

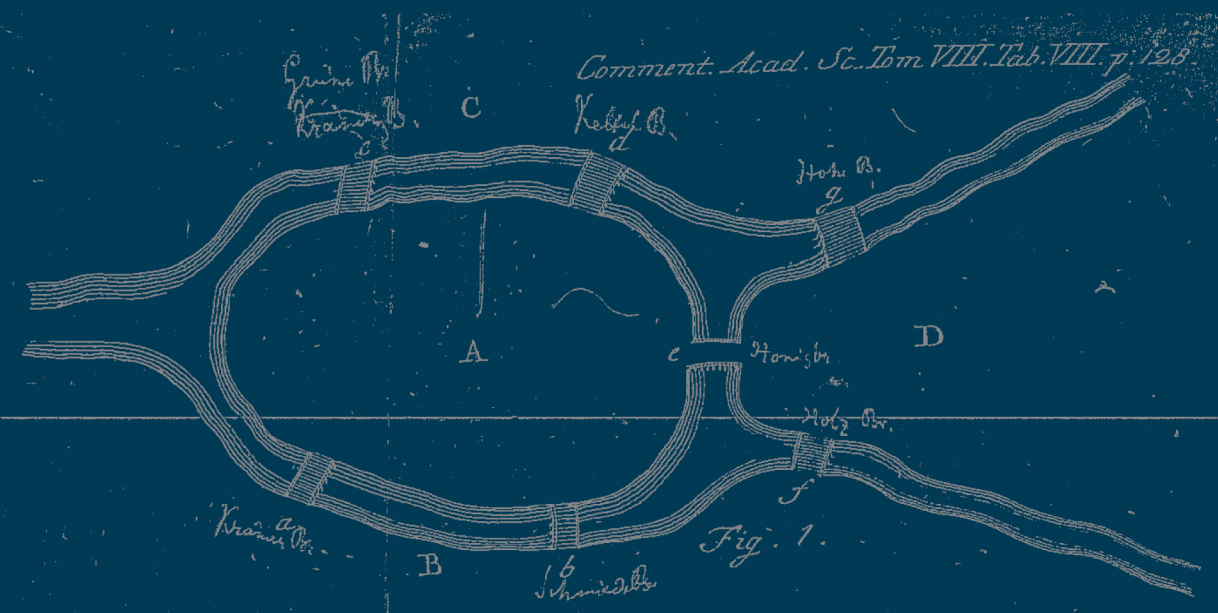
# INTERNATIONAL STUDIES IN TIME PERSPECTIVE

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## CHAPTER 1

# “START THINKING WHAT ARE YOU GOING TO BE WHEN ADULT!” THE RELATIONSHIP BETWEEN PARENTAL TIME ORIENTATION AND THE EMERGENCE OF EPISODIC FORESIGHT IN PRESCHOOL AGED CHILDREN

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**ABSTRACT:** In this paper we explore the role of parental time orientation in the development of episodic foresight (EF), defined as the ability to project the self to the future. It is known that some personality traits of parents are transmitted to children and also that linguistic and stimulation background could be related to cognitive outcomes in the child. Traditionally, intergenerational transmission of cognitive skills has shown stronger effects than non-cognitive skills. Despite this, little is known about how this process works in the case of temporal cognition, and specifically, how parents' temporal orientation can be related to the emergence of EF in early childhood. Across two studies, we experimentally assessed 3- and 4- years-old children on measures of EF and their mothers' time orientation. In study 1, we used the Spanish version of the Considerations of Future Consequences Scale (CFC) and in Study 2, the Portuguese version of the Zimbardo Time Perspective Inventory (ZTPI). Results showed significant, medium-range and negative first order correlations (controlling for age in months) between present orientation scales and the score of EF across the 2 studies. In Study 1, higher levels of Immediate CFC correlate negatively to EF as in Study 2 Present Fatalism and Present Hedonism does. These results suggest that parental present orientation is associated to inter-individual differences on EF between preschoolers, but not –counter intuitively– with future orientation scales.

