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Examining Suicidality and Mental Health in Army vs non-Army Commands of the Canadian Armed Forces (CAF): The Role of Occupational Trauma

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Introduction

- Latest assessment of suicide risk in CAF:
 - Rates have remained stable over past decade
 - No difference between military and civilian populations in rates of completed suicide
- However, changes in trends were found:
 - Disproportionate increase in suicides within Regular Force (RegF) Army Command
 - History of deployment *emerging* as a risk factor



Research on Suicidality and Army Commands

- Similar increases seen in Army commands in other NATO countries (i.e., Anglemeyer et al., 2016; Fear et al., 2009)
 - Possible link to recent missions in Iraq and Afghanistan
- Canada: limitations of epidemiological data
 - Small # of observations
 - Crude measure of deployment
 - Univariate analyses (no underlying mechanisms)



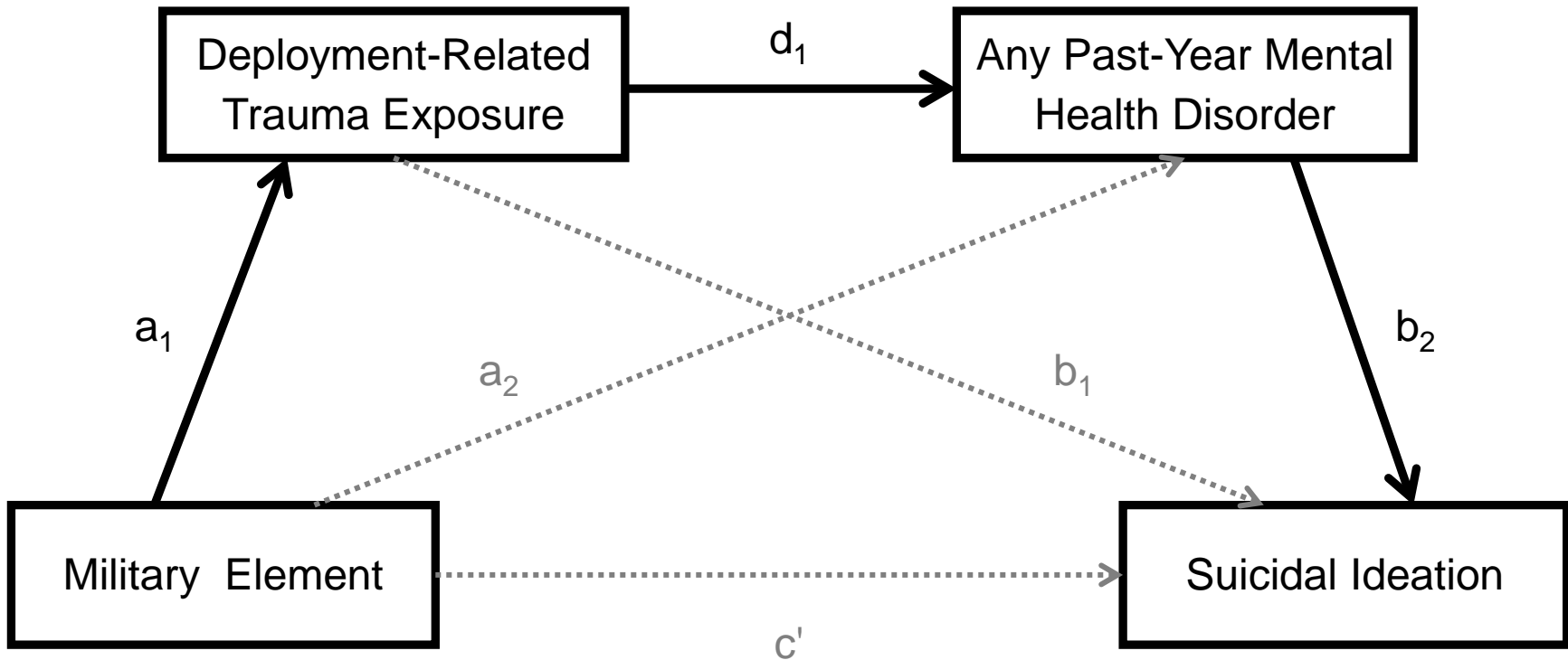
Research on Deployment and Suicidality

- Research on link between deployment and suicidality is inconsistent
 - Operationalizing “deployment”
 - Considering underlying relationships
 - Link to mental health
 - Role of non-occupational trauma
 - Complexity of risk factors
 - Individual differences
 - Additive and temporal effects
 - Suicide vs. suicidality





