweise einen Schnuller benutzt, diesen für die Dauer des Filmes zur Seite zu legen, da wir uns dadurch eine verbesserte Interaktion zwischen Ihnen und ihrem Kind erhoffen. Benutzen Sie ihn nur, wenn Sie das Gefühl haben, es ist absolut notwendig und limitieren Sie den Gebrauch.

Wir können den Versuchsablauf grundsätzlich zu jedem Zeitpunkt stoppen, wenn Sie oder Ihr Kind nicht länger mitmachen wollen oder eine Pause brauchen. Bitte fühlen Sie sich frei uns zu sagen, wenn Sie sich nicht mehr wohl fühlen. Wir wollen nur Dinge tun, mit denen Sie einverstanden sind! Ein Versuchsabbruch hat für Sie oder Ihr Kind keinerlei negative Konsequenzen.

Wir planen auch zu untersuchen, wie die Fähigkeit zur Selbstregulation sich mit dem Alter verändert. Deshalb werden wir Sie und Ihr Kind in einem Jahr nochmals zu einem sehr ähnlichen Versuch einladen. Auch wenn wir uns sehr freuen würden, wenn Sie bereit wären, noch einmal zu kommen, besteht keinerlei Verpflichtung Ihrerseits, dieser Bitte nachzukommen. Sie können das später frei entscheiden.

Durch Ihr Mitwirken helfen Sie uns, besser zu verstehen, wie Kleinkinder unterschiedlichen Alters aus verschiedenen Kulturen mit herausfordernden Situationen, die Selbst- und Koregulation verlangen, umgehen. Ohne Ihre Hilfe wäre das nicht möglich.

Vielen, vielen Dank für Ihre Unterstützung!

UNIVERSIDAD DE CHILE

UNIVERSITÄT HEIDELBERG ZUKUNFT SEIT 1386

Appendix F

Informed consent signed by the Chilean participants of Study 2

CONSENTIMIENTO INFORMADO

Investigador principal: Cecil María Mata López
R.U.T. 24.224.893-7
Institución: Universidad de Chile y Heidelberg Universität
Números de teléfono: (2) 23541155

Le estamos invitando a participar en el proyecto de investigación "De la co-regulación a la autorregulación en la primera infancia: un estudio intercultural en Alemania y Chile", el cual tiene por objetivo el analizar los cambios que ocurren en las interacciones diádicas entre madre/padre e hijo/a en distintas edades en cuanto a regulación.

Este estudio forma parte del proyecto de tesis de la candidata a doctor Cecil Mata dentro del Programa de Doctorado de Psicoterapia de la Universidad de Chile, siendo supervisado por la profesora Claudia Capella de la **Universidad de Chile** y la profesora Sabina Pauen de la **Universidad de Heidelberg, Alemania.** El presente estudio está inserto dentro del proyecto "COSER (CO- and SElf-Regulation in caregiver-child dyads)" dirigido también por la profesora Sabina Pauen, el cual tiene por objetivo comparar las interacciones entre padres e hijos en distintas culturas.

Para decidir si desea participar en esta investigación, es importante que considere la siguiente información. Siéntase libre de preguntar cualquier punto que no le quede claro.

¿En qué consiste la investigación?
Esta investigación evalúa las interacciones madre/padre-hijo/a a través de filmaciones, comparando muestras de Chile y Alemania en dos momentos distintos. El estudio incluirá el análisis de díadas de madres o padres con sus hijos/as en dos grupos: a) Un primer grupo incluye díadas con niños/as de 2 años que serán invitados a participar nuevamente a los 3 años de edad, b) un segundo grupo incluye díadas con niños/as de 4 años de edad que serán invitados a participar nuevamente a los 5 años de edad.

¿En qué consiste mi participación?
Si usted acepta participar el procedimiento consistirá en lo siguiente: 1) Se explicará la actividad y será filmado/a con su hijo/a durante tres actividades compartidas: armar un rompecabezas, recibir un "regalo equivocado" y el ingreso de una persona con una máscara a la sala 2) Se pedirá que complete algunos cuestionarios sobre elementos culturales y el manejo de impulsos de su hijo/a. La actividad completa durará entre 45 minutos y una hora. Finalmente, un año después se invitará nuevamente a realizar las mismas actividades.

¿Existe algún riesgo asociado a la investigación?
No se prevé ningún riesgo significativo. No obstante, existe la posibilidad de que su hijo/a experimente cierta sorpresa durante la filmación. Sin embargo, no se espera que la situación genere un estado de sorpresa excesiva y usted estará en todo momento con su hijo/a. Junto con este consentimiento usted recibirá una carta de bienvenida explicando en detalle el procedimiento para que tenga la libertad de realizar cualquier pregunta.

¿Mi participación tiene algún costo para mi?
No hay costos asociados a su participación

UNIVERSIDAD DE CHILE

UNIVERSITÄT HEIDELBERG ZUKUNFT SEIT 1386

¿Qué beneficio tiene mi participación?
Además de la contribución que este estudio representará para una mayor comprensión de las interacciones entre padres e hijos y la propuesta de mejores intervenciones en el futuro, usted recibirá los siguientes beneficios: 1) después de la primera medición, recibirá un pequeño juguete o un libro de cuentos según la edad de su hijo/a y 2) después de la segunda medición, recibirá un video editado de las interacciones filmadas con comentarios personales sobre la diada. La retroalimentación consistirá en un video que contiene algunas partes de la filmación, características

identificadas y comentarios/recomendaciones. Además, una vez que se publique el estudio, los resultados se compartirán con aquellos participantes que expresen el deseo de conocer los resultados globales.

¿Recibiré alguna compensación económica por mi participación?
Usted no recibirá ninguna compensación económica por su participación en el estudio.

¿Qué pasará con los videos?
Toda la información derivada de su participación en este estudio será conservada en forma de estricta confidencialidad, para lo cual los datos serán identificados solamente con un número de folio y los nombres de los participantes no serán escrito en ningún documento o archivo de multimedia. Solamente los investigadores del estudio o agencias supervisoras de la investigación podrán acceder a los videos y lo harán a través de plataformas que impiden su copia. Considerando que este es un proyecto intercultural, el equipo de investigadores está conformado por estudiantes de magíster y/o doctorado y profesores asociados de ambas universidades (Universidad de Chile y Universidad de Heidelberg). Cualquier publicación o comunicación científica de los resultados de la investigación será completamente anónima, es decir, no incluirá nombres o ningún otro dato que permita identificarlo a usted o a su hijo/a, y tratará los resultados globales, no de manera particular. Una vez cumplidos 5 años luego de la segunda medición, todos los videos obtenidos durante el proyecto serán eliminados de todos los dispositivos en los cuales fueron almacenados.

¿Estoy obligado/a a participar?
No, la participación en este estudio es totalmente voluntaria y no habrá repercusiones de ningún tipo para el adulto y/o el niño que se nieguen a participar. Además, usted o su hijo/a pueden negarse a continuar participando en cualquier momento del estudio si así lo desean.

¿Puedo estar al tanto de la investigación y sus resultados?
Sí, si usted desea recibir información respecto a cualquier cambio, dificultad y/o avance durante el proyecto de investigación puede brindarnos su correo electrónico a continuación _____, y le enviaremos información de la investigación una vez que esta termine (aprox. el primer semestre 2022).

Derechos del participante
Usted recibirá una copia íntegra y escrita de este documento firmado. Si usted requiere cualquier otra información sobre su participación en este estudio o cualquier otro tipo de información puede comunicarse con:

Investigador: Cecil Mata López / Email: cmmata@uc.cl / Teléfono: 2 23541155
Supervisor: Claudia Capella /Email: ccapella@u.uchile.cl / Teléfono: 2 22972410

UNIVERSIDAD DE CHILE

UNIVERSITÄT HEIDELBERG ZUKUNFT SEIT 1386

Otros Derechos del participante

En caso de duda sobre sus derechos debe comunicarse con el Presidente del "Comité de Ética de Investigación en Seres Humanos", Dr. Manuel Oyarzún G., Teléfono: 2-9789536, Email: comiteceish@med.uchile.cl, cuya oficina se encuentra ubicada a un costado de la Biblioteca Central de la Facultad de Medicina, Universidad de Chile en Av. Independencia 1027, Comuna de Independencia.

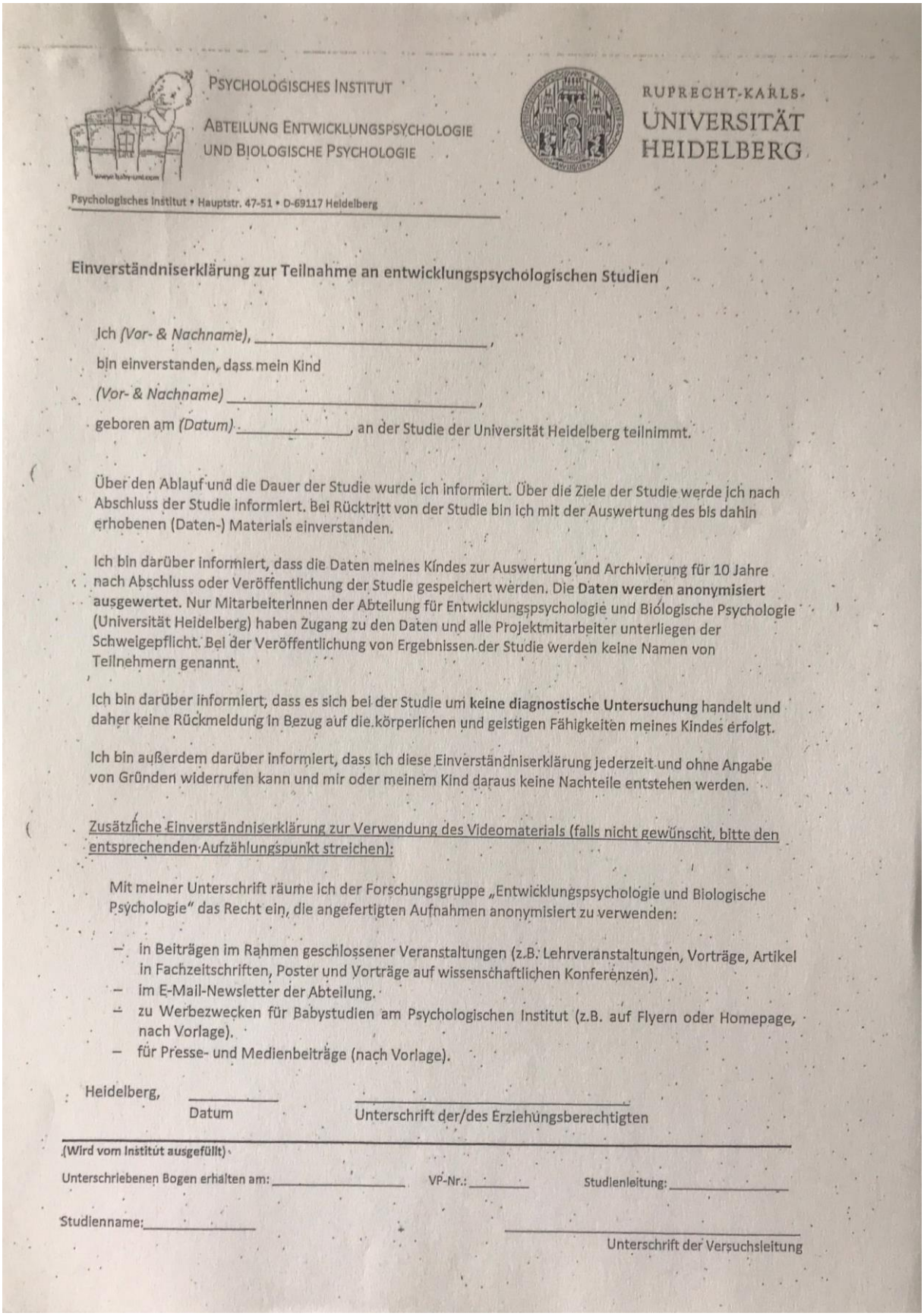
Después de haber recibido y comprendido la información de este documento y de haber podido aclarar todas mis dudas, otorgo mi consentimiento y autorizo la participación de mi hijo/a para participar en el proyecto "De la co-regulación a la autorregulación en la primera infancia: un estudio intercultural en Alemania y Chile".

