

How low might fertility go? Exploring future scenarios based on reproductive intentions in South Korea, Spain and Uruguay

Background

The total fertility rate (TFR) in Spain has been below 1.5 children per woman for nearly four decades, hovering around 1.3 children since 2011. In 2022, it fell to 1.16. That same year, the TFR in Korea was 0.81, declining further to 0.72 in 2023. From the mid-2010s onwards, Uruguay also experienced an extraordinarily steep drop in fertility. The TFR fell below replacement level for the first time in 2005, remained around 1.9 for a decade, and reached an historical low of 1.34 in 2022. Provisional data for 2023 point to a further drop to 1.28. The empirical literature suggests that different mechanisms may be linked to the ultra-low fertility patterns observed in each country. A late reproductive calendar, increased (voluntary and involuntary) childlessness, and low rates of progression to a second child lie behind the very low fertility levels currently recorded in Spain (Esping-Andersen et al. 2013). However, the postponement of births, especially among adolescent and very young women, and the lower propensity of recent generations to have a second child stand out as the two distinct components of Uruguay's very low fertility (Cabella et al. 2024). The main drivers of lowest-low fertility in South Korea have evolved over time: from married women having later and fewer children, to more women choosing not to marry, and more recently to fewer women having children even if married (Yoo and Sobotka 2018, Kim and Luke 2020, Hwang 2023).

Fig.1. Evolution of TFR 1960-2022

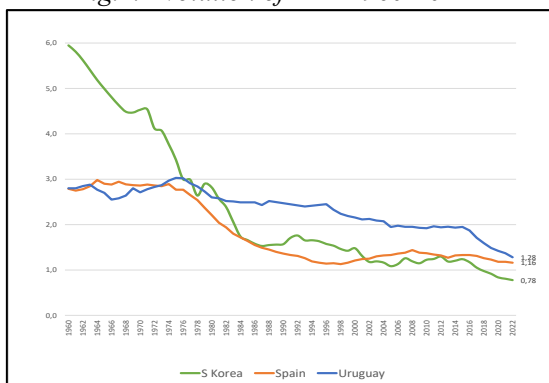
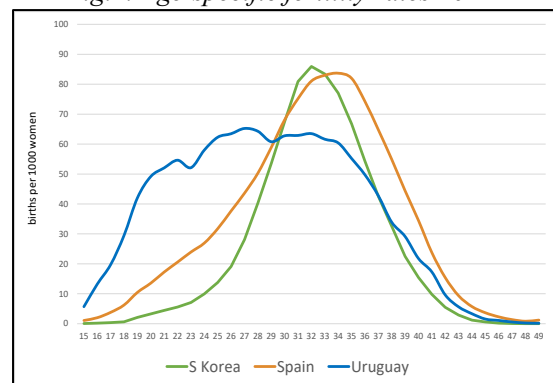


Fig.2. Age-specific fertility rates 2022



Research questions

In this context of lowest-low fertility, reproductive desires and intentions become particularly relevant. Is the proportion of young people who do not want to have children different in the three countries? Among those who do want to have children, how many would they like to have? Do young Spaniards, South Koreans and Uruguayans differ in their ideal number of children? Do they intend to have a child within the next three years? Are there differences between men and women in this regard? Do the key factors influencing these decisions differ in Spain, South Korea and Uruguay? What are the future fertility scenarios that can be envisaged given current reproductive intentions?

Reproductive desires and intentions are closely linked to reproductive behaviour, as postulated by several theoretical approaches –such as the *Theory of Planned Behaviour* (Ajzen 1991), *The Traits-Desires-Intentions-Behaviour framework* (Miller 1994) or the

Theory of Conjunctural Action (Johnson-Hanks et al. 2011)– and documented by numerous empirical studies (e.g., Barber 2001, Billari et al. 2009, Liefbroer et al. 2015, Ni Bhrolcháin & Beaujouan 2019). These theoretical frameworks distinguish between desires –what people want– and intentions, which involve concrete plans and are determined by both desires and the perceived ability to achieve those aspirations (Ajzen & Klobas 2013).

In contexts of ultra-low fertility, the desired number of children is usually well above the number of children finally achieved. The gap between desired and realized fertility has been wide in Spain for decades (Castro et al. 2018, García Gómez et al. 2022). In South Korea, there is also a mismatch between childbearing desires and realities (Tan 2023). In Uruguay, several studies have documented that while a group of women end up having more children than their declared ideal (indicating unmet demand for contraception), another group achieves fewer children than desired (reflecting unmet demand for children) (Cabella et al. 2017, Pardo 2008). The ideal/desired number of children helps us to understand not only how social norms on fertility evolve, but also how individuals envision their family future.

Regarding reproductive intentions, there is also an important gap between declared intentions and fulfilled intentions. However, the intention to have a(nother) child has some predictive validity for individual reproductive behaviour and can help us anticipate possible futures in the short and medium term (Testa 2014). This relationship has been extensively studied among women, whereas fertility intentions among men have received less attention (Puur et al. 2010, Dudel & Klüsener 2021).