**Keywords:** episodic foresight, time perspective, consideration of future consequences, intergenerational transmission.

## INTRODUCTION

In this presentation we explore the role of parental time perspective in the development of episodic foresight (EF). EF has been defined as the ability to project the self in time to pre-experience an event and anticipate future needs, desires and mental states (Atance & Meltzoff, 2005, Atance & O'Neill, 2001). In this sense, it was proposed to be the counterpart of episodic memory in a more general capacity of thinking about personally relevant events, i. e., auto-noetic consciousness (Suddendorf & Moore, 2011). Research

on the development of episodic foresight despite recent, is soaring in the cognitive-developmental literature (Atance, 2008).

### Intergenerational transmission

It is known that cognitive (e.g. general and fluid intelligence) and non-cognitive skills (e.g. personality traits, Locus of Control, aggressive behavior) are subject of transmission from one generation to other. Traditionally, intergenerational transmission (IT) of cognitive skills has shown stronger effects than non-cognitive skills. For instance, cognitive skills show a range in the correlations from one generation to other that goes from moderate to high coefficients with  $r$  values ranging from .42 to .72 in the case of the IQ (see for example Anger & Heineck, 2010). With some non-cognitive skills the range is weak to moderate, though positive and significant in several cases with ranges from .10 to .30 for personality traits, for example (Anger, 2012). Research results consistently show the IT of socio-economic status, educational achievement, health-risk behaviors, problem/externalizing behavior, aggression and parenting styles (see for example Serbin & Karp, 2004), so IT can be considered a common process in psychological and psycho-social research.

Despite this, little effort was been done to explore how the IT process works in the case of temporal cognition, and specifically, if there is any influence of the parental time orientation on the early emergency of temporal skills of the child.

### This study

Our objective is to explore existence and extent of a process of IT of temporal processes between mothers and their preschool aged children. We want to answer these questions: Parents' temporal orientation can be related to the emergence of EFT in early childhood? Is it possible the intergenerational transmission from a cognitive-motivational (time orientation) skill to a cognitive one (emergence of the ability to foresee the personal future)? We reason that the time orientation and importance each parent gives to time frames will influence modeling education, actions and conversations about time, and in turn, that will be stimulating or nor the temporal thinking of the child about his/her personal future. In this line of thought, we hypothesize that children with more present-oriented parents will have lower scores of EF. At the same time, children with more future oriented parents will show higher scores of EF.

## STUDY 1

### METHOD

#### Participants

Sixty-four mothers and their 4-years-old children participating in a wider study took part in the experiments. Participants came from Montevideo (Uruguay) city or metropolitan area and were from different socio-economic backgrounds.

## **Instruments**

Mother temporal orientation.

*To assess Mother's consideration of future consequences.* We used the *Consideration of Future Consequences Scale*. The CFC scale has good psychometric properties in its English version (Strathman, Gleicher, Böninger, & Edwards, 1994) and its concurrent validity has been demonstrated consistently in various domains of behavior. This scale is composed of 12 items, which are evaluated using a 7-point Likert scale. In the global CFC Scale higher numbers indicate a greater consideration of future consequences. Two sub-scales have been identified, Immediate (CFC-I), which reflect the importance of immediate consequences of actions, and Future (CFC-F) which reflect the important given to distant outcomes of behavior. The CFC- Immediate sub-scale items are reverse-scored for a general CFC score. We used the Spanish version developed by Vasquez et al. (submitted.).

*To assess Children's Episodic Foresight.* To assess EF in children two tasks were used (a) the pictured trip task (Atance & Meltzoff, 2005), (b) the draw task (Atance & O'Neill, 2005). We used the weighted mean for creating the composite score used in the analyses.

## **Procedure**

Mothers were recruited from educative centers that accepted to participate in the study. All ethical procedures were considered. After the work with the child in a quiet room of the pre-school center, the CFC questionnaire was sent to the mothers that returned it between one day and one week after.