Nombre del padre/madre	Firma	Rut	Fecha

Nombre del investigador	Firma	Rut	Fecha

Appendix G

Informed consent signed by the German participants of Study 2



PSYCHOLOGISCHES INSTITUT

ABTEILUNG ENTWICKLUNGSPSYCHOLOGIE UND BIOLOGISCHE PSYCHOLOGIE

RUPRECHT-KARLS-
UNIVERSITÄT
HEIDELBERG

Psychologisches Institut • Hauptstr. 47-51 • D-69117 Heidelberg

Einverständniserklärung zur Teilnahme an entwicklungspsychologischen Studien

Ich *(Vor- & Nachname)*, _____,

bin einverstanden, dass mein Kind

(Vor- & Nachname) _____,

geboren am *(Datum)* _____, an der Studie der Universität Heidelberg teilnimmt.

Über den Ablauf und die Dauer der Studie wurde ich informiert. Über die Ziele der Studie werde ich nach Abschluss der Studie informiert. Bei Rücktritt von der Studie bin ich mit der Auswertung des bis dahin erhobenen (Daten-) Materials einverstanden.

Ich bin darüber informiert, dass die Daten meines Kindes zur Auswertung und Archivierung für 10 Jahre nach Abschluss oder Veröffentlichung der Studie gespeichert werden. Die **Daten werden anonymisiert ausgewertet.** Nur Mitarbeiterinnen der Abteilung für Entwicklungspsychologie und Biologische Psychologie (Universität Heidelberg) haben Zugang zu den Daten und alle Projektmitarbeiter unterliegen der Schweigepflicht. Bei der Veröffentlichung von Ergebnissen der Studie werden keine Namen von Teilnehmern genannt.

Ich bin darüber informiert, dass es sich bei der Studie um **keine diagnostische Untersuchung** handelt und daher keine Rückmeldung in Bezug auf die körperlichen und geistigen Fähigkeiten meines Kindes erfolgt.

Ich bin außerdem darüber informiert, dass ich diese Einverständniserklärung jederzeit und ohne Angabe von Gründen widerrufen kann und mir oder meinem Kind daraus keine Nachteile entstehen werden.

Zusätzliche Einverständniserklärung zur Verwendung des Videomaterials (falls nicht gewünscht, bitte den entsprechenden Aufzählungspunkt streichen):

Mit meiner Unterschrift räume ich der Forschungsgruppe „Entwicklungspsychologie und Biologische Psychologie" das Recht ein, die angefertigten Aufnahmen anonymisiert zu verwenden:

- in Beiträgen im Rahmen geschlossener Veranstaltungen (z.B. Lehrveranstaltungen, Vorträge, Artikel in Fachzeitschriften, Poster und Vorträge auf wissenschaftlichen Konferenzen).
- im E-Mail-Newsletter der Abteilung.
- zu Werbezwecken für Babystudien am Psychologischen Institut (z.B. auf Flyern oder Homepage, nach Vorlage).
- für Presse- und Medienbeiträge (nach Vorlage).

Heidelberg, _____ _____

Datum Unterschrift der/des Erziehungsberechtigten

(Wird vom Institut ausgefüllt)

Unterschriebenen Bogen erhalten am: _____ VP-Nr.: _____ Studienleitung: _____

Studienname: _____

_____

Unterschrift der Versuchsleitung

Appendix H

SECORE measurement procedure

SECORES seeks to evaluate co- and self-regulation behaviors within parent-child interactions during diverse shared activities. To achieve this, different elements of the interaction are analyzed in a task consisting of three main phases (A, B, C).

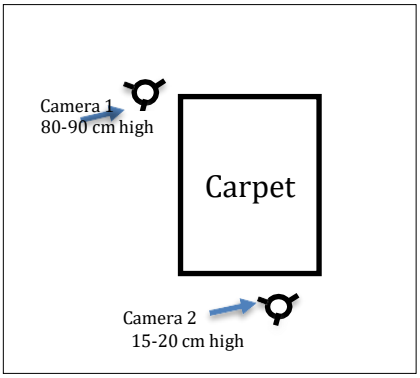
Instruction for SECORE-IA (Interaction Assessment – 10 minutes)

The basic idea of this assessment is to observe a caregiver in interaction with a child involving:

A) ***A Puzzle game,*** focusing primarily on cognitive and motivational aspects (5 min)
B) ***A "Wrong-present" game,*** focusing primarily on motivational aspects of self- and co-regulation (2 min)
C) ***A "Surprise game"***, focusing explicitly on emotional self- and co-regulation (2 min)

General setting

The setting will be a welcoming and respectful space. A quite laboratory room should be arranged with a carpet, two cameras and a chair in a corner. Any other distracting element should be removed or covered to prevent the child from being distracted. The two cameras will be place as showed in the following picture:



Material

1. A puzzle (number of pieces adjusted to age of the child and time constraints:
   12 pieces for 2-year-olds; 25 pieces for 4-year-olds)
2. A big sack containing three small objects and three coloured gift boxes:
   - Object 1: a toy that lights up and/or makes sounds when touching/moving it (name: "Squinky")
   - Object 2: a little finger puppet (e.g. a "rabbit")
   - Object 3: a large Lego block
   - Gift box 1: box with red bow or handle, containing the "Squinky"
   - Gift box 2: box with green bow or handle, containing the finger puppet
   - Gift box 3: box with blue bow or handle, containing the Lego block
   - A bell
   - A white mask
3. Questionnaires: e.g. Sociodemographic Questionnaire, IMMA 1-6, Self-Construal Scale and Tightness-Looseness Scale

This instrument was developed by Sabina Pauen and her team at the Department of Psychology at Heidelberg University. It is based on work of the EDOS (Early Development Of Self-regulation)-Model (Pauen & EDOS group, 2016).

Procedure

a. Parents are contacted via phone and explained the purpose of the study and the procedure. If they agree to participate, they are invited to the lab.
b. The experimenter hands the instruction and consent sheet to the caregiver
c. Caregiver reads the description and instruction for SECORE-Interaction Assessment while the experimenter talks with child to get familiar with him/her.
d. Experimenter asks caregiver if she/he has any further question.
e. The consent sheet is signed.
f. The three phases of the experiment are carried out in fixed sequence (A, B, C detailed description follows)
g. Caregiver completes additional questionnaire(s) included in the study

General instruction:

Once caregiver and child are in the evaluation room, they are invited to sit on the carpet/blanket and the general procedure will be explained in the following way:

"Now I am going to propose some play activities to both of you. I will leave the room during the time you play together and I will come back when it is time to change the activities. While I'm gone you can play as you usually do at home. But please stay on the carpet and take care not to block the video cameras. Is that ok with you?"

The child will then be asked for verbal consent to participate *"Are you ready to stay on the carpet and play with your mom/dad?"*

Phase A: Puzzle Game (cognitive and motivational regulation)

1. Experimenter shows a box with puzzle pieces to caregiver and child.
   Addressing the child: *"Look what I have for you! It's a puzzle game. There are many puzzle pieces in this box. If you put them together, they make up this pretty picture (pointing at picture)."*
2. Addressing the child: *"Can you try to put these pieces together so that we get a lovely picture? I think you can do it!"*
3. Addressing the caregiver*: "Feel free to support your child while he/she works on the task. Just interact naturally as you would do at home."*
4. Addressing both: *"There is no need to finish the puzzle before I return. Just play together as you like! Please wait until I left the room before you begin" (in Pandemic times please add: "and then you can take your mask out while I am gone.")*
5. Experimenter leaves the room (time counts from moment, door has been closed).
6. Five minutes later (exact timing required!) the experimenter knocks at the door and enters the room, bringing a sack with three wrapped gifts and three objects.
7. Experimenter, addresses caregiver and child: *"Oh, I see that you made some progress. That's great!"*

Phase B: Wrong present Game (motivational and emotional regulation)

8. The Experimenter opens the sack and addresses the child: *"Look what I have here: It's is a sack. Inside, I brought some toys of mine that I would like to show you! But please don't touch any of them. I just want to show them to you."*
9. Experimenter pulls out the three unwrapped objects sequentially, introduces each one and later places it out of reach but in full view of the child:
   Introduction Object 1: "This is Squinky: It can blink / make a funny noises – like this" (demonstration).

"I will place it here (placing it out of reach of the child).
Introduction Object 2: "This is a puppet, called 'rabbit'. You can put it on your finger and let it dance" (demonstration). "Let's put it here." (placing it next to the first)
Introduction Object 3: "And this is a Lego block. You can build things with Lego if you have more of them." (looking at it from different sides) "I will put it here."

10. Addressing the child: "Which of my toys do you like most?"
11. Experimenter waits until child expresses his/her preference, then picks it up and says: *"Yes – this one is really cool! I like it, too!"*
12. Experimenter says: *"Now that I know what you like most, I have a present for you…"*
13. Experimenter reaches into the sack, pulls out the blue gift box (containing the Lego block) and shows it to the child: *"In a minute, you can unwrap this present and play with the toy inside. But once I left the room, I first want you to clear up the puzzle game. All pieces need to get back into the box again before you open the present. And you should do it all on your own – without assistance from your mother/farther!".* Please note: in case the child chooses the Lego block as her/his favourite toy, the green gift box (containing the finger puppet) is handed.
14. Experimenter takes a bell and shows it to the caregiver. Addressing the caregiver: *"Here is a bell for you. Once your child has finished putting back all the puzzle pieces into the box all by her/himself you can ring the bell. Only after you did this, your child can open the present. Remember the bell is for you, not for (name of the child) who should not touch it. I will be back in a moment"*
15. Experimenter places the present and the bell at one corner of the carpet (maximal distance to child and caregiver).

Experimenter leaves the room and comes back exactly 2 minutes after hearing the bell ring

Phase C: Surprise Game (motivational and emotional regulation)

8. Experimenter knocks at the door, re-enters the room, wearing the white mask and carrying the sack. He/she approaches the child slowly (without talking) until he/she is about one meter away and then crouches down. From the moment the experimenter enters, he/she must mentally count one minute until the moment of removing the mask.
9. After one minute or if the child shows signs of being scared, the experimenter freezes and does not approach any further. Should the child start to cry, he/she will immediately remove the mask and start laughing and explaining: *"This is only a white mask I found outside the door. I did not mean to scare you. Look!"*
10. Experimenter holds the mask towards the child. If the child is not interested, he/she puts it away.
11. Experimenter looks at box with Lego block, reacts surprised and says: *"Oh sorry! I think I gave you the wrong present. I meant to give you this one*"
12. Experimenter pulls out the box containing the 1st choice present from the sack *"This should be the right one."*
13. Once the child opened the present: *"You can have it and take it home with you. You really did a great job! And you were very patient with me. Sorry for giving you the wrong present before!"*

Appendix I

COVID protocol adopted in Study 2

Nos comprometemos a seguir los siguientes lineamientos y estamos abiertos aañadir cualquier otra medida de seguridad considerada:

- Limpieza y desinfección antes y después de cada encuentro
- Uso de mascarilla médica durante todo el encuentro por parte de la evaluadora
- Instrucción a los participantes de remover la mascarilla solamente dentro de la sala espejo al encontrarse solos
- Resguardo de distancia física entre la evaluadora y los participantes en todo momento.La evaluadora se encuentra la mayor parte del tiempo observando a través de la sala espejo, en los momentos en que exista contacto deberá respetarse 1 metro de distancia.
- Los cuestionarios podrán ser completados dentro de la sala espejo encontrándose la díada sola, o fuera del CAPs al aire libre si el clima lo permite y los padres así lo prefieren.
- Se planificará una hora y media para cada encuentro, existiendo así suficiente tiempo entre participantes para ventilar la habitación y realizar el proceso de desinfección.
- Algunas horas antes del encuentro se llamará a los participantes para confirmar su asistencia y consultar si en su hogar existe alguien con algún síntoma asociado a COVID. En caso existiera síntomas en el hogar de los participantes y/o evaluadora, el encuentro será cancelado hasta que se descarte el posible contagio.

