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Psychological antecedents of HPV vaccination among French adolescents and their parents

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Context:

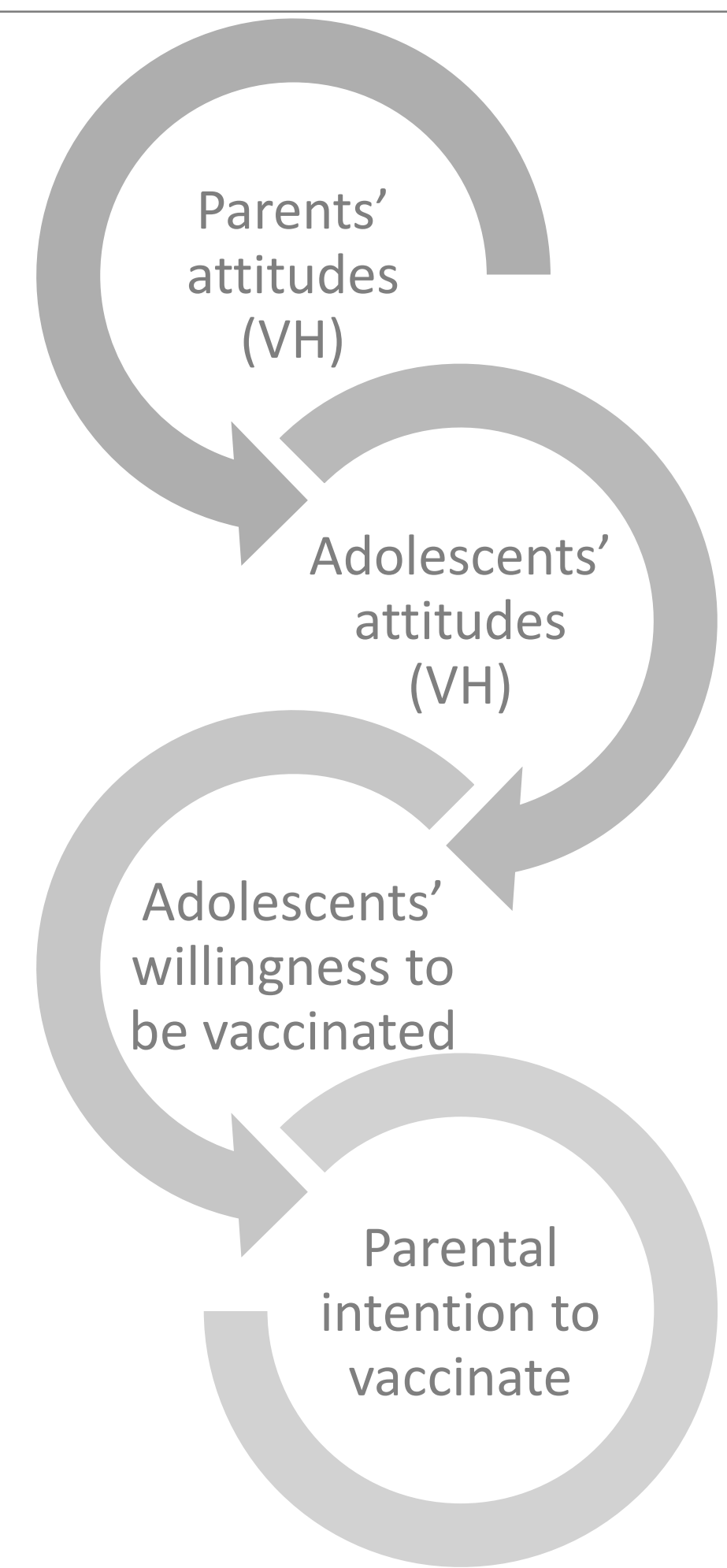
Despite proven efficacy against cervical cancer, the HPV vaccination coverage (VC) in France – since 2019 recommended to 11- to 14-year-old girls and boys – is lower than most other European or high-income countries with 23,7% of 16-year-old girls fully vaccinated end of 2019 (Santé Publique France, 2022). In this context, the French Institute for Public Health Research (IReSP) and the theme-based Multi-Organisation Institutes for Cancer and for Public Health (ITMO Cancer and ITMO Public Health) launched in 2018 a national research programme to improve HPV VC among French adolescents (Bocquier et al., 2022). The PrevHPV programme comprises three phases ('diagnostic', 'coconstruction' and 'experimental'). This poster presents baseline results of 649 couples of parents and their adolescent child from the 'experimental' phase. The 'experimental' phase is elaborated as a cluster-randomised trial of three school-based multicomponent interventions with the main objective to evaluate the effectiveness, efficiency and implementation of these interventions.