Hypothesized Model linking Military Element to Suicidality via Deployment and Mental Health



- Also: control for age, sex, rank, and ***non-occupational trauma***



Data Source: 2013 CAF *Mental Health Survey*

- Representative sample of CAF RegF members (N=6,696)
 - Stratified by: Reg/Reserve Force; Rank; Deployment to Afghanistan
- Measures
 - Military Element (IV)
 - Number of deployment experiences (M_1)
 - Any past-year mental health disorder (i.e. major depression; general anxiety disorder; posttraumatic stress disorder; panic disorder)* (M_2)
 - Past-year suicidal ideation* (DV)
 - *Covariates*: Non-occupational trauma*; also age, sex, rank

*Source: *WHO World Mental Health Composite International Diagnostic Interview (CIDI)*



Analysis

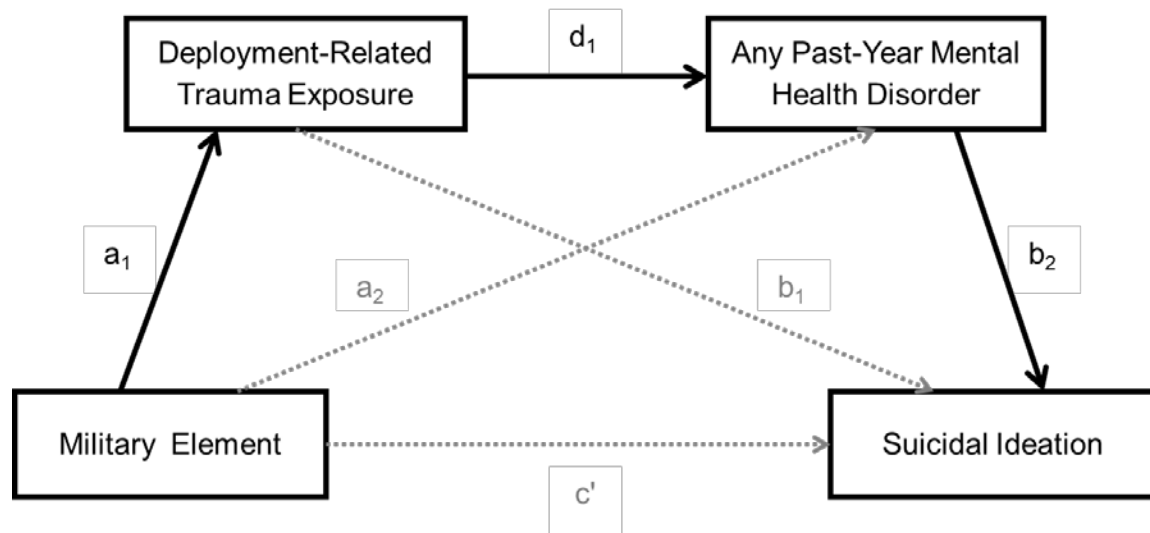
- Serial mediation analysis
 - Product of paths approach ($a \times b$) $\rightarrow a_1 d_1 b_2$
 - Problem: different scales of measurement
 - Solution: standardize paths prior to testing indirect effect

