|  |  |  |
| --- | --- | --- |
| **Workflow:**  **Simple Mediation in a Path Analytic Framework** | | |
|  | **A Priori Power Analysis** | |
|  | ● | Conduct an a priori power analysis to determine the appropriate sample size. |
|  | ● | Draw estimates of effect from pilot data and/or the literature. |
|  |  |  |
|  | **Scrubbing & Scoring** | |
|  | ● | Import data and format (i.e., variable naming, reverse-scoring) item level variables. |
|  | ● | Analyze item-level missingness. |
|  | ● | If using scales, create the mean scores of the scales. |
|  | ● | Determine and execute approach for managing missingness. Popular choices are available item analysis (e.g., Parent, 2013) and multiple imputation. |
|  | ● | Analyze scale-level missingness. |
|  | ● | Create a df with *only* the items (scaled in the proper direction). |
|  |  |  |
|  | **Data Diagnostics** | |
|  | ● | Evaluate univariate normality (i.e., one variable at a time) with Shapiro-Wilks tests; *p* < .05 indicates a violation of univariate normality. |
|  | ● | Evaluate multivariate normality (i.e., all continuously scaled variables simultaneously) with Mahalanobis test. Identify outliers (e.g., cases with Mahal values > 3 *SDx* from the centroid). Consider deleting (or transforming *if* there is an extreme-ish “jump” in the sorted values. |
|  | ● | Evaluate internal consistency of the scaled scores with Cronbach’s alpha or omega; the latter is increasingly preferred. |
|  |  |  |
|  | **Specify and Run Model to be Analyzed (this workflow presumes lavaan)** | |
|  | ● | The dependent variable should be predicted by the independent, mediating, and covarying (if any) variables. |
|  | ● | “Labels” can facilitate interpretation by naming the a, b, and c’ paths. |
|  | ● | Additional script provides labels for the indirect, direct, and total effects. |
|  |  |  |
|  | **Post Hoc Power Analysis** | |
|  | ● | With the values from your study, repeat the power analysis and report the degree to which you were adequately powered. |
|  |  |  |
|  | **Interpret the Results** | |
|  | ● | Attend to ALL the paths (a, b, c’, direct, indirect, total) and their patterns. |
|  | ● | Table the results. |
|  | ● | Create a figure. |
|  | ● | Prepare the results appropriate for the audience who will receive it. |

|  |  |  |
| --- | --- | --- |
| **Workflow:**  **Complex Mediation in a Path Analytic Framework** | | |
|  | **A Priori Power Analysis** | |
|  | ● | Conduct an a priori power analysis to determine the appropriate sample size. |
|  | ● | Draw estimates of effect from pilot data and/or the literature. |
|  |  |  |
|  | **Scrubbing & Scoring** | |
|  | ● | Import data and format (i.e., variable naming, reverse-scoring) item level variables. |
|  | ● | Analyze item-level missingness. |
|  | ● | If using scales, create the mean scores of the scales. |
|  | ● | Determine and execute approach for managing missingness. Popular choices are available item analysis (e.g., Parent, 2013) and multiple imputation. |
|  | ● | Analyze scale-level missingness. |
|  | ● | Create a df with *only* the items (scaled in the proper direction). |
|  |  |  |
|  | **Data Diagnostics** | |
|  | ● | Evaluate univariate normality (i.e., one variable at a time) with Shapiro-Wilks tests; *p* < .05 indicates a violation of univariate normality. |
|  | ● | Evaluate multivariate normality (i.e., all continuously scaled variables simultaneously) with Mahalanobis test. Identify outliers (e.g., cases with Mahal values > 3 *SDx* from the centroid). Consider deleting (or transforming *if* there is an extreme-ish “jump” in the sorted values. |
|  | ● | Evaluate internal consistency of the scaled scores with Cronbach’s alpha or omega; the latter is increasingly preferred. |
|  |  |  |
|  | **Specify and Run Model to be Analyzed (this workflow presumes lavaan)** | |
|  | ● | The dependent variable should be predicted by the independent, mediating, and covarying (if any) variables. |
|  | ● | “Labels” can facilitate interpretation by naming the a, b, and c’ paths. |
|  | ● | Additional script provides labels for the indirect, direct, and total effects. |
|  | ● | Add script to calculate “contrasts” – that is to ask if there are statistically significant differences between indirect effects. |
|  |  |  |
|  | **Post Hoc Power Analysis** | |
|  | ● | With the values from your study, repeat the power analysis and report the degree to which you were adequately powered. |
|  |  |  |
|  | **Interpret the Results** | |
|  | ● | Attend to ALL the paths (a, b, c’, direct, indirect, total) and their patterns. |
|  | ● | Report if some indirect effects are stronger than other (i.e., are contrasts statistically significant). |
|  | ● | Table the results. |
|  | ● | Create a figure. |
|  | ● | Prepare the results appropriate for the audience who will receive it. |

|  |  |  |
| --- | --- | --- |
| **Workflow:**  **Moderated Mediation in a Path Analytic Framework** | | |
|  | **A Priori Power Analysis** | |
|  | ● | Conduct an a priori power analysis to determine the appropriate sample size. |
|  | ● | Draw estimates of effect from pilot data and/or the literature. |
|  |  |  |
|  | **Scrubbing & Scoring** | |
|  | ● | Import data and format (i.e., variable naming, reverse-scoring) item level variables. |
|  | ● | Analyze item-level missingness. |
|  | ● | If using scales, create the mean scores of the scales. |
|  | ● | Determine and execute approach for managing missingness. Popular choices are available item analysis (e.g., Parent, 2013) and multiple imputation. |
|  | ● | Analyze scale-level missingness. |
|  | ● | Create a df with *only* the items (scaled in the proper direction). |
|  |  |  |
|  | **Data Diagnostics** | |
|  | ● | Evaluate univariate normality (i.e., one variable at a time) with Shapiro-Wilks tests; *p* < .05 indicates a violation of univariate normality. |
|  | ● | Evaluate multivariate normality (i.e., all continuously scaled variables simultaneously) with Mahalanobis test. Identify outliers (e.g., cases with Mahal values > 3 *SDs* from the centroid). Consider deleting (or transforming *if* there is an extreme-ish “jump” in the sorted values. |
|  | ● | Evaluate internal consistency of the scaled scores with Cronbach’s alpha or omega; the latter is increasingly preferred. |
|  |  |  |
|  | **Specify and Run Piecewise and Full Models (this workflow presumes lavaan)** | |
|  | ● | Conduct a piecewise analysis of each simple mediation and simple moderation(s), separately. |
|  | ● | Specify and analyze a model with all the paths, including the interaction terms of the moderator. |
|  |  | “Labels” can facilitate interpretation by naming the a, b, and c’ paths. |
|  | ● | The code should also include calculations for the index of moderated mediation and conditional indirect and direct (if included) effects. |
|  |  |  |
|  | **Post Hoc Power Analysis** | |
|  | ● | With the values from your study, repeat the power analysis and report the degree to which you were adequately powered. |
|  |  |  |
|  | **Interpret the Results** | |
|  | ● | Attend to ALL the paths (a, b, c’, direct, indirect, total) and their patterns. |
|  | ● | Table the results. |
|  | ● | Create a figure. |
|  | ● | Prepare the results appropriate for the audience who will receive it. |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Workflow:**  **Template** | | | | | | |
|  |  | | | |  |  |
|  | **Topic** | | | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  |  | | | |  |  |
|  | **Topic** | | | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  |  | | | |  |  |
|  | **#FFE599** | | | | | |
|  | ● | | #FFF2CC | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  |  | | | |  |  |
|  | **#A8D08D** | | | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  | ● | |  | | | |
|  |  | | | |  |  |
|  | **#9CC2E5** | | | | | |
|  | #BDD6EE | | | | | |
|  |  |  | |  | | |
|  |  |  | |  | | |
|  |  | | | | | |
|  |  |  | |  | | |
|  |  |  | |  | | |
|  |  |  | |  | | |
|  |  |  | |  | | |
|  |  | |  | | | |
|  | **#CC99FF** | | | | | |
|  |  | | #CCCCFF | | | |
|  |  | |  | | |  |