Rational:

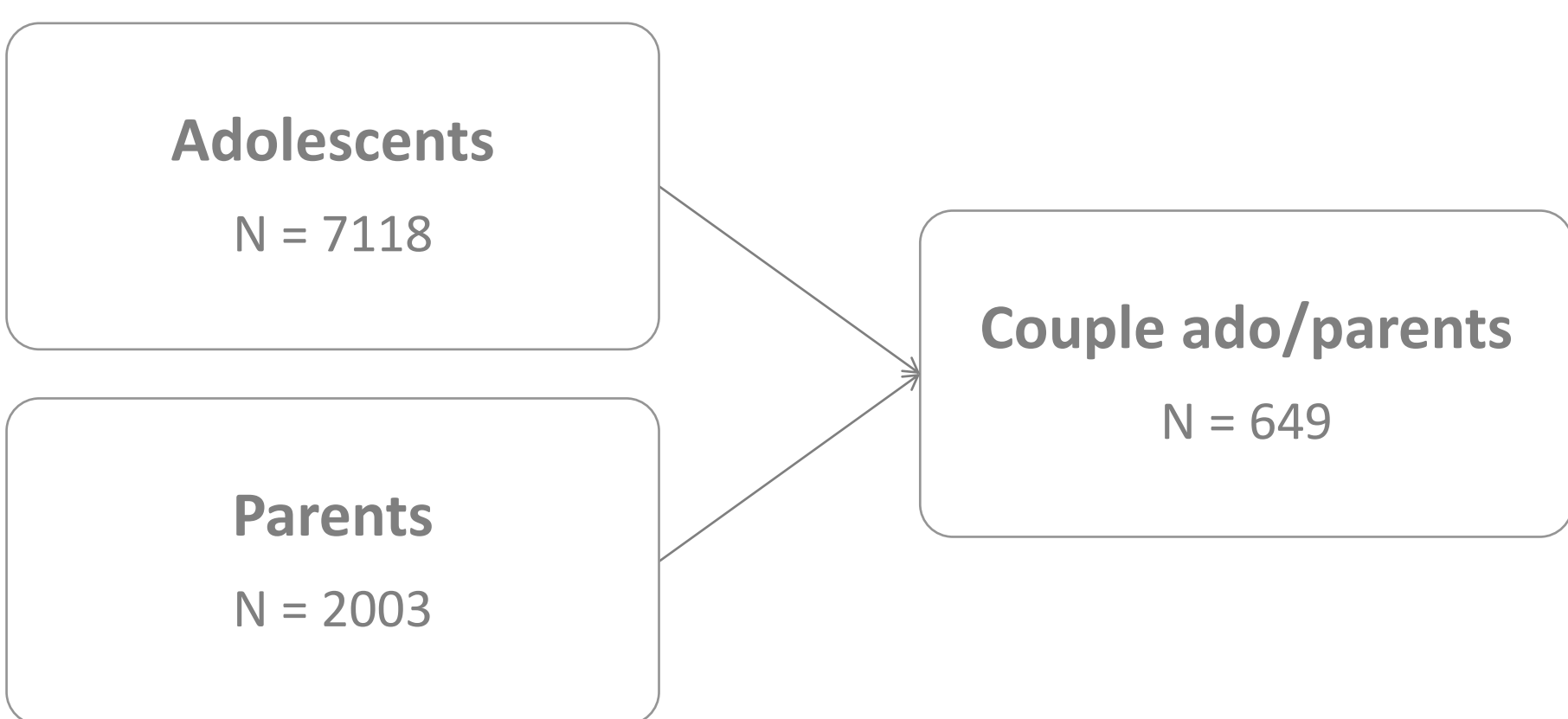
In France, adolescent cannot be vaccinated against HPV without their parents' authorisation, and adolescents can only influence positively or negatively this parental decision. Based on the 5 C antecedents of vaccine hesitancy (Betsch et al., 2018), we constructed a 7 C model based on attitudes regarding HPV vaccination, including confidence in the system and social conformism (Moirangthem et al., 2022; Oudin Dogliani et al., Under writing). This 7 C model was included in a behavioural model of vaccination acceptance (Oudin Dogliani & Mueller, Under submission process).