Appendix J

Sociodemographic questionnaire included in Study 2 (Spanish)

CUESTIONARIO SOCIODEMOGRÁFICO

Nombre niño/a		Fecha aplicación	
Nombre persona que responde		Parentesco con el niño (madre, padre, etc.)	

I. ANTECEDENTES PERSONALES DEL NIÑO/A:

Fecha de nacimiento: _____
Edad actual: _____
Nacionalidad: _____
En caso que no haya nacido en Chile, ¿A qué edad llegó a este país?_____
Sexo: Femenino _____ Masculino_____ Otro _____
¿Posee el niño/a algún antecedente médico relevante (discapacidad, enfermedad, diagnóstico)?
Especifique_____

II. ANTECEDENTES PERSONALES DEL ADULTO:

Edad: _____
Nacionalidad: _____
En caso que no haya nacido en Chile, ¿A qué edad llegó a este país?_____
Estado Civil:
____Casado/a
____Conviviente
____Soltero/a
____Separado/a
____Viudo/a
Sexo: Femenino _____ Masculino_____ Otro _____
¿Posee algún diagnóstico médico o psiquiátrico (depresión, esquizofrenia, etc.)?
Especifique_____

III. ANTECEDENTES DE LA FAMILIA:

1. Número personas que viven en la casa (incluyendo al niño/a) _____

Anote la información correspondiente para todas las personas que viven en la casa con el niño(a):

Parentesco con el niño(a)	**Edad**	**Profesión**
1.		
2.		
3.		
4.		
5.		

2. ¿Quién cuida al niño/a durante la mayor parte del tiempo? Marque con una X

Madre	
Padre	
Otro (familiar) Especifique_____	
Otro (no familiar) Especifique_____	

3. ¿Cuántas horas diarias comparte el niño/a con usted (despierto)? _____

4. ¿Asiste al jardín infantil/sala cuna/guardería? Si_____ No_____

5. Edad de ingreso al jardín infantil/sala cuna/guardería: _____ No aplica___

6. Horas semanales que pasa el niño/a en el jardín: _____No aplica___

7. Si la madre del niño/a no vive en la casa, ¿Cuál es el tipo de contacto que tiene con el niño(a)?
____ Diario ____ algunos días a la semana ____ algunos días al mes
____ Algunos días al año ____ no hay contacto ____ NO APLICA

8. Si el padre del niño(a) no vive en la casa, ¿Cuál es el tipo de contacto que tiene con el niño(a)?
____ Diario ____ algunos días a la semana ____ algunos días al mes
____ Algunos días al año ____ no hay contacto ____ NO APLICA

9. ¿Hay otras personas relevantes para el niño/a que no vivan en el hogar y que tengan contacto frecuente con él o ella? Especifique parentesco y horas semanales de contacto

10. ¿Quién es la persona que aporta el ingreso principal al hogar?

Madre	
Padre	
Otro (familiar) Especifique_____	
Otro (no familiar) Especifique_____	

11. Nivel educacional (marque con una X el máximo nivel educacional alcanzado por cada persona):

	Madre	Padre	Otro *	
0.	____	____	____	No lo sabe
1.	____	____	____	Educación básica incompleta (menor a 8vo básico)
2.	____	____	____	Educación básica completa (8vo básico aprobado)
3.	____	____	____	Educación media o media técnica incompleta (menor a 4to medio)
4.	____	____	____	Educación media o media técnica completa. Educación superior técnica incompleta.
5.	____	____	____	Educación universitaria, incompleta. Educación superior técnica completa.
6.	____	____	____	Educación universitaria completa.
7.	____	____	____	Educación de Post Grado (Master, Doctor o equivalente).

* En los casos en que el principal ingreso del hogar no sea el padre o la madre, llenar esta columna respecto a la persona nombrada en la **pregunta 10**.

12. Situación ocupacional (Marque con una X solo una opción para cada persona):

	Madre	Padre	Otro*	
0.	____	____	____	Cesante, no trabaja, actualmente con permiso, en período postnatal
1.	____	____	____	Estudia
2.	____	____	____	Trabaja

* En los casos en que el principal ingreso del hogar no sea el padre o la madre, llenar esta columna respecto a la persona nombrada en la **pregunta 10**.

13. Jornada fuera de casa (Complete en caso de estudiar o trabajar FUERA del hogar. Marque con una X sólo una opción para cada persona). En caso que se encuentre con persmiso postnatal marque según su jornada usual.

	Madre	Padre	Otro*	
0.	____	____	____	No lo sabe
1.	____	____	____	Trabajos menores ocasionales e informales (lavado, aseo, servicio doméstico ocasional, "pololos", cuidador de autos, chofer, junior).
2.	____	____	____	Oficio menor, obrero no calificado, jornalero, servicio doméstico con contrato, guardia, carpintero.
3.	____	____	____	Obrero calificado, capataz, micro empresario (kiosco, taxi, comercio menor, ambulante), operador de alimentos, manipulador
4.	____	____	____	Empleado administrativo medio y bajo, vendedor, secretaria, jefe de sección. Técnico especializado. Profesional independiente de carreras técnicas (contador, analista de sistemas, diseñador, músico). Profesor Primario o Secundario.
5.	____	____	____	Ejecutivo medio (gerente, sub-gerente), gerente general de empresa media o pequeña. Profesional independiente de carreras tradicionales (abogado, médico, arquitecto, ingeniero, agrónomo).
6.	____	____	____	Alto ejecutivo (gerente general) de empresa grande. Directores de grandes empresas. Empresarios propietarios de empresas medianas y grandes. Profesionales independientes de gran prestigio.

* En los casos en que el principal ingreso del hogar no sea el padre o la madre, llenar esta columna respecto a la persona nombrada en la **pregunta 10**.

IV. COMENTARIOS

¿Existe algún otro antecedente del niño/a o la familia que considere relevante mencionar? (por ejemplo migración, luto reciente, enfermedades médicas o psiquiátricas graves en la familia cercana, etc.)

_____
_____
_____
_____

Appendix K

Sociodemographic questionnaire included in Study 2a (German)

SOZIODEMOGRAPHISCHER FRAGEBOGEN

Name des Kindes		Datum	
Name des Erwachsenen		Beziehung zum Kind	

I. Persönliche Daten des Kindes:

Geburtsdatum: _____
Aktuelles Alter: _____
Wenn das Kind nicht in Deutschland geboren wurde, wann ist es nach Deutschland migriert? _____
Nationalität _____
Geschlecht: weiblich _____ männlich_____ divers_____
Hat das Kind besondere Entwicklungsrisiken (Frühgeburt, Behinderung, Krankheiten)? Wenn ja, bitte spezifizieren sie:_____

II. Persönliche Daten des Erwachsenen:

Alter: _____
Nationalität: _____
Wenn Sie nicht in Deutschland geboren wurde, wann sind Sie nach Deutschland migriert? _____
Familienstand:
____verheiratet
____mit Partner/-in zusammenlebend
____ledig
____geschieden
____verwitwet
Geschlecht: weiblich _____ männlich_____ divers_____
In welcher Sprache kommunzieren Sie gewöhnlicherweise mit Ihrem Kind?_____
Haben Sie schon einmal eine psychiatrische Diagnose erhalten (Z.B. Depression, Schizophrenie, etc.)? Bitte spezifizieren Sie:_____

III. Familiärer Hintergrund:

1. Anzahl der Personen, die in einem Haushalt leben (einschließlich des Kindes)_____

Bitte schreiben Sie die dazugehörigen Informationen für jede Person, die in dem gleichen Haushalt wie das Kind lebt, auf:

Beziehung zum Kind (Elternteil 1, Elternteil 2, Geschwister etc.)	**Alter**	**Beruf/Tätigkeit**
1.		
2.		
3.		
4.		
5.		
6.		

2. Wer verbringt die meiste Zeit mit dem Kind und passt auf es auf? Bitte markieren Sie die entsprechende Person mit einem X.

Mutter oder Elternteil 1 (Spezifiziert_____)	
Vater oder Elternteil 2 (Spezifiziert_____)	
Ein anderes Familienmitglieder (Spezifiziert_____)	
Andere Person, die kein Familienmitglied ist (Spezifiziert _____)	

3. Wie viele Stunden am Tag verbringt Sie durchschnitt mit Ihrem Kind wenn es wach ist? _____

4. Hat Ihr Kind bislang eine Betreuungseinrichtung besucht? Ja_____ Nein_____

5. Seit welchem Alter besucht ihr Kind eine Bildungseinrichtung**?**:_____

6. Wie viele Stunden innerhalb einer Woche verbringt Ihr Kind in dieser Einrichtung?: _____

7. Wenn Elternteil 1 nicht im gleichen Haushalt wie das Kind lebt, wie oft hat er dann Kontakt zum Kind?
____ täglich ____ einige Tage in der Woche ____ einige Tage im Monat
____ eine Tage im Jahr ____ kein Kontakt ____ TRIFFT NICHT ZU

8. Wenn Elternteil 2 nicht im gleichen Haushalt wie das Kind lebt, wie oft hat er dann Kontakt zum Kind?
____ täglich ____ einige Tage in der Woche ____ einige Tage im Monat
____ eine Tage im Jahr ____ kein Kontakt ____ TRIFFT NICHT ZU

9. Gibt es eine andere Person/andere Personen, die nicht mit dem Kind zusammen leben, aber häufig mit dem Kind in Kontakt stehen? Bitte spezifizieren Sie den Bezug/die Art der Verwandtschaft und nennen Sie die Stundenanzahl innerhalb einer Woche:

10. Welche Person erwirtschaftet das Haupteinkommen der Familie?

Mutter oder Elternteil 1	
Vater oder Elternteil 2	
Ein anderes Familienmitglied (Spezifiziert:_____)	
Andere Person, die kein Familienmitglied ist (Spezifiziert:_____)	

11. Bildungsniveau der Bezugsperson (Bitte markieren Sie das höchste, erreichte Bildungsniveau der entsprechenden Person an):

	Mutter (E1)	Vater (E2)	Andere *	
0.	____	____	____	unbekannt
1.	____	____	____	Kein schulischer und kein beruflicher Abschluss Hauptschulabschluss und kein beruflicher Abschluss
2.	____	____	____	Realschulabschluss oder Polytechnische Oberschule-Abschluss und kein beruflicherAbschluss

3.	____	____	____	Kein schulischer Abschluss oder Hauptschulabschluss und Ausbildung/Lehre/Fachschule; Realschulabschluss/Polytechnische Oberschule-Abschluss und Ausbildung/ Lehre/Fachschule; Fachhochschul-Reife, Abitur, Erweiterte Oberschule und kein beruflicher Abschluss
4.	____	____	____	Fachhochschul-Reife/Abitur/Erweiterte Oberschule und Ausbildung/ Lehre/Fachschule
5.	____	____	____	Fachhochschulreife/Abitur/Erweiterte Oberschule und Bachelor/Diplom
6.	____	____	____	Fachhochschulreife/Abitur/Erweiterte Oberschule und Master/Magister/ Diplom; Promotion, Habilitation

* Bitte füllen Sie die 3. Spalte mit der entsprechenden Person aus Frage 10 aus, wenn das Haupteinkommen nicht von Elternteil 1 oder Elternteil 2 kommt.