Our results will be examined in light of the hypothesis that, although the three countries currently have very low fertility, there may still be differences in the reproductive aspirations and intentions of the generations now in their prime reproductive years. These differences could indicate whether there is potential for fertility to "recover" in Uruguay –given that the drop to lowest-low fertility is more recent and primarily driven by shifts in the reproductive behaviour of adolescents and very young women–, or whether fertility may decline even further in all three countries. It is also plausible that reproductive intentions have become more similar among young generations due to the progression of the “Second Demographic Transition” (SDT) across regions, the spread of norms and behaviors in increasingly interconnected societies, and rising educational levels, especially among women. On the other hand, different economic, institutional and cultural contexts may continue to foster divergent reproductive intentions across countries.

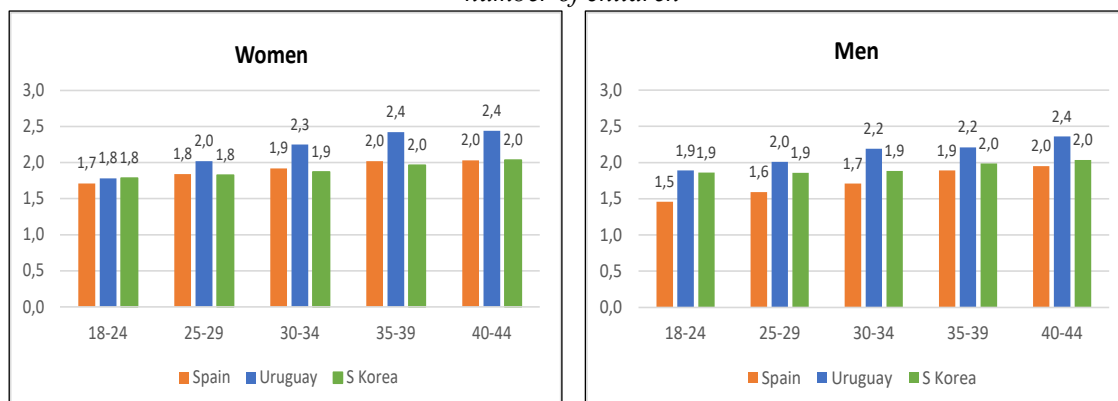
Data and methods

This study focuses on women and men under 45 years of age in these three countries. We analyse personal reproductive ideals and intentions using recent, comparable surveys: the *Spanish Fertility Survey* (2018), the *South Korean Family and Fertility Survey* (2021) and the *Uruguayan Gender and Generation Survey* (2022). In addition to descriptive tables and figures, we employ models to identify sociodemographic profiles based on associated factors, specified separately for women and men. We use a generalized linear Poisson model to examine the *ideal number of children*, and a binary logistic regression model to assess *intentions to have a(nother) child within the next 3(2) years*.¹

¹ In the case of South Korea, only the married population was asked about their short-term fertility intentions, with a two-year time horizon. This reflects the Korean context, where childbearing outside marriage is rare and stigmatized. This represents a difference and a limitation compared to the other two countries, where questions on reproductive intentions cover the entire population (both unmarried and married), and respondents were asked whether they intended to have a(nother) child within the next three years.

Preliminary results

Fig.3. Personal reproductive ideals by sex and age – mean ideal number of children / mean desired number of children



Note: Results for S Korea refer only to married persons.

Uruguayan women report a higher personal ideal number of children compared to Spanish and Korean women. Although the ideal number of children increases with age in the female populations of all three countries, this increase is more pronounced among Uruguayan women. By the end of the reproductive stage, Uruguayan women report an ideal number close to 2.5 children, while this value does not exceed two children among Spanish or Korean women. For them, the desired number of children also increases slightly with age but stabilizes by age 35. These differences can be interpreted in light of the different fertility trajectories in the three countries and their influence on the reproductive expectations of the older generations.

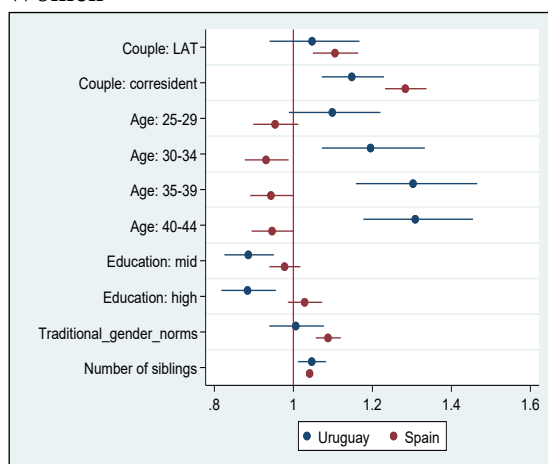
In Uruguay, the results among the older age groups might reflect the normative expectations of generations that experienced their reproductive lives in a context of relatively high fertility (the TFR reached two children per woman only in 2004). In contrast, Spanish and Korean women have lived through a scenario of very low fertility for decades. This seems to have influenced lower fertility ideals among younger cohorts, possibly in line with the *low fertility trap hypothesis* (Lutz et al. 2006), as well as stable reproductive expectations at later ages, which may also be linked to the late age at first birth and high rates of ART use, particularly in Spain. Among men, a similar pattern to that of women is observed in Spain and Uruguay: the ideal number of children increases with age and is higher among Uruguayan men. Unlike young Spaniards, South Korean men under 30 report relatively high personal reproductive ideals, closer to those of young Uruguayan men.

There are also differences in the ideal number of children between women and men within each country. In Uruguay and South Korea, women –especially younger women– report wanting fewer children than their male peers, whereas in Spain, women desire more children than men of the same age. This finding is interesting and may be linked to the distinct social and gender contexts of each country. In the case of Uruguay, one interpretation might be the presence of greater gender inequalities combined with an unmet demand for contraception. In South Korea, younger generations of women are increasingly questioning the rigid patriarchal expectations regarding their roles in marriage and family.

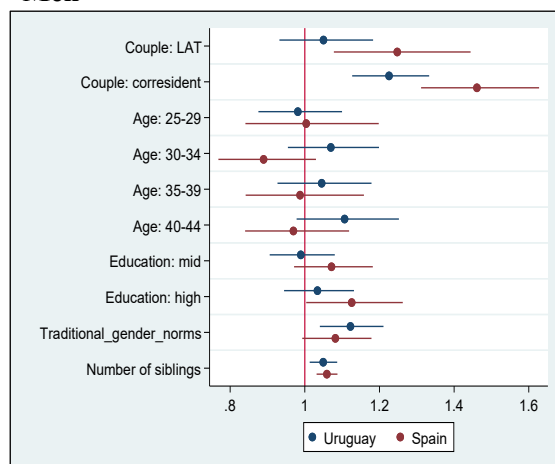
Determinants of reproductive ideals and intentions – preliminary results for Uruguay & Spain; (still) work in progress for South Korea

■ **Generalized linear Poisson regression – ideal number of children**

Women

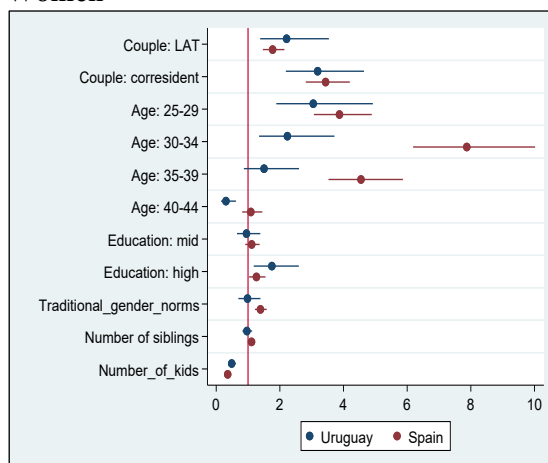


Men

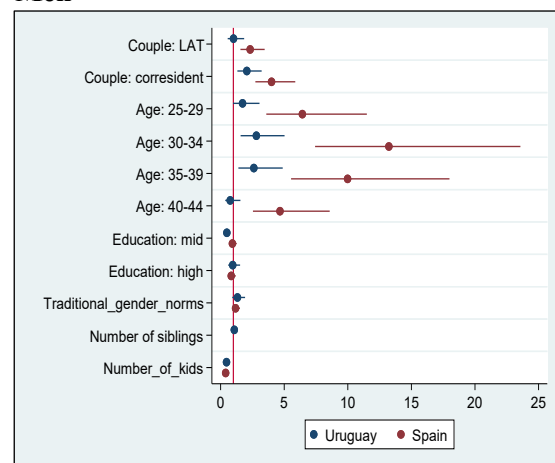


■ **Logistic binary regression – Short-term fertility intentions**

Women



Men



Having a partner, especially a co-resident partner, increases both reproductive ideals and intentions in Uruguay and Spain, with a more pronounced effect in Spain. The reversal of the gender gap in education that Western societies have experienced since the end of the 20th century may have it more challenging to find a partner who meets individual expectations. The results also confirm that the ideal number of children increases with age for Uruguayan women. Additionally, there is a higher intensity of intentions to have a(nother) child within the next 3 years among older age groups of women and men in Spain, reflecting the intense postponement of parenthood and the greater use of assisted reproductive techniques in this country. Finally, we observe a negative gradient of education for Uruguayan women regarding the ideal number of children (the less educated continue to desire more children), but it is women with university studies who show higher short-term fertility intentions. The effect of education on reproductive ideals is not significant for Uruguayan men and positive for university-educated men in Spain.

Short-term fertility projections informed by intentions

We will complete the analyses with short-term fertility projections based on reproductive intentions in each country. These projections will be developed under the unlikely assumption of full realization of reproductive intentions within three years, as well as under more realistic scenarios of 80% and 60% fulfilment of intentions, following the literature (Brozowska & Beaujouan 2021, Riederer & Buber-Enns 2019, Spéder & Kapitány 2014).