- **Primary path of interest:**

- $a_1 d_1 b_2$

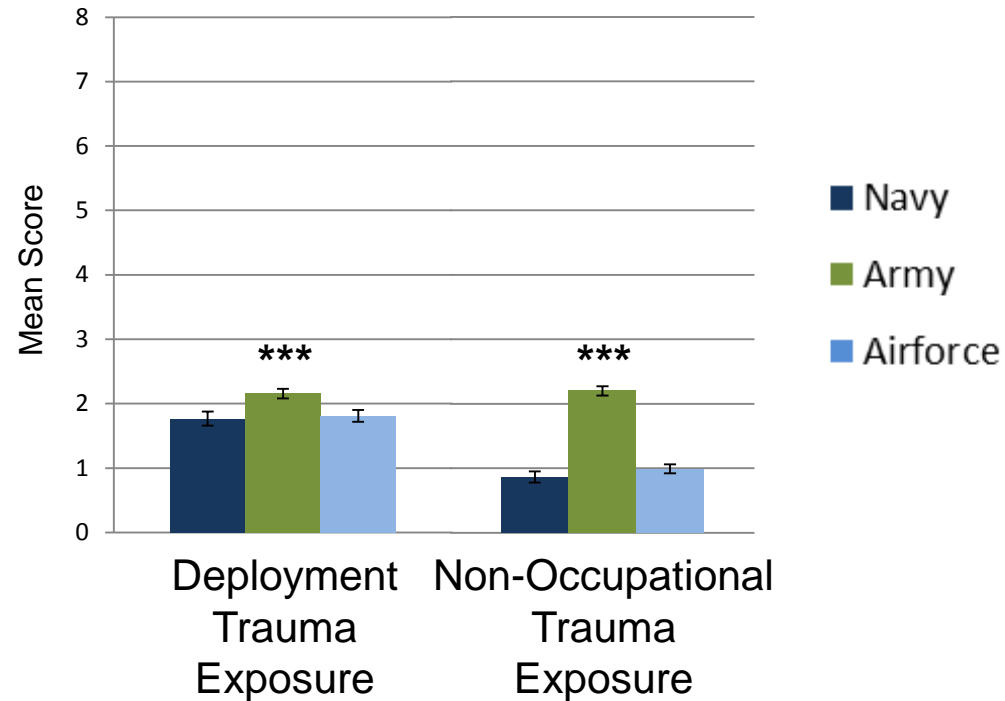
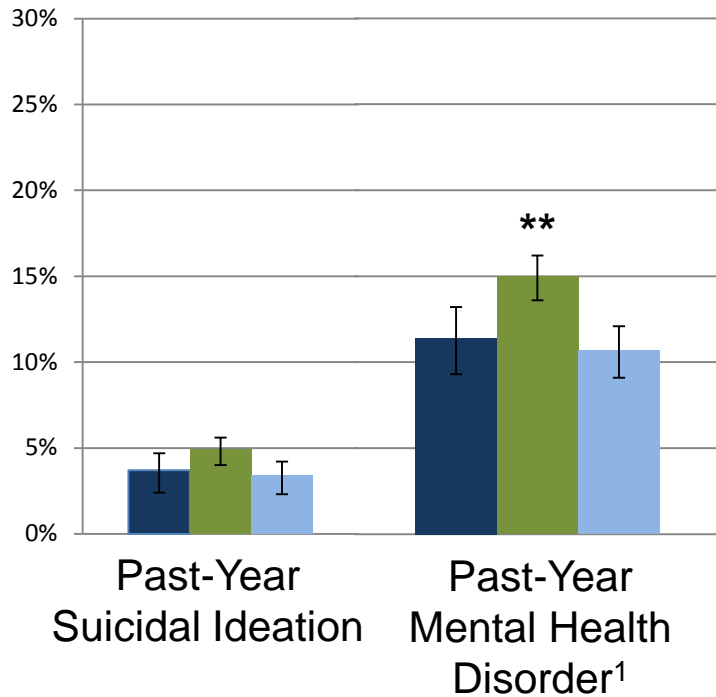
- Secondary paths:

- $a_1 b_1$
 - $a_2 b_2$
 - Direct/total effects





Results: Differences based on military element



