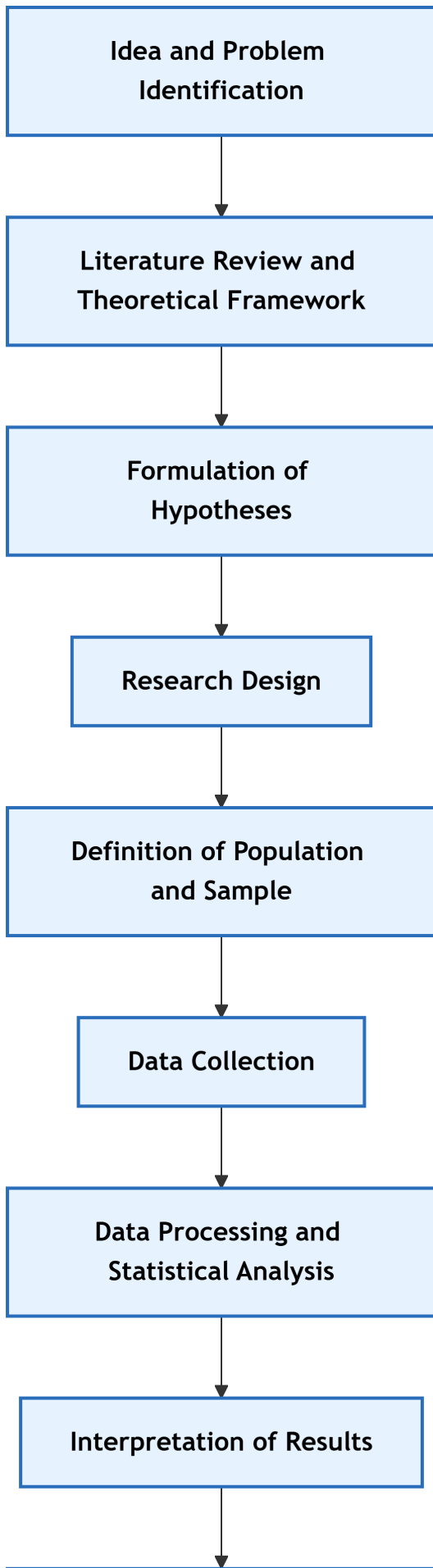# Quantitative & Qualitative Process (Mermaid)

Quantitative Research Process (Linear Flow)

```
graph TD
    A[Idea and Problem Identification] --> B[Literature Review and Theoretical Framework]
    B --> C[Formulation of Hypotheses]
    C --> D[Research Design]
    D --> E[Definition of Population and Sample]
    E --> F[Data Collection]
    F --> G[Data Processing and Statistical Analysis]
    G --> H[Interpretation of Results]
    H --> I[Conclusions, Implications, and Reporting]

    classDef main fill:#E6F3FF,stroke:#2A6EBB,stroke-width:2px,color:#000,font-weight:bold;
    class A,B,C,D,E,F,G,H,I main;
```

```
┌─────────────────────────┐
│   Idea and Problem      │
│    Identification       │
└─────────────────────────┘
            │
            ▼
┌─────────────────────────┐
│  Literature Review and  │
│  Theoretical Framework  │
└─────────────────────────┘
            │
            ▼
┌─────────────────────────┐
│    Formulation of       │
│      Hypotheses         │
└─────────────────────────┘
            │
            ▼
    ┌─────────────────┐
    │ Research Design │
    └─────────────────┘
            │
            ▼
┌─────────────────────────┐
│ Definition of Population│
│      and Sample         │
└─────────────────────────┘
            │
            ▼
    ┌─────────────────┐
    │ Data Collection │
    └─────────────────┘
            │
            ▼
┌─────────────────────────┐
│  Data Processing and    │
│  Statistical Analysis   │
└─────────────────────────┘
            │
            ▼
┌─────────────────────────┐
│ Interpretation of Results│
└─────────────────────────┘
            │
            ▼
```

Qualitative Research Process (Iterative Cycle)

```
graph LR
    A[Initial Idea or Topic of Interest] --> B[Context and Literature Exploration]
    B --> C[Formulation of Research Focus or Questions]
    C --> D[Flexible and Emergent Design Development]
    D --> E[Selection of Participants or Context]
    E --> F[Data Collection]
    F --> G[Data Analysis]
    G --> H[Categories and Theme Development]
    H --> I[Interpretation and Theory Building]
    I --> J[Reporting and Reflection]
    J --> A[Cycle Repeats as Insights Emerge]

    classDef cycle fill:#FFF3E6,stroke:#D17A00,stroke-width:2px,color:#000,font-weight:bold;
    class A,B,C,D,E,F,G,H,I,J cycle;
```