12. Beschäftigungsverhältnis (Bitte markieren Sie das entsprechende Beschäftigungsverhältnisse jeder Person mit einem X):

	Mutter (E1)	Vater (E2)	Andere *	
0.	____	____	____	arbeitslos, zur Zeit arbeitssuchend, derzeitige Beendigung des Arbeitsverhältnisses, Elternzeit
1.	____	____	____	Student/-in, Schüler/-in
2.	____	____	____	Bestehendes Beschäftigungsverhältnis

* Bitte füllen Sie die 3. Spalte mit der entsprechenden Person aus Frage 10 aus, wenn das Haupteinkommen nicht von Elternteil 1 oder Elternteil 2 kommt.

13. Arbeitszeit, Studienzeit AUSSERHALB des Zuhauses (Bitte füllen Sie die entsprechende Tätigkeit aus, wenn die Person normalerweise außerhalb des Zuhauses arbeitet oder studiert. Auch wenn diese Tätigkeit momentan durch z.B. Elternzeit nicht ausgeführt wird, geben Sie bitte Ihr Beschäftigungsverhältnis an. Bitte wählen Sie zudem nur eine Auswahlmöglichkeit pro Person.)

	Mutter (E1)	Vater (E2)	Andere *	
0.	____	____	____	Unbekannt / Von zu Hause aus arbeiten/ Elternzeit
1.	____	____	____	Landwirt/-in (ohne vorherige Ausbildung dazu), Ungelernte Arbeiter/-in, Arbeiter/-in ohne nähere Angaben
2.	____	____	____	Vorarbeiter/-in, Kolonnenführer/-in, Gelernte oder Facharbeiter/-in Meister/-in, Polier/-in, Brigadier/-in, Angestellte mit ausführender Tätigkeit, Beamte im einfachen Dienst, Sonstiges ohne nähere Angaben
3.	____	____	____	Selbstständige ohne Mitarbeiter/-in /mit 1-4 Mitarbeiter/innen, Selbstständige im Handel, Gewerbe etc., Angestellte mit qualifizierter Tätigkeit, Angestellte ohne nähere Angaben
4.	____	____	____	Selbstständige oder Freiberufler/in ohne nähere Angaben / mit 5 oder mehr Mitarbeiter/-innen / PGH-Mitglied, Beamte/-in im mittleren Dienst, Angestellte mit verantwortlicher Tätigkeit / mit umfassender Führungstätigkeit

5.	____	____	____	Beamte/in ohne nähere Angaben / im gehobenen Dienst, Freiberufler/-in ohne Mitarbeiter/-innen
6.	____	____	____	Akademiker/-in im freien Beruf, Beamte/-in im höheren Dienst, Freiberuflerin mit Mitarbeiter/-innen

* Bitte füllen Sie die 3. Spalte mit der entsprechenden Person aus Frage 10 aus, wenn das Haupteinkommen nicht von Elternteil 1 oder Elternteil 2 kommt.

IV. Weitere Kommentare

Gibt es weitere Informationen über das Kind oder die Familie, die Sie wichtig zu erwähnen finden (z.B. Migrantionshintergrund, Trauerfall, medizinische und psychische Erkrankungen, etc.)?

_____
_____
_____
_____

Appendix L

Cultural Scales applied in Study 2 (Spanish)

Batería Multidimensional de Cuestionarios Culturales (BMCC)*

A continuación encontrará algunas preguntas relativas a diferentes temas, como cultura, familia, valores y normas.

Al inicio de cada nueva área temática encontrará una breve instrucción para completar las respuestas. Por favor lea atentamente las preguntas y responda de manera espontánea. No existen respuestas correctas ni incorrectas. Conteste todas las preguntas.

TLS

Este Cuestionario se refiere a las normas o reglas sociales y familiares. Lea detenidamente cada afirmación antes de decidirse por una de las posibles respuestas. ***Marque con una cruz en alguno de los números desde el 1 al 6, de acuerdo al que mejor se ajuste a su opinión.***

1	2	3	4	5	6
Totalmente en desacuerdo	**Moderadamente en desacuerdo**	**Levemente en desacuerdo**	**Levemente de acuerdo**	**Moderadamente de acuerdo**	**Totalmente de acuerdo**

1.	En Chile hay muchas reglas sociales que cumplir.	1	2	3	4	5	6
2.	En Chile es muy claro lo que se espera de cómo comportarse en la mayoría de las situaciones.	1	2	3	4	5	6
3.	Las gente en Chile está de acuerdo en qué es comportarse correctamente y qué no, en la mayoría de las situaciones.	1	2	3	4	5	6
4.	Las personas en Chile tienen amplia libertad para decidir cómo comportarse en la mayoría de las situaciones.	1	2	3	4	5	6
5.	Cuando en Chile alguien se comporta de manera inadecuada, los demás lo desaprueban fuertemente.	1	2	3	4	5	6
6.	Las personas en Chile casi siempre cumplen con las reglas sociales.	1	2	3	4	5	6

Ahora continúan las 6 afirmaciones relativas a su familia. Haga nuevamente una cruz en el número que corresponde mejor a su opinión.

7.	En mi familia hay muchas reglas que cumplir.	1	2	3	4	5	6
8.	En mi familia es muy claro lo que se espera de cómo comportarse en la mayoría de las situaciones.	1	2	3	4	5	6
9.	En mi familia estamos de acuerdo enque es comportarse correctamente y qué no, en la mayoría de las situaciones.	1	2	3	4	5	6
10.	Los miembros de mi familia tienen amplia libertad para decidir cómo comportarse en la mayoría de las situaciones.	1	2	3	4	5	6
11.	Cuando alguien en mi familia se comporta de manera inadecuada, los demás lo desaprueban fuertemente.	1	2	3	4	5	6
12.	En mi familia casi siempre cumplimos con las reglas.	1	2	3	4	5	6

SCS

A continuación encontrará una serie de afirmaciones, que se refieren a distintos sentimientos y formas de comportarse en diferentes situaciones. Lea cada afirmación y ***marque con una cruz en el número que mejor represente su opinión personal.***

1	2	3	4	5	6	7
Totalmente en desacuerdo	**Moderadamente en desacuerdo**	**Levemente en desacuerdo**	**Ni acuerdo ni desacuerdo**	**Levemente de acuerdo**	**Moderadamente de acuerdo**	**Totalmente de acuerdo**

1.	Me gusta ser único(a) y diferente de los demás en muchos aspectos.	1	2	3	4	5	6	7
2.	Puedo hablar abiertamente con alguien que acabo de conocer, aunque sea mucho mayor que yo.	1	2	3	4	5	6	7
3.	Aunque esté fuertemente en desacuerdo con los demás miembros del grupo, no lo digo para evitar tener una discusión.	1	2	3	4	5	6	7
4.	Respeto a las personas que ocupan un lugar de autoridad con las que me relaciono (por ejemplo un jefe).	1	2	3	4	5	6	7
5.	Yo hago lo que a mí me parece bien, sin tomar en cuenta lo que piensan los demás.	1	2	3	4	5	6	7
6.	Respeto a las personas que tienen una forma de ser sencilla y modesta.	1	2	3	4	5	6	7
7.	Yo siento que es importante ser una persona independiente.	1	2	3	4	5	6	7
8.	Yo puedo dejar de lado mis propios intereses por el beneficio del grupo en que estoy.	1	2	3	4	5	6	7
9.	Prefiero decir directamente que “no”, que arriesgarme a ser malinterpretado(a).	1	2	3	4	5	6	7
10.	Para mí es importante ser muy imaginativo(a) o creativo(a).	1	2	3	4	5	6	7
11.	Debería tomar en cuenta el consejo de mis padres al planificar mis estudios o mi trabajo.	1	2	3	4	5	6	7
12.	Mi futuro y el de las personas que está a mi alrededor están relacionados.	1	2	3	4	5	6	7
13.	Prefiero ser directo(a) y franco(a) cuando trato con personas que acabo de conocer.	1	2	3	4	5	6	7
14.	Me siento a gusto cuando colaboro con los demás.	1	2	3	4	5	6	7

15.	Me siento a gusto cuando soy escogido(a) para recibir felicitaciones o un premio.	1	2	3	4	5	6	7
16.	Si mi hermana o hermano fracasa, me siento responsable.	1	2	3	4	5	6	7
17.	Frecuentemente siento que mis relaciones con los demás son más importantes que mis propios logros.	1	2	3	4	5	6	7
18.	Hablar en frente de los demás en una clase o reunión no es un problema para mí.	1	2	3	4	5	6	7
19.	Yo le ofrecería mi asiento en el bus a mi profesor o a mi jefe.	1	2	3	4	5	6	7
20.	Actúo de la misma manera esté con quien esté.	1	2	3	4	5	6	7
21.	Mi felicidad depende de la felicidad de los que me rodean (para sentirme feliz necesito que los que me rodean también estén felices).	1	2	3	4	5	6	7
22.	Valoro más que cualquier cosa tener buena salud.	1	2	3	4	5	6	7
23.	Me quedaría en un grupo si me necesitaran, aunque no me sienta contento(a) dentro de él.	1	2	3	4	5	6	7
24.	Trato de hacer lo que es mejor para mí, sin tomar en cuenta cómo le podría afectar a los demás.	1	2	3	4	5	6	7
25.	Poder cuidarme bien es lo más importante para mí.	1	2	3	4	5	6	7
26.	Es importante para mí, respetar las decisiones tomadas por el grupo.	1	2	3	4	5	6	7
27.	Mantener mi propia identidad, independiente de los demás, es algo muy importante para mí.	1	2	3	4	5	6	7
28.	Es importante para mí poder mantener las buenas relacione dentro de mi grupo.	1	2	3	4	5	6	7
29.	Actúo de la misma manera en mi casa y en mi lugar de estudio o trabajo.	1	2	3	4	5	6	7
30.	Normalmente hago lo que los demás quieren hacer, aún cuando me gustaría hacer otra cosa.	1	2	3	4	5	6	7

¡Muchas gracias por su colaboración!

Appendix M

Cultural Scales applied in Study 2 (German)

TLS

Dieser Fragebogen enthält insgesamt 12 Aussagen mit jeweils 6 Aussagen zu Deutschland in seiner Gesamtheit und 6 Aussagen zu Ihrer Familie. Die Aussagen beziehen sich teilweise auf sog. „Soziale Normen“. Diese stellen Verhaltensregeln dar, die in der Regel ungeschrieben sind. Lesen Sie bitte die Aussagen sorgfältig durch, bevor Sie sich für eine Antwortmöglichkeit entscheiden. Ihre Antworten auf die Fragen geben Sie an, indem Sie diejenige Zahl von 1 („stimme überhaupt nicht zu“) bis 6 („stimme völlig zu“) ankreuzen, die Ihrer Einschätzung am ehesten entspricht. Dabei gibt es keine richtigen oder falschen Antworten, sondern kreuzen Sie die Antwort an, die ihre persönliche Beurteilung darstellt.

○1	○2	○3	○4	○5	○6
stimme überhaupt nicht zu	**stimme nicht zu**	**stimme eher nicht zu**	**stimme eher zu**	**stimme zu**	**stimme völlig zu**

1.	**In Deutschland gibt es viele soziale Normen, die man einzuhalten hat.**	○1	○2	○3	○4	○5	○6
2.	**In Deutschland gibt es für die meisten Situationen klare Erwartungen, wie man sich verhalten sollte.**	○1	○2	○3	○4	○5	○6
3.	**In Deutschland sind sich die Menschen bei den meisten Situationen einig, welche Verhaltensweisen angemessen sind und welche nicht.**	○1	○2	○3	○4	○5	○6
4.	**Die Menschen in Deutschland haben in den meisten Situationen einen großen Spielraum für Ihr Verhalten.**	○1	○2	○3	○4	○5	○6
5.	**Wenn sich in Deutschland jemand unangemessen verhält, werden das andere sehr missbilligen.**	○1	○2	○3	○4	○5	○6
6.	**Die Menschen in Deutschland halten fast immer die sozialen Normen ein.**	○1	○2	○3	○4	○5	○6

Nun folgen die 6 Aussagen zu Ihrer Familie. Kreuzen Sie bitte wiederum diejenige Zahl an, die Ihrer Einschätzung am ehesten entspricht

7.	**In meiner Familie gibt es viele Regeln, die man einzuhalten hat.**	○1	○2	○3	○4	○5	○6
8.	**In meiner Familie gibt es für die meisten Situationen klare Erwartungen, wie man sich verhalten sollte.**	○1	○2	○3	○4	○5	○6
9.	**In meiner Familie sind wir uns bei den meisten Situationen einig, welche Verhaltensweisen angemessen sind und welche nicht.**	○1	○2	○3	○4	○5	○6
10.	**Die Mitglieder in meiner Familie haben in den meisten Situationen einen großen Spielraum für Ihr Verhalten.**	○1	○2	○3	○4	○5	○6
11.	**Wenn sich jemand in meiner Familie unangemessen verhält, werden das die anderen sehr missbilligen.**	○1	○2	○3	○4	○5	○6
12.	**In meiner Familie halten wir uns fast immer an unsere Regeln.**	○1	○2	○3	○4	○5	○6

Deutsch-chilenisches Doktorandenkolleg, Henning Freund (2009)

SCS

Im Folgenden finden Sie eine Reihe von Aussagen, die sich auf eine Vielzahl an Gefühlen und Verhaltensweisen in verschiedenen Situationen beziehen. Bitte lesen Sie jede Aussage durch und geben Sie an, inwieweit die Aussage für Sie persönlich zutrifft.
Sie können hierbei zwischen den folgenden Abstufungen wählen:

○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
stimme überhaupt nicht zu	**stimme nicht zu**	**stimme eher nicht zu**	**unentschieden**	**stimme eher zu**	**stimme zu**	**stimme völlig zu**

1.	**Es gefällt mir, einzigartig und in vielerlei Hinsicht anders als andere zu sein.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
2.	**Ich kann mit jemandem offen reden, den ich zum ersten Mal treffe, auch wenn die Person viel älter ist als ich.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
3.	**Auch wenn ich ganz anderer Meinung bin als andere Gruppenmitglieder, vermeide ich eine Auseinandersetzung.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
4.	**Ich habe Respekt vor den Autoritätspersonen, mit denen ich zu tun habe.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
5.	**Ich mache mein eigenes Ding, egal was andere darüber denken.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
6.	**Ich schätze Menschen, die bescheiden sind.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
7.	**Es ist mir wichtig, als eigenständige Person zu handeln.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
8.	**Ich bin bereit, meine eigenen Interessen zugunsten der Gruppe, der ich angehöre, aufzugeben.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
9.	**Ich sage lieber direkt „Nein“, als zu riskieren, dass ich missverstanden werde.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
10.	**Es ist mir wichtig, eine lebhafte Phantasie zu haben.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
11.	**Bei der Planung meiner Ausbildung oder Karriere sollte ich den Rat meiner Eltern berücksichtigen.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
12.	**Ich habe das Gefühl, dass mein Schicksal mit dem meiner Mitmenschen verflochten ist.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
13.	**Ich bevorzuge es, gegenüber Personen, die ich gerade erst kennengelernt habe, offen und direkt zu sein.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7
14.	**Ich fühle mich gut, wenn ich mit anderen zusammenarbeite.**	○ 1	○ 2	○ 3	○ 4	○ 5	○ 6	○ 7

○1	○2	○3	○4	○5	○6	○7
stimme überhaupt nicht zu	**stimme nicht zu**	**stimme eher nicht zu**	**unentschieden**	**stimme eher zu**	**stimme zu**	**stimme völlig zu**

15.	**Ich fühle mich wohl, wenn ich durch Lob oder durch Belohnung hervorgehoben werde.**	○1	○2	○3	○4	○5	○6	○7
16.	**Wenn mein Bruder oder meine Schwester versagen, fühle ich mich verantwortlich.**	○1	○2	○3	○4	○5	○6	○7
17.	**Ich habe das Gefühl, dass meine Beziehungen wichtiger sind als das, was ich selber erreicht habe.**	○1	○2	○3	○4	○5	○6	○7
18.	**In einer Gruppe das Wort zu ergreifen, ist kein Problem für mich.**	○1	○2	○3	○4	○5	○6	○7
19.	**Ich würde meinem/ meiner Vorgesetzten im Bus meinen Sitzplatz anbieten.**	○1	○2	○3	○4	○5	○6	○7
20.	**Ich verhalte mich immer auf die gleiche Weise, egal mit wem ich zusammen bin.**	○1	○2	○3	○4	○5	○6	○7
21.	**Meine Zufriedenheit hängt von der Zufriedenheit der Menschen um mich herum ab.**	○1	○2	○3	○4	○5	○6	○7
22.	**Ich schätze es über alles, bei guter Gesundheit zu sein.**	○1	○2	○3	○4	○5	○6	○7
23.	**Ich bleibe in einer Gruppe, wenn sie mich braucht, auch wenn ich mit der Gruppe unzufrieden bin.**	○1	○2	○3	○4	○5	○6	○7
24.	**Ich versuche das zu tun, was am besten für mich ist, ungeachtet dessen, wie es sich auf andere auswirken könnte.**	○1	○2	○3	○4	○5	○6	○7
25.	**Eines meiner Hauptanliegen ist, für mich selbst sorgen zu können.**	○1	○2	○3	○4	○5	○6	○7
26.	**Es ist mir wichtig, von der Gruppe getroffene Entscheidungen zu respektieren.**	○1	○2	○3	○4	○5	○6	○7
27.	**Eine von anderen unabhängige Person zu sein, ist mir sehr wichtig.**	○1	○2	○3	○4	○5	○6	○7
28.	**Es ist mir wichtig, die Harmonie innerhalb meiner Gruppe zu bewahren.**	○1	○2	○3	○4	○5	○6	○7
29.	**Ich verhalte mich zu Hause auf die gleiche Weise, wie ich mich am Arbeitsplatz verhalte.**	○1	○2	○3	○4	○5	○6	○7
30.	**Ich schließe mich normalerweise dem an, was andere tun wollen, auch wenn ich eigentlich lieber etwas anderes täte.**	○1	○2	○3	○4	○5	○6	○7

Appendix N

SECORE Coding Scheme

1. Introduction

SECORE is a microanalytical coding scheme designed to assess parent-child interactions. It focuses on an observational level, describing the dynamics between a caregiver and a child by using neutral terms that specify the target of the action (e.g task, self, interactive partner), and the mental state to be regulated (i.e.cognitive, motivational, emotional). Because of this, SECORE can be adapted to different tasks, and is suitablefor children of a broad age-range.

SECORE is based on theoretical considerations summarized in the EDOS model (Pauen & the EDOS group, 2016) and defines categories that refer to caregiver and child behavior independently but in a temporal sequence. The videos are coded continuously in the format 25 frames per second using Interact (Mangold, 2019).

2. Segmentation

In a first step, the interaction is segmented to identify functional steps for each interactive partner (IAP, e.g. caregiver, child). Functional steps represent the intentional means by which a given individual moves towards his/her goal (Zaidman-Zait et al., 2014). Examples are: asking a question, offering a toy, taking the toy.

The occurrence and duration of each functional step is encoded independently at the verbal (v) and at the non-verbal (nv) level. This means there will be four separate code-strings referring: child-v, child-nv, adult-vand adult-nv.

At the non-verbal (nv)-level, we separate actions by intentional actions. For example: “The mother picks upthe box and places it in front of the child” go together because the sub-actions (i.e “picks up the box” and “places it in front of the child”) are related to the same goal.

At the verbal (v)-level, we separate utterances referring to the same topic without pausing for more than 3 seconds, as suggested by Stern et al. (1983). We start a new segment when there is a pause longer than 3 seconds (even when the utterances before and after the pause relate to the same topic) and/or if there is achange of topic (even without a pause longer than 3s).

3. Coding

Once a given functional step has been identified, it is qualified by using SECORE codes.

SECORE distinguishes between two behavioral dimensions (Regulation and Interaction) and four behavioral categories: Focus (FOC) and Communication (COM) both represent the dimension Interaction, and Self- regulation (SER), Co-regulation (COR) and asking for CR (C-CR) both represent the dimension Regulation (See Figure 1).

The ***Focus*** of a given action in a standardized or semi-standardized assessments can either be the self, the other person, a given task (material provided), or none of these (FOC-self, FOC-other, FOC-task, FOC-no).

And activities related to ***Communication*** can either be sending or responding (COM-sending, COM-responding), as these are the basic elements of every turn-taking in communication.

The two main concepts of the Regulation dimension are co-regulation (CR) and self-regulation (SR). ***Co-regulation*** is understood as the process of interpersonal regulation in which one partner helps the other to regulate his/her internal states (Silkenbeumer et al., 2016).

Self-regulation is understood as the processes of controlling one's own thoughts, intentions, and emotions and related responses to specific contextual demands (Denham, Bassett, Zinsser & Wyatt, 2014). Hence, we distinguish between self- and co-regulation at the cognitive, motivational, and emotional level (see also Pauen & the EDOS group, 2006). The corresponding codes would be SER-cog, SER-mot, SER-emo; COR-cog, COR-mot, COR-emo.

The four behavioral categories FOC, COM, SER and COR are independent microlayers. This means that a given action can be coded in parallel for any of these categories, but that the codes within a given category are mutually exclusive. For example: if a mother shows a piece the kid was missing to her son, the non-verbal behavior of the mother would be coded in the following way: adult-FOC-other-nv, adult-COM-send-nv, adult-SER-no-nv, and adult- COR-cog-nv. (However, if the later verbal coding would reveal that the boy has asked the mother to hand him the toy before she showed the corresponding behavior, the code COM-send-nv could be corrected to COM-respond-nv, because the verbal context revealed that mother did not act spontaneously, but rather responded to a request from her son.)

In sum, SECORE codes refer to functional steps (Zaidman-Zait et al., 2014) that are temporally ordered and clustered into superordinate behavioral categories with mutually exclusive codes. And since each segment receives a code in each category, SECORE is a cross-classifying coding scheme (Bakerman & Gottman, 1987).

Individual	Behavioral Dimension	Behavioral Category	Behavioral Codes
Adult /Child	**Interactional**	**Focus (FOC)**	FOC-task-v, FOC-self-v, FOC-other-v, FOC-no-v FOC-task-nv, FOC-self-nv, FOC-other-nv, FOC-no-nv
		Communication (COM)	COM-send-v, COM-respond-nv COM-send-nv, COM-respond-nv
	Regulatory	**Self-Regulation (SER)**	SER-cog-v, SER-mot-v, SER-emo-v SER-cog-nv, SER-mot-nv, SER-emo-nv
		Co-Regulation(COR)	COR-cog-v, COR-mot-v, COR-emo-v COR-cog-nv, COR-mot-nv, COR-emo-nv
		Call for CR (C-CR)	C-COR-cog-v, C-COR-mot-v, C-CR-emo-v C-COR-cog-nv, C-COR-mot-nv, C-CR-emo-nv

Figure 1. Graphical summary of codes used in SECORE

4. Details and examples regarding individual codes

4.1 Interactional Dimension

The Interactional dimension aims to collect actions of the mutual exchange between the adult and the child as Interactive partners (IAPs). Each action receives one code per category at the verbal and at the non-verbal level.

a. Focus:

- **Focus on the task (v/nv):** Target (look or topic) person focuses on material provided by the experimenter (e.g. within the SECORE-test: on the puzzle, on the present, talking to the experimenter)
- **Focus on self (v/nv):** Target person focuses on her-/himself (e.g. in his/her thoughts, emotions, body, clothing, hair etc.)
- **Focus on the other (v/nv):** Target person focuses on the IAP (e.g. addressing / talking / touching / observing him or her)
- **No focus (v/nv):** This code is only used when none of the above codes can be assigned (e.g. moving around in the room, being distracted)

b. Communication

- **Sending (v/nv)**: spontaneous behaviors directed at the interactive partner (e.g. seeking eye contact, talking to the other, handing over something) that does not refer to any communicativesignal previously given by the IAP .
- **Responding (v/nv)**: Any behavior directed toward the IAP that is directly related to his/her previous signal (e.g. looking back, following a request, reacting to a gesture, commenting on the other's action, answering a question).

4.2. Regulatory Dimension

The same segments that have already received codes on each of the two interactional dimensions, alsoobtain codes for the Regulatory Dimension. Again, verbal and non-verbal levels are coded independently.

a. Self-regulation (v/nv): Verbal or non-verbal actions that aim at changing or controlling one's own mental state (i.e cognitions, motivation or emotions) in order to achieve a specific goal or to adapt to situational demands.

- **Cognitive SR (v/nv):** Actions that reveal cognitive involvement in a given task (e.g. focusing on a given object while manipulating it; trying out different strategies, comparing different solutions,private speech commenting own actions)
- **Motivational SR (v/nv):** Actions that aim at changing or controlling one's own motivational state (e.g. repetitive movements to stayed focused, seeking temporary distraction before returning to a previous activity, instructing one-self to keep going)
- **Emotional SR (v/nv):** Actions that aim at changing or controlling one's own emotional state (e.g.taking a deep breath, sucking, calming down from a state of previous arousal without assistance)

b. Co-Regulation (v/nv): Verbal or non-verbal actions that aim at helping the IAP to regulate his/her internal states, to achieve a specific goal, or adapt to situational demands.

- **Cognitive CR (v/nv):** Helping the IAP to regulate his/her cognitive states (e.g. offering help inproblem solving, making suggestions, explaining)
- **Motivational CR (v/nv):** Helping the IAP to regulate his/her motivational states (e.g. praising, encouraging, setting limitations, demonstrating desired behavior)
- **Emotional CR (v/nv):** Helping the IAP to regulate his/her emotional states (e.g. giving a hug, providing comfort, mentalizing, distracting the IAP when frustrated)

c. Call for Co-Regulation (v/nv): Verbal or non-verbal actions that seek to request assistance from the IAP to regulate one's own internal states, to achieve a specific goal, or adapt to situational demands.

- **Cognitive C-CR (v/nv):** Actions calling for support from the interactive partner to regulate cognitive states (e.g. Facial or body gestures of uncertainty, incomprehension, ask for explanation)
- **Motivational C-CR (v/nv):** Actions calling for support from the interactive partner to regulate motivational states (e.g. Asking for help from the other to finish something "Help me", "you do it")
- **Emotional C-CR (v/nv):** Actions calling for support from the interactive partner to regulate emotional states (e.g. Looking for body contact when sad/frustrated, ask for comfort "Can you hug me?")

For more details please get back to Sabina Pauen or Cecil Mata Lopez who can provide you with the Instruction Sheet and the Coding Program. (contact: sabina.pauen@psychologie.uni-heidelberg.de)

Appendix O

Sociodemographic questionnaire included in Study 2b (German)

Soziodemographischer Fragebogen

Name des Kindes		Datum	
Name des Erwachsenen		Beziehung zum Kind	

I. Persönliche Daten des Kindes:

Geburtsdatum: _____

Hat das Kind besondere Entwicklungsrisiken (Frühgeburt, Behinderung, Krankheiten)? Wenn ja, bitte spezifizieren sie:_____

II. Persönliche Daten des Erwachsenen:

Alter: _____

Familienstand:

____verheiratet

____mit Partner/-in zusammenlebend

____ledig

____geschieden

____verwitwet

In welcher Sprache kommunzieren Sie gewöhnlicherweise mit Ihrem Kind?_____

Haben Sie schon einmal eine psychiatrische Diagnose erhalten (Z.B. Depression, Schizophrenie, etc.)? Bitte spezifizieren Sie:_____

III. Familiärer Hintergrund:

1. Anzahl der Personen, die in einem Haushalt leben (einschließlich des Kindes)_____

Bitte schreiben Sie die dazugehörigen Informationen für jede Person, die in dem gleichen Haushalt wie das Kind lebt, auf:

Beziehung zum Kind (Elternteil 1, Elternteil 2, Geschwister etc.)	**Alter**	**Beruf/Tätigkeit**
1.		
2.		
3.		
4.		
5.		
6.		

2. Wer verbringt die meiste Zeit mit dem Kind und passt auf es auf? Bitte markieren Sie die entsprechende Person mit einem X.

Mutter oder Elternteil 1 (Spezifiziert_____)	
Vater oder Elternteil 2 (Spezifiziert_____)	
Ein anderes Familienmitglieder (Spezifiziert_____)	
Andere Person, die kein Familienmitglied ist (Spezifiziert _____)	

3. Wie viele Stunden am Tag verbringt Sie durchschnitt mit Ihrem Kind wenn es wach ist? _____

4. Hat Ihr Kind bislang eine Betreuungseinrichtung besucht? Ja_____ Nein_____

5. Seit welchem Alter besucht ihr Kind eine Bildungseinrichtung**?**:_____
6. Wie viele Stunden innerhalb einer Woche verbringt Ihr Kind in dieser Einrichtung?: _____

7. Wenn Elternteil 1 nicht im gleichen Haushalt wie das Kind lebt, wie oft hat er dann Kontakt zum Kind?
____ täglich ____ einige Tage in der Woche ____ einige Tage im Monat
____ eine Tage im Jahr ____ kein Kontakt ____ TRIFFT NICHT ZU

8. Wenn Elternteil 2 nicht im gleichen Haushalt wie das Kind lebt, wie oft hat er dann Kontakt zum Kind?
____ täglich ____ einige Tage in der Woche ____ einige Tage im Monat
____ eine Tage im Jahr ____ kein Kontakt ____ TRIFFT NICHT ZU

9. Gibt es eine andere Person/andere Personen, die nicht mit dem Kind zusammen leben, aber häufig mit dem Kind in Kontakt stehen? Bitte spezifizieren Sie den Bezug/die Art der Verwandtschaft und nennen Sie die Stundenanzahl innerhalb einer Woche:

10. Welche Person erwirtschaftet das Haupteinkommen der Familie?

Mutter oder Elternteil 1	
Vater oder Elternteil 2	
Ein anderes Familienmitglied (Spezifiziert:_____)	
Andere Person, die kein Familienmitglied ist (Spezifiziert:_____)	

11. Bildungsniveau der Bezugsperson (Bitte markieren Sie das höchste, erreichte Bildungsniveau der entsprechenden Person an):

	Mutter (E1)	Vater (E2)	Andere Bezugs-person*	
0.	____	____	____	unbekannt
1.	____	____	____	Kein schulischer und kein beruflicher Abschluss Hauptschulabschluss und kein beruflicher Abschluss
2.	____	____	____	Realschulabschluss oder Polytechnische Oberschule-Abschluss und kein beruflicherAbschluss
3.	____	____	____	Kein schulischer Abschluss oder Hauptschulabschluss und Ausbildung/Lehre/Fachschule; Realschulabschluss/Polytechnische Oberschule-Abschluss und Ausbildung/ Lehre/Fachschule; Fachhochschul-Reife, Abitur, Erweiterte Oberschule und kein beruflicher Abschluss
4.	____	____	____	Fachhochschul-Reife/Abitur/Erweiterte Oberschule und Ausbildung/ Lehre/Fachschule
5.	____	____	____	Fachhochschulreife/Abitur/Erweiterte Oberschule und Bachelor/Diplom
6.	____	____	____	Fachhochschulreife/Abitur/Erweiterte Oberschule und Master/Magister/ Diplom; Promotion, Habilitation

* Bitte füllen Sie die 3. Spalte mit der entsprechenden Person aus Frage 10 aus, wenn das Haupteinkommen nicht von Elternteil 1 oder Elternteil 2 kommt.

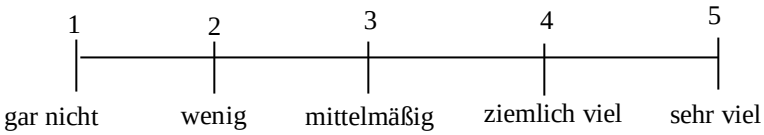
12. Arbeitszeit, Studienzeit AUSSERHALB des Zuhauses (Bitte füllen Sie die entsprechende Tätigkeit aus, wenn die Person normalerweise außerhalb des Zuhauses arbeitet oder studiert. Auch wenn diese Tätigkeit momentan durch z.B. Elternzeit nicht ausgeführt wird, geben Sie bitte Ihr Beschäftigungsverhältnis an. Bitte wählen Sie zudem nur eine Auswahlmöglichkeit pro Person.)

	Mutter (E1)	Vater (E2)	Andere Bezugs-person*	
0.	____	____	____	Unbekannt / Von zu Hause aus arbeiten/ Elternzeit
1.	____	____	____	Landwirt/-in (ohne vorherige Ausbildung dazu), Ungelernte Arbeiter/-in, Arbeiter/-in ohne nähere Angaben
2.	____	____	____	Vorarbeiter/-in, Kolonnenführer/-in, Gelernte oder Facharbeiter/-in Meister/-in, Polier/-in, Brigadier/-in, Angestellte mit ausführender Tätigkeit, Beamte im einfachen Dienst, Sonstiges ohne nähere Angaben
3.	____	____	____	Selbstständige ohne Mitarbeiter/-in /mit 1-4 Mitarbeiter/innen, Selbstständige im Handel, Gewerbe etc., Angestellte mit qualifizierter Tätigkeit, Angestellte ohne nähere Angaben
4.	____	____	____	Selbstständige oder Freiberufler/in ohne nähere Angaben / mit 5 oder mehr Mitarbeiter/-innen / PGH-Mitglied, Beamte/-in im mittleren Dienst, Angestellte mit verantwortlicher Tätigkeit / mit umfassender Führungstätigkeit
5.	____	____	____	Beamte/in ohne nähere Angaben / im gehobenen Dienst, Freiberufler/-in ohne Mitarbeiter/-innen
6.	____	____	____	Akademiker/-in im freien Beruf, Beamte/-in im höheren Dienst, Freiberuflerin mit Mitarbeiter/-innen

* Bitte füllen Sie die 3. Spalte mit der entsprechenden Person aus Frage 10 aus, wenn das Haupteinkommen nicht von Elternteil 1 oder Elternteil 2 kommt.

IV. COVID-Fragen

Beantworten Sie die folgenden vier Fragen unter Berücksichtigung der folgenden Skala:



	1	**2**	**3**	**4**	**5**
Inwieweit glauben Sie, dass die Pandemiesituation Ihren täglichen Umgang mit Ihrem Kind beeinflusst hat?					
Inwieweit hat sich die Pandemie Ihrer Meinung nach auf Ihre psychische Gesundheit ausgewirkt?					
Inwieweit hat die Pandemie Ihrer Meinung nach die psychische Gesundheit Ihres Kindes beeinträchtigt?					
Inwieweit hat die Pandemie Ihrer Meinung nach das Stressniveau in der Familie beeinflusst?					
Inwieweit hat sich die Pandemie Ihrer Meinung nach auf die Gestaltung der Familienzeit ausgewirkt?					

V. Weitere Kommentare

Gibt es weitere Informationen über das Kind oder die Familie, die Sie wichtig zu erwähnen finden (z.B. Migrantionshintergrund, Trauerfall, medizinische und psychische Erkrankungen, etc.)?

_____
_____
_____
_____

Appendix P

Item-by-item comparison of the Chilean and German IMMA versions

Table A

Comparison of IMMA Part 1: *Parental ideas and goals regarding child SR*

	Germany	Chile
Q1. Children of the same age as my child are typically able to….		
control their emotions	F2	F3
control their needs	F2	F3
control their will	F2	F3
comply with requests and demands	F3	F3
accept boundaries set by other people	F3	F3
follow given rules	F3	F3
treat others respectfully	F3	F3
behave politely toward others	F3	F3
Q2. It is very important for me that the child learns at this age to....		
control their emotions	F2	F2
control their needs	F2	F2
control their will	F2	F2
comply with requests and demands	F1	F1
accept boundaries set by other people	F1	F1
follow given rules	F1	F1
treat others respectfully	F1	F1
behave politely toward others	F1	F1

Table B

Comparison of IMMA Part 2: *Child's SR responses to goal-frustration or parental requests*

	Germany	Chile
Q3. When your child fails to achieve his/her goal right away, how does he/she respond?		
Starts to cry	F5	F5
Whines loudly	F5	F5
Complains and grumbles	F5	F5
Expresses anger out loud	F5	F5
Becomes aggressive with objects	F5	F5
Becomes aggressive with people	F5	F5
Gives up quickly	F2	F2
Quickly abandons his/her goal	F2	F2

It quickly turns to something else	F2	F2
Stays motivated to do it	F2	F8
Tries even harder	F2	F8
Doesn't let go	F2	F8
Q4. When you ask your child to do something specific, how does he/she respond?		
Easily follow my request	F1	*Deleted*
Only obeys when I scold loudly	F4	F4
Is anxious to fulfill my request right away	F1	F1
Only obeys when I give him/her a strict look	F4	F4
Obeys immediately without argument	F1	F1
Only obeys when I threaten unpleasant consequences	F4	F4
Follows only when I take action	F7	F7
Only obeys when I grab him/her	F7	F4
Only obeys when I engage with him/her physically	F7	F4
Starts to argue in order to get me to drop the demand	F3	F3
Tries to reason with me, to convince me of something else	F3	F3
Argues against it	F3	F3
Eludes me, hides, runs away	F6	F4
Ignores my demand	F6	F6
Refuses to comply with my request	F6	F4
Q5. When you forbid your child to do something specific, how does he/she respond?		
Accepts my ban without argument.	F1	F1
Readily accepts my ban.	F1	F1
Obeys my ban without protest	F1	F1
Only follows my command after I've admonished him/her several times	F8	F7
Only accepts my ban when I clearly show displeasure	F8	F7
Doesn't listen to me until I speak in a commanding tone	F8	F7
Won't obey me until I actively prevent him/her from performing the forbidden action	F7	F7
Only does as told when I take a firm hold of him/her	F7	F7
Only follows my instructions when I hold him/her tight	F7	F4
Starts arguing with me why I should lift the ban	F3	F3
It begs and whines that I take back the ban	F3	F3
Argues against my ban	F3	F3
Pretends not to have heard the ban	F6	F6
Ignores my prohibition	F6	F6
Just does what he/she wants anyway	F6	F6

Table C

Comparison of IMMA Part 3: *Parental CR strategies in situations requiring child SR*

	Germany	Chile
Q6. When your child is frustrated because he/she can't accomplish what he set out to do, how do you respond?		
I make an effort to distract him/her	F6	F6
I try to get him/her interested in something else	F6	F6
I encourage him/her to vent his/her frustration	F7	F4
I tell him/her not to get upset	F7	F5
I ask it to calm itself down.	F7	F5
I admonish him/her to control his/her frustration	F7	F5
Q7. If the child does what I ask him/her to do….		
I give him/her a little reward	F1	F1
He/she gets to choose a small reward	F1	F1
I expressly praise him/her	F3	F3
I acknowledge him/her for it	F3	F3
I show how satisfied I am with his/her behavior	F3	F3
I emphasize how much I approve	F3	F3
Q8. If the child does not do what I ask him/her to do…		
I repeat my request firmly	F5	F5
I look at it sternly	F5	F5
I become loud	F5	F5
I threaten with consequences	F5	F5
I force the child to comply with my demand	F5	F5
I deny the child something that he particularly likes	F5	F5
I hold out the prospect of a reward for obedient behavior	F1	F1
I entice the child with a small reward to comply with my request	F1	F1
I offer a compromise	F4	F4
I negotiate a solution together with the child	F4	F4
I explain my demand in more detail	F4	F4
I ask the child about his/her reasons	F4	F4
I explain my claim in detail	F4	F4
I give up	F2	F2
I drop my demand	F2	F2
Q9. If the child gets upset about my request…		
I ask him/her to leave the show	F5	F5
I show my displeasure at his/her reaction	F5	F5
I still insist on immediate implementation of my demand	F5	F5

I show toughness and remain consistent	F5	F5
I will not tolerate any games	F5	F5
I try to distract him/her	F6	F7
I get him/her to think about something else	F6	F7
l give in	F2	F2
I stop insisting on my demand	F2	F2

Note: F=Factor

Appendix Q

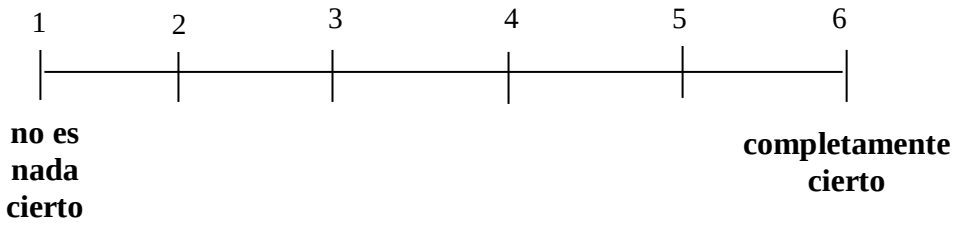
Final Spanish version of the IMMA questionnaire

A continuación preguntaremos distintos aspectos relacionados con la regulación infantil, la cual nos ayudará a conocer el desarrollo y necesidades de los niños/as a distintas edades. Recuerde que no hay respuestas buenas o malas pues todo comportamiento está enmarcado dentro de las características de cada díada.

Nota: *Instrumento traducido del original "IMpuls-Management vom Säuglings-bis zum Vorschulalte" - IMMA1-6 (Pauen, Hochmuth, Schulz & Bechtel, 2014) con la autorización correspondiente.*

Parte 1:
¿Cuáles son sus ideas/expectativas acerca de la autorregulación infantil?

Por favor, considere qué tan cierto es cada una de las declaraciones desde su punto de vista. Haga una cruz para cada declaración en el recuadro correspondiente siguiendo la siguiente escala:



Los niños de la misma edad de mi hijo/a suelen ser capaces de...

	1	**2**	**3**	**4**	**5**	**6**
regular sus sentimientos						
controlar sus necesidades						
controlar su voluntad						
responder las peticiones y requerimientos de otras personas						
aceptar las limitaciones y prohibiciones de otras personas						
seguir las reglas						
ser considerado con otras personas						
ser educado con otras personas						

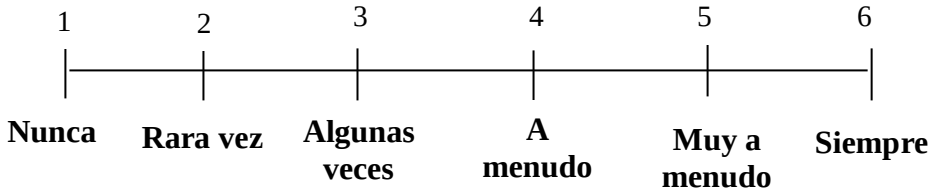
Es muy importante para mí que el niño/a aprenda a esta edad ...

	1	**2**	**3**	**4**	**5**	**6**
a regular sus sentimientos						
a controlar sus necesidades						
a controlar su voluntad						
a responder las peticiones y requerimientos de otras personas						
a aceptar las limitaciones y prohibiciones de otras personas						
a seguir las reglas						
a ser considerado con otras personas						
a ser educado con otras personas						

Parte 2:
¿Cómo manejan los niños los desafíos, las exigencias y las prohibiciones?

Por favor, marque con qué frecuencia ocurre cada comportamiento descrito. Considere que IMMA 1-6 puede contener declaraciones que sean apropiadas solo para niños/as mayores o menores que su hijo/a. Si, debido a la edad, un comportamiento todavía no ocurre, marque la casilla "N/A=no aplica"(¡pero solo en este caso!).

Haga una cruz para cada declaración en el recuadro correspondiente siguiendo la siguiente escala:



¿Qué hace su niño/a si no logra hacer lo que quiere hacer?

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
Empieza a llorar							
Se lamenta fuertemente							
Despotrica y se queja							
Se enoja en voz alta							
Se pone agresivo contra los objetos							

Se pone agresivo contra las personas							
Se rinde después de poco tiempo							
Deja caer su objetivo pronto							
Rápidamente pone su atención en otra cosa							
Sigue motivado							
Intenta persistentemente de alcanzar su objetivo.							
No se da por vencido							

¿Qué hace el/la niño/a cuando le pides que haga algo específico?

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
Sólo sigue mi petición cuando regaño en voz alta							
Hace esfuerzos para satisfacer mi demanda de inmediato							
Sólo sigue cuando lo miro estrictamente							
Sigue la indicación inmediatamente y sin contradicción							
Sólo sigue cuando lo amenazo con consecuencias desagradables							
Sólo obedece cuando intervengo							
Sólo obedece cuando lo agarro							
Sólo obedece cuando muestro fuerza física							
Empieza a discutir, para hacerme caer la petición							
Quiere convencerme de algo más							
Argumenta en contra de ello							
Se me escapa, se esconde, va corriendo							
Ignora mi petición							
Se niega a cumplir mi petición							

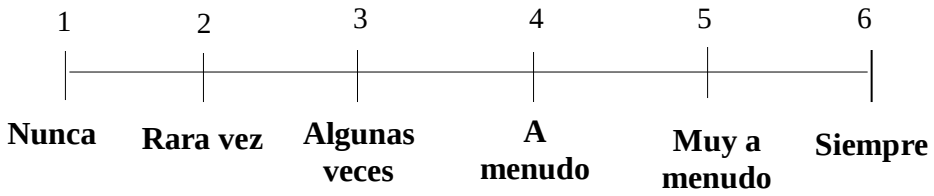
¿Qué hace el/la niño/a si le prohíbes hacer algo específico?

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
Acepta mi prohibición sin objeción							
Está dispuesto a atender a la prohibición							
Respeta la prohibición sin protesta							
Solo respeta la prohibición cuando le amonesté varias veces							
Respeta la prohibición solo cuando muestro claramente mi desagrado							
Solo sigue la prohibición cuando hablo en tono de mando							
Solo la sigue cuando evito activamente que lleve a cabo la acción prohibida							
Solo sigue mis instrucciones cuando lo sostengo							
Solo sigue mis instrucciones cuando lo agarro fuerte							
Empieza a discutir para que retire la prohibición							
Suplica y lloriquea para que yo retire la prohibición.							
Argumenta en contra de la prohibición							
Hace como si no hubiera escuchado la prohibición							
Ignora la prohibición							
Simplemente hace lo que quiere de todos modos							

Parte 3:
Manejo propio de las reacciones infantiles

Ahora se trata de usted. Queremos saber más acerca de cómo usted reacciona frente al comportamiento del niño/a. ¡Solo nos sirven respuestas honestas! De nuevo considere que IMMA 1-6 puede contener declaraciones que sean apropiadas solo para niños/as mayores o menores que su hijo/a. Si, debido a la edad, un comportamiento todavía no ocurre, marque la casilla "N/A= no aplica"(¡pero solo en este caso!).

Haga una cruz para cada declaración en el recuadro correspondiente siguiendo la siguiente escala:



Si el/la niño/a está frustrado porque no puede hacer lo que se propuso yo ...

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
trato de distraerlo							
trato de hacerle interesarse en otra cosa							
le animo a desahogar su frustración							
le digo que no se debe enfadar							
le pido que se tranquilice solo							
le amonesto para que controle su frustración							

Si el/la niño/a hace lo que le pido yo ...

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
le doy una pequeña recompensa							
puede elegir una pequeña recompensa							
lo alabo explícitamente							
le doy crédito por es							
muestro lo satisfecho que estoy con su comportamiento							
destaco lo bueno que encuentro eso							

Si el/la niño/a NO hace lo que le pido yo ...

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
repito mi petición con firmeza							
le miro estrictamente							
le hablo fuerte							
le amenazo con consecuencias							
obligo al niño a cumplir con mi petición							
le niego algo que le gusta mucho							
prometo una recompensa por el comportamiento obediente							
tiento al niño con una pequeña recompensa para cumplir con mi solicitud							
le ofrezco un compromiso							

negocio una solución junto con el niño							
explico mi petición más detalladamente							
le pregunto por sus razones							
explico mi reclamo en detalle							
me rindo							
dejo caer mi solicitud							

Si el/la niño/a se molesta por mis instrucciones ...

	1	**2**	**3**	**4**	**5**	**6**	**N/A**
mando que deje el show							
le muestro mi desagrado por su reacción							
sigo insistiendo en la implementación inmediata de mi petición							
muestro dureza y me mantengo consistente.							
No tolero los juegos							
lo distraigo							
le hago pensar en otra cosa							
cedo							
dejo de insistiro en lo que le pedí							

¡Muchas gracias por su colaboración!

Appendix R

Bivariate correlations between variables of Study 1b

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1.Country	1.00																							
2.Child gender	.04	1.00																						
3.Child age	-.01	.02	1.00																					
4.Siblings	-.01	.11	.25*	1.00																				
5.Kindergarden	.58**	.09	.31*	.17	1.00																			
6.Education A.	.004	.05	.22*	.04	.38**	1.00																		
7.Ideas/goals-IC	.04	.02	.33**	.04	.05	.07	1.00																	
8.Ideas-ER	.22*	-.02	.36**	.14	.36**	.27*	.60**	1.00																
9.Goals-ER	.19*	.02	.23*	-.00	.21*	.24*	.71**	.69**	1.00															
10.Goal-persev.	.09	-.04	.04	.11	.20*	.13	-.06	.07	.02	1.00														
11.ImmediateCom	.25*	.08	.27*	.09	.29*	.06	.26*	.42**	.27*	.14*	1.00													
12.Com-Demands	.20*	.07	.41**	.10	.15	-.001	.17*	.18*	.14*	-.09	.16*	1.00												
13.Com-Prohib	.20*	-.04	.21*	.03	.11	.10	.17*	.17*	.23*	-.08	.07	.45**	1.00											
14.PhysicalPressure	.04	.04	-.11	.05	-.13	.01	.09	-.04	.07	-.11	-.16*	.26*	.45**	1.00										
15. Negotiation w/C	-.06	.05	.52**	.31*	.04	.07	.19*	.16*	.08	-.07	.04	.41**	.29*	.17*	1.00									
16. Evasion	.05	-.03	.03	.13	.14	.20*	.02	.05	.10	-.07	-.17*	.20*	.48**	.41**	.32**	1.00								
17.Dysregulation	-.02	-.11	.06	.13	.05	.001	-.03	-.05	-.003	-.04	-.21*	.20*	.28*	.28*	.22*	.37**	1.00							
18.Call for SR	-.16*	-.06	.19*	.08	-.28*	-.15*	.20*	.03	.09	-.13	.03	.19*	.12	.14*	.36**	.11	.07	1.00						
19.Distraction	-.24*	.07	-.12	-.08	-.06	.09	-.10	-.07	-.03	-.06	-.15*	-.04	-.05	.07	-.03	.11	.13	.13	1.00					
20.Withdrawal	-.07	.12	.05	.14	.07	.14*	-.06	-.06	-.03	.01	-.07	.11	.19*	.20*	.22*	.37**	.22*	.07	.26*	1.00				
21.Strictness	.31**	.04	.31**	.14	.16	.05	.25*	.25*	.33**	.01	.15*	.52**	.50**	.31**	.33**	.22*	.12	.29*	-.01	.11	1.00			
22.Negotiation w/C	-.08	.10	.50**	.19*	.07	.15*	.26*	.28*	.18*	.01	.24*	.22*	.13*	-.02	.51**	.11	-.03	.35**	-.04	.13	.22*	1.00		
23.Social-App.	.13	.10	.05	.03	.26*	.30*	.18*	.29*	.29*	.16*	.20*	.06	.09	-.01	-.05	.10	.10	-.04	.03	.11	.19*	.08	1.00	
24.Use of Rewards	-.08	.03	.35**	.06	-.18*	-.07	.13*	.02	.04	-.02	.04	.30**	.16*	.05	.35**	.08	.03	.31**	.05	.18*	.32**	.37**	.04	1.00

Note: Pearson, polyserial or polychoric correlations are reported, as appropriate. p-value: *=< .05; **< .01

Appendix S

Bivariate correlations between variables of Study 2a

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1.Child age																															
2.Child gender[1]	.06																														
3. Siblings	**.37***	.21																													
4. Kindergarden	.33	15	**.59***																												
5. Education A.	-.02	.05	-.11	.08																											
6. Hours of care	**-.41***	.20	**-.42***	**-.52***	-.14																										
7. Child SR	.10	.08	-.21	.01	-.20	.10																									
8. Child C-CR	.01	-.13	-.25	-.31	.27	.03	-.20																								
9. Adult CR	.13	-.11	.11	-.05	.04	.07	**-.34***	.17																							
10. Adult SR	-.16	.07	-.24	-.20	.02	.19	-.07	.21	-.21																						
11. Independence	-.15	-.14	**-.38***	-.22	.18	**.36***	-.01	.18	.04	**.41***																					
12. Interdependence	-.28	.11	-.13	**-.49***	.21	.31*	.09	.03	-.04	.12	**.32***																				
13. TLS country	-.01	-.11	-.17	-.08	.18	.00	.01	.10	.34*	.03	.18	.12																			
14. TLS family	.11	-.12	**.40***	.25	.17	-.19	.18	-.21	-.04	.00	-.08	.03	.27																		
15.Ideas/goals-IC	**.51***	-.33	.11	.26	-.19	-.18	.06	-.14	.22	-.05	.13	-.19	.13	.25																	
16.Ideas-ER	**.34***	-.08	.15	.22	-.15	-.02	-.04	-.07	-.05	.01	.21	-.04	.02	.07	**.53***																
17.Goals-ER	.47	-.06	.31	.26	-.06	-.27	-.05	**.31***	-.02	-.21	-.15	-.14	.01	.35	**.59****	**.61****															
18.Goal-persev.	-.14	.24	.10	-.05	.14	.19	.02	**.29***	-.15	.12	.02	.09	-.22	.01	-.08	.11	-.04														
19.ImmediateCom	.06	.09	.01	.33	.10	-.19	-.03	-.14	.17	-.16	.03	-.02	.24	.01	.16	.26	.25	-.07													
20.Com-Demands	**.44***	-.03	.11	-.15	-.03	.01	-.04	-.15	.08	-.25	-.04	-.12	-.21	.02	.28	.17	.27	-.13	-.28												
21.Com-Prohib	-.10	.03	.27	.06	-.14	-.13	-.02	-.13	-.06	-.14	**.44***	-.21	-.09	.06	-.09	-.22	-.10	.18	**-.48***	.29											
22.PhysicalPressure	-.20	-.03	-.13	-.31	-.30	.05	.14	.04	-.21	.20	-.09	-.15	-.06	-.06	-.13	-.º0	-.17	.07	**-.44***	.29	**.57****										
23. Negotiation w/C	**.63****	-.05	.34	.19	-.19	-.16	.14	-.04	-.08	.03	-.09	-.31	.01	.06	.30*	.23	.18	-.06	-.12	**.31***	.10	.10									
24. Evasion	-.05	-.06	-.14	-.39	-.28	.21	.07	.11	-.20	.10	-.14	-.16	-.17	-.24	-.09	-.14	-.17	.23	**-.54****	**.41***	**.48***	**.73****	.23								
25.Dysregulation	.25	-.21	.13	-.08	-.18	-.03	.20	-.08	.02	.07	-.08	-.04	.16	.14	.24	.16	**.34***	.06	-.18	.04	.03	.17	**.38***	**.32***							
26.Call for SR	**.33***	-.04	-.03	-.12	**-.38***	.15	**.33***	-.02	-.15	.12	.09	.02	-.02	.19	**.40***	.20	**.30***	.08	-.10	.21	.01	.20	**.37***	.22	.28						
27.Distraction	-.28	.03	-.18	-.08	-.23	.02	.17	**-.47***	-.01	-.03	-.02	.14	.22	.24	-.04	-.06	-.06	-.05	-.04	-.02	.24	**.29***	-.16	.07	-.11	-.02					
28.Withdrawal	.02	.07	-.18	-.06	.04	.14	.28	.01	-.15	.24	-.04	.11	-.26	-.11	-.02	.08	-.13	.18	-.14	.03	-.09	.17	-.01	.24	.18	.16	.10				
29.Strictness	**.38***	-.09	.28	-.07	-.28	-.20	.10	-.19	-.19	.01	-.09	**-.36***	-.14	.37	.28	.22	**.37***	-.03	-.30	**.53***	**.30***	**.44***	**.50***	**.37***	.21	**.43***	.11	-.05			
30.Negotiation w/C	**.40***	-.14	-.14	.06	-.05	.02	-.12	-.01	.09	.06	.27	-.17	.12	-.16	**.42***	**.41***	**.33***	.00	.16	.25	**.29***	-.17	**.30***	.10	.23	.27	-.27	-.07	.08		
31.Social-App.	**-.44***	-.20	-.28	-.04	-.01	-.01	-.16	.03	**-.31***	.06	.08	-.25	-.03	.05	-.07	-.03	-.06	.03	.05	-,16	.07	.19	**-.32***	-.01	-.24	-.10	.09	-.18	.09	-.04	
32. Use of rewards.	.23	.09	.23	.29	-.10	-.17	**.35***	**-.33***	-.14	-.08	-.06	.06	-.05	**.33***	**.29***	**.37***	**.48***	-.04	.16	.24	.11	.09	.17	-.12	.19	.23	.22	.14	.28	.05	-.09

Note: Pearson, polyserial or polychoric correlations are reported, as appropriate. p-value: *=< .05; **< .01