## **RESULTS & DISCUSSION**

Pearson partial correlations (controlling for age in months) between the CFC total score and EF composite score were .32,  $p < .05$ . Considering the sub-scales, the correlation of the EF-composite score with the CFC-F was .11, n. s., and with the CFC-I was -.33,  $p < .01$ . This suggests that the effect of the CFC global score is due by the sole contribution of the CFC-I (the positive correlation is because to compute the sub-scale score no reversion is needed). The more weight given by the mother to the immediate consequences of action, lower scores in EF will present the child.

## **STUDY 2**

### **METHOD**

#### **Participants**

Ninety mothers and their pre-school aged children (3 and 4 years old) participating in a wider study completed the experiments and measures. Mothers came from Porto and Northern Portugal area and were from different socio-economic backgrounds.

## Instruments

*To assess Mother's time perspective.* We used the *Zimbardo Time Perspective Inventory – ZTPI* (Zimbardo & Boyd, 1999), specifically the Portuguese adaptation of Ortuño & Gamboa (2009). This inventory is composed of 56 items (5-point Likert scale) which represents 5 temporal dimensions: 1) Past Positive, related to pleasant and warm attitudes towards the past ( $\alpha = .68$ , 9 items), 2) Past Negative, represents an aversive and distressful attitude towards the past ( $\alpha = .80$ , 10 items), 3) Present Hedonist, represents a tendency to seek immediate pleasure, through exciting and risky experiences ( $\alpha = .79$ , 15 items), 4) Present Fatalist, shows a defeatist attitude towards life ( $\alpha = .66$ , 9 items) and 5) Future, indicates a strong tendency to create and pursue long term objectives ( $\alpha = .74$ , 13 items).

*To assess Children's Episodic Foresight.* We used three measures of EF; two of them were identical to those used in Study 1 (pictured trip task and the draw task) and we included the blow football task in this battery for more consistency of the measure (Russell, Alexis, Clayton, 2010). Factor score of the three measures was used as the score of the child EF.

## RESULTS & DISCUSSION

In Table 1 we present the main correlational analyses. We again controlled for age in month due to the variability in ages that can affect maturation. Results shows a pattern were Present sub-scales (Hedonistic and Fatalistic) show stronger association, while Fatalistic it is more strong and significant. This should be interpreted as more present oriented (more fatalistic of hedonistic the parents) lower score had the child in the EF measures. The other sub-scales did not showed statistically significant values.

Table 1 – Partial correlations (controlling for age in months) between EF and the ZTPI sub-scales

<b>ZTPI Sub-scales</b>	<b>Child EF</b>
Past-Negative	-.16
Past-Positive	-.09
Present-Hedonistic	-.23*
Present-Fatalistic	-.30**
Future	.15

Note. \*  $p < .05$ ; \*\*  $p < .01$

## General Discussion

The overarching objective of this paper was to explore the possible contribution of the parental time perspective in the development of episodic foresight. To achieve that objective we presented two studies that explored two different constructs related to time orientation, namely the consideration of future consequences and the time perspective in mothers, and the episodic foresight in their pre-school children.

Interestingly, in both studies parental present orientation scores, represented by the scores in the sub-scales CFC-I in Study 1 and ZTPI present fatalistic and present hedonism sub-scales explains part of the inter-individual differences on the acquisition of the EF between preschool aged children. In both cases, correlation coefficients between parental time perspective and the development of episodic foresight are somewhat higher than those of non-cognitive skills, presented in literature. Notably, none of the other sub-scales scores explained variance on the EF development. This suggests that impulsiveness/present orientation of parents delay the emergence of the cognitive capacity for thinking in the personal future.

How to explain this pattern of results? While the genetic account cannot be disregarded until we have more research about this issue, we reason that parental modeling is the main cause. More present-oriented parents act in a more impulse way, talk more about the present and weight more the immediate consequences of behavior, not inducing the child to engage in distancing behaviors of the present. Intriguingly, no significant effect was shown by future oriented scales (CFC-F and ZTPI – Future), so further research is needed to explain this results.

Finally we think that our results open an interesting avenue of research for future studies exploring the intergenerational transmission of time perspective, consideration of future consequences and other temporal processes.

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