Objectives:

With this model, we aim at understanding the influence of the adolescents' attitudes (vaccine hesitancy, VH) about vaccination against HPV and of their willingness to be vaccinated on their parents' intention to vaccinate them.



We collected data between November 22, 2021, and February 8, 2022, through a web-based survey on HPV vaccination published via the REDCap online survey platform. The study invitation was sent to parents by email by 61 middle schools in France, and adolescents completed the same questionnaires in class.



Data collected for both members of the parent/adolescent couple:

| Sociodemographic data | Psychological antecedents of vaccination* | Prochaska & DiClemente regarding HPV vaccination |
|---|--|---|
| <ul style="list-style-type: none"> Age of the respondent Gender | <ul style="list-style-type: none"> Distrust system Distrust vaccine Low convenience High complacency Low benefit-risk balance Self-centred vision Sceptic environment | <ul style="list-style-type: none"> Ignorance knowledge without awareness knowledge with awareness but without willingness (ado) or intention (parents) Willingness (ado)/intention (parents) or planification Already vaccinated |

* Scores used are obtained after a CFA (Oudin Dogliani et al., Under writing)

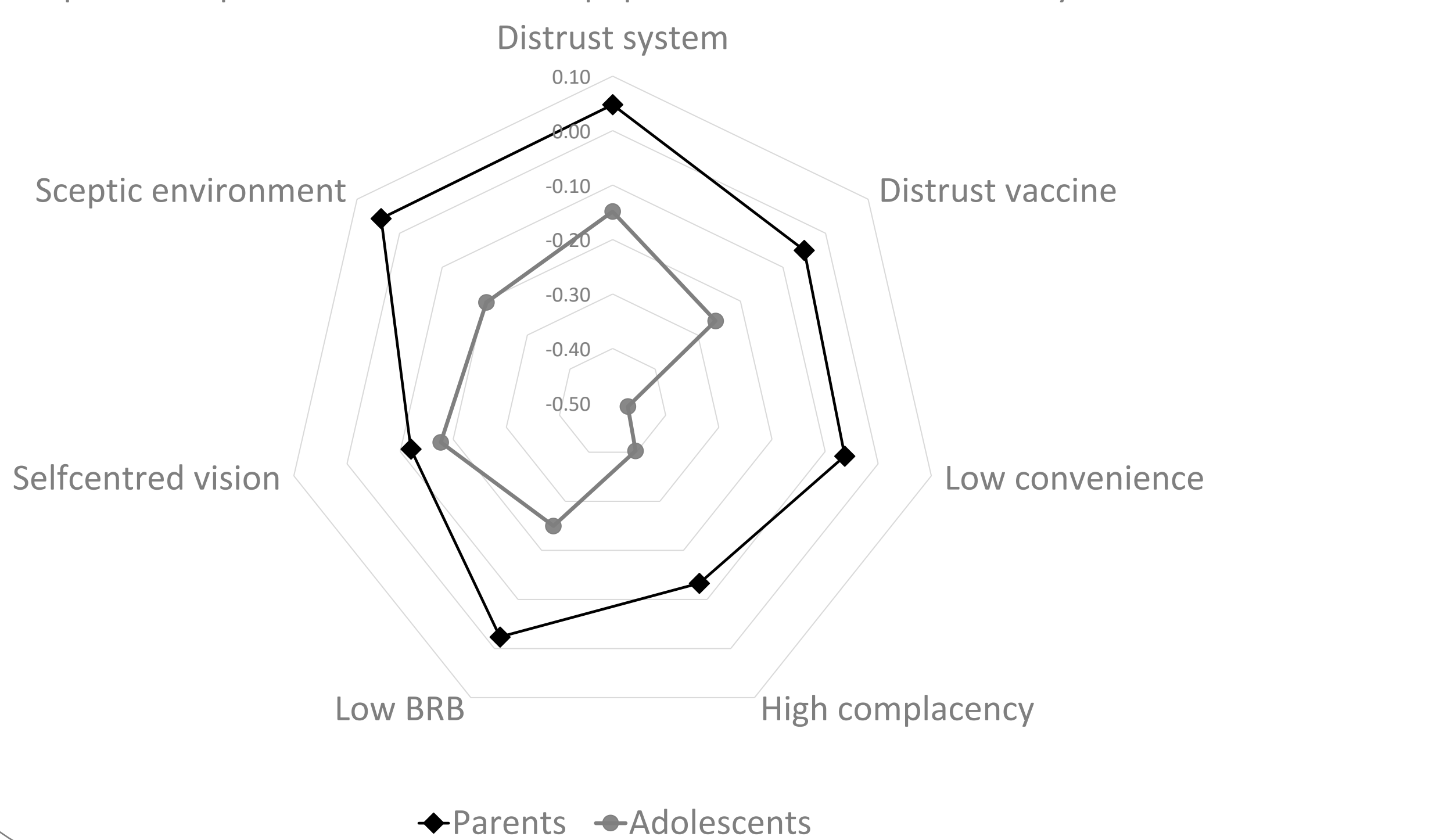
Description and relationship between the variables:

| Adolescents | Parents |
|------------------------------|---------------------------|
| Age: 13–15 y-o = 100% | Age: 35 to 43 y-o = 57,6% |
| Gender: ♀ = 53.9% | Gender: ♀ = 89.7% |
| Vaccinated or initiated: 47% | |

Correlation of the seven psychological antecedents of vaccination and of the vaccine hesitancy score among parents and adolescents:

| Correlation | Distrust in system | Distrust in vaccine | Low convenience | High complacency | Low BRB | Self-centred vision | Sceptic environment | Vaccine hesitancy |
|-------------|--------------------|---------------------|-----------------|------------------|---------|---------------------|---------------------|-------------------|
| Pearson's r | 0.188 | 0.118 | 0.353 | 0.326 | 0.244 | 0.168 | 0.052 | 0.379 |
| P-value | <.001 | 0.009 | <.001 | <.001 | <.001 | <.001 | 0.254 | <.001 |

Position of the seven psychological antecedents of the members of the adolescent/parent couple in comparison with the overall population included in the study set at 0.00:

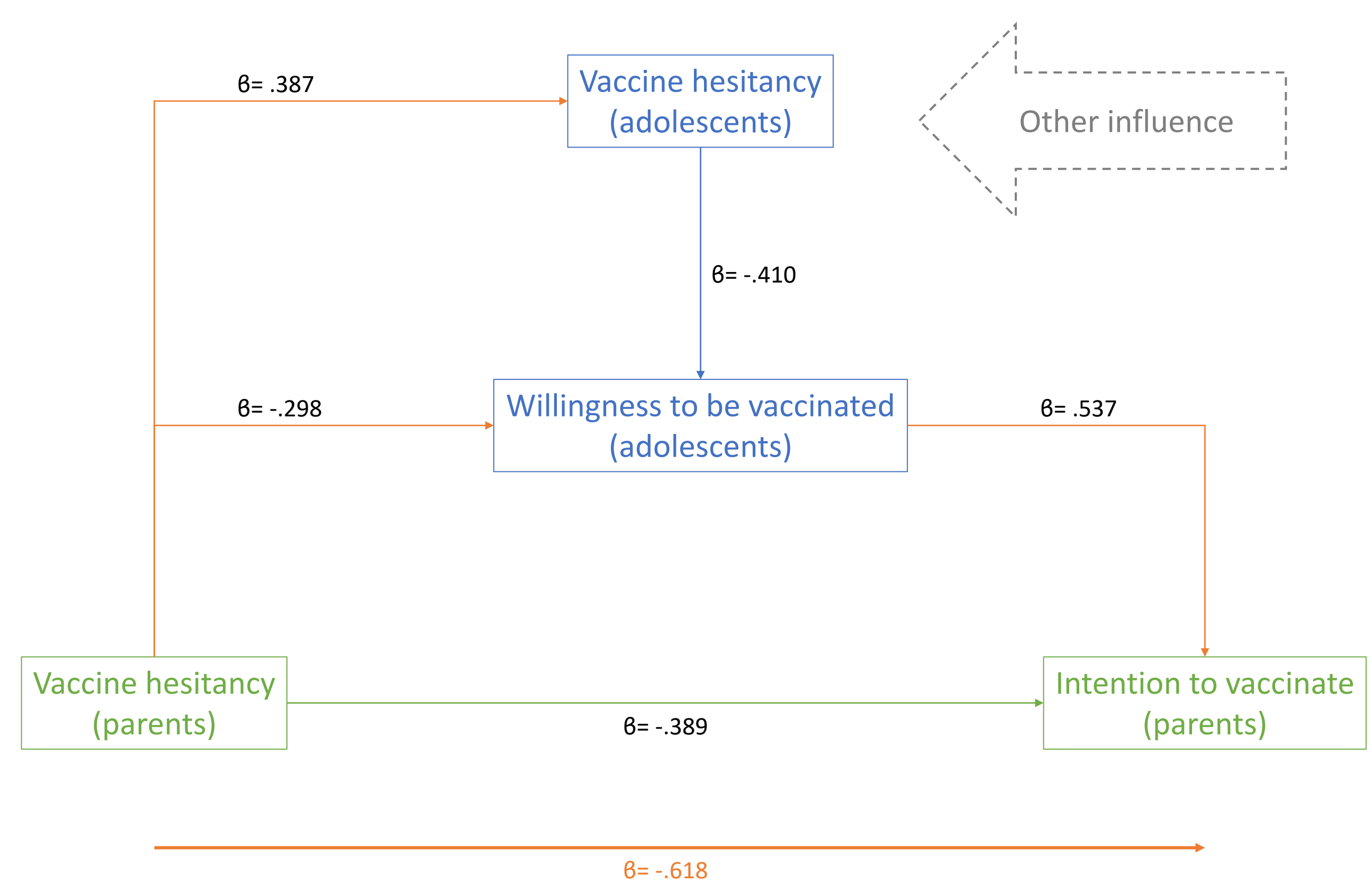


Influence of adolescents' attitude on their parents' intention to vaccinate them

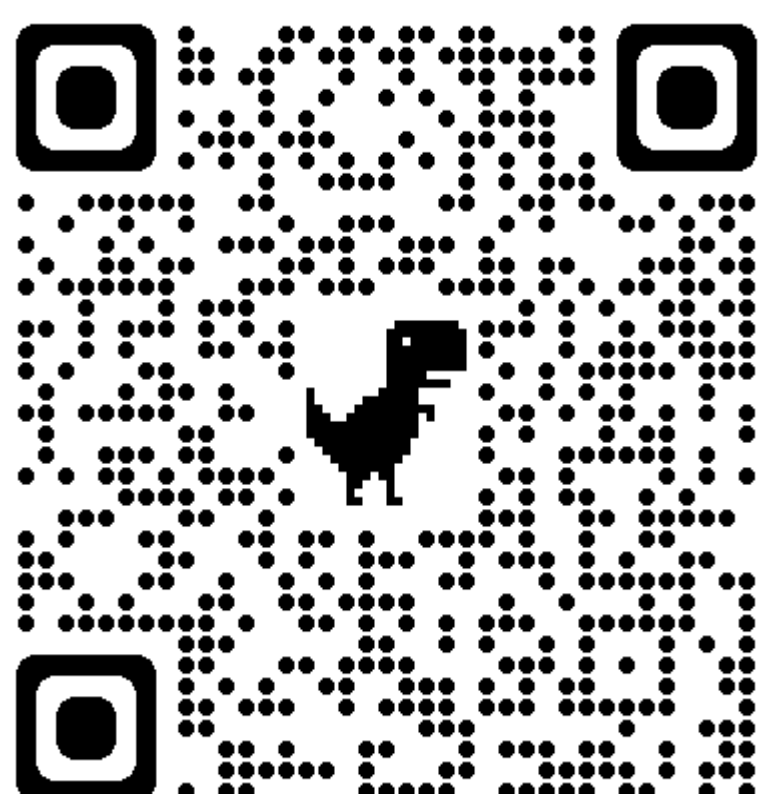
(Generalized linear mediation model):

| Type | Effects | Effect size | SE | 95% C.I. | | β ¹ | z | p |
|-----------|---|-------------|-------|----------|--------|----------------|--------|-------|
| | | | | Lower | Upper | | | |
| Indirect | VH parents ⇒ Willingness adolescents ⇒ Intention parents | -0.128 | 0.019 | -0.166 | -0.090 | -0.160 | -6.61 | <.001 |
| | VH parents ⇒ VH adolescents ⇒ Intention parents | 0.013 | 0.011 | -0.009 | 0.034 | 0.016 | 1.16 | 0.248 |
| | VH parents ⇒ VH adolescents ⇒ Willingness adolescents ⇒ Intention parents | -0.068 | 0.011 | -0.090 | -0.047 | -0.085 | -6.17 | <.001 |
| Component | VH parents ⇒ Willingness adolescents | -0.314 | 0.042 | -0.398 | -0.231 | -0.298 | -7.40 | <.001 |
| | Willingness adolescents ⇒ Intention parents | 0.407 | 0.028 | 0.353 | 0.461 | 0.537 | 14.76 | <.001 |
| | VH parents ⇒ VH adolescents | 0.351 | 0.039 | 0.275 | 0.426 | 0.387 | 9.11 | <.001 |
| | VH adolescents ⇒ Intention parents | 0.036 | 0.031 | -0.025 | 0.097 | 0.041 | 1.16 | 0.244 |
| Direct | VH adolescents ⇒ Willingness adolescents | -0.478 | 0.047 | -0.570 | -0.386 | -0.410 | -10.20 | <.001 |
| | VH parents ⇒ Intention parents | -0.312 | 0.027 | -0.364 | -0.259 | -0.389 | -11.61 | <.001 |
| Total | VH parents ⇒ Intention parents | -0.495 | 0.029 | -0.552 | -0.438 | -0.618 | -17.06 | <.001 |

¹ β are completely standardised effect sizes



For further information on this poster:



- Positive attitudes on vaccination against HPV found in adolescents and their parents in a French context that is rather recalcitrant to HPV vaccination (Collange et al., 2016; Karafillakis et al., 2021; Ward et al., 2017):
 - Convenience sample with overall higher vaccine coverage (47%) than in comparable national coverage estimates (27%).
 - Attitudes of respondents entering the anonymised code that allowed coupling within families (compared to the total study sample):
 - Parents: lower complacency and lower self-centred vision
 - Adolescents: lower scores in all seven dimensions of vaccine hesitancy
- Adolescents and parental attitudes on vaccination correlated poorly:
 - Adolescents' attitudes and vaccine willingness partly depend on parental attitudes and intention but are also strongly influenced by factors outside the family.
 - Interestingly, the lowest correlation in the 7C dimensions was observed on the description of the social environment's attitude towards HPV vaccination. This may point to different references in the social environment.
- Adolescents' willingness has a strong influence on parental intention.

For further details on the PrevHPV programme:

