Suppose that $E(Y \mid M=m, A=a, W=w) = \beta_M m + \beta_A a + f_1(w)$
$E(M \mid A=a, W=w) = \alpha_A a + f_2(w)$.

What does this imply for the value of the NDE and NIE? To find out, we must use the (mediational) G-computation formula, which states that $E[Y(a, M(a^*))] = E[E[E(Y \mid M, A=a, W) \mid A=a^*, W]]$ for arbitrary $a, a^* \in \{0,1\}$.

So, we can write
$$\begin{aligned} E[Y(a, M(a^*))] &= E[E[\beta_M M + \beta_A a + f_1(W) \mid A=a^*, W]] \\ &= E[\beta_M E(M \mid A=a^*, W) + \beta_A a + f_1(W)] \\ &= E[\beta_M(\alpha_A a^* + f_2(W)) + \beta_A a + f_1(W)] \\ &= \alpha_A \beta_M a^* + \beta_A a + \beta_M E[f_2(W)] + E[f_1(W)] \end{aligned}$$

and this implies that
$$\begin{aligned} E[Y(1, M(1))] &= \alpha_A \beta_M + \beta_A + \beta_M E[f_2(W)] + E[f_1(W)] \\ E[Y(1, M(0))] &= \beta_A + \beta_M E[f_2(W)] + E[f_1(W)] \\ E[Y(0, M(1))] &= \alpha_A \beta_M + \beta_M E[f_2(W)] + E[f_1(W)] \\ E[Y(0, M(0))] &= \beta_M E[f_2(W)] + E[f_1(W)] . \end{aligned}$$

Therefore, we find that
$$\begin{aligned} \text{pure NDE} &= E[Y(1, M(0))] - E[Y(0, M(0))] = \beta_A \\ \text{total NDE} &= E[Y(1, M(1))] - E[Y(0, M(1))] = \beta_A \\ \text{pure NIE} &= E[Y(0, M(1))] - E[Y(0, M(0))] = \alpha_A \beta_M \\ \text{total NIE} &= E[Y(1, M(1))] - E[Y(1, M(0))] = \alpha_A \beta_M \end{aligned}$$

So, in the case of simple linear models (without interactions), the NDE is β_A and the NIE is $\alpha_A \beta_M$ for both versions. This coincides with results from Baron & Kenney (1986).

Suppose now that $E(Y \mid M=m, A=a, W=w) = \beta_M m + \beta_A a + \beta_{MA} ma + f_1(w)$
$E(M \mid A=a, W=w) = \alpha_A a + f_2(w)$.

Doing similar calculations as above, we find that

$$\begin{aligned} \text{pure NDE} &= E[Y(1, M(0))] - E[Y(0, M(0))] = \beta_A + \beta_{MA} E[f_1(W)] \\ \text{total NDE} &= E[Y(1, M(1))] - E[Y(0, M(1))] = \beta_A + \beta_{MA}(\alpha_A + E[f_1(W)]) \\ \text{pure NIE} &= E[Y(0, M(1))] - E[Y(0, M(0))] = \alpha_A \beta_M \\ \text{total NIE} &= E[Y(1, M(1))] - E[Y(1, M(0))] = \alpha_A \beta_M + \alpha_A \beta_{MA} \end{aligned}$$

This gives a generalization of the "product of coefficients" approach derived above. Now, the value of NDE or NIE does depend on which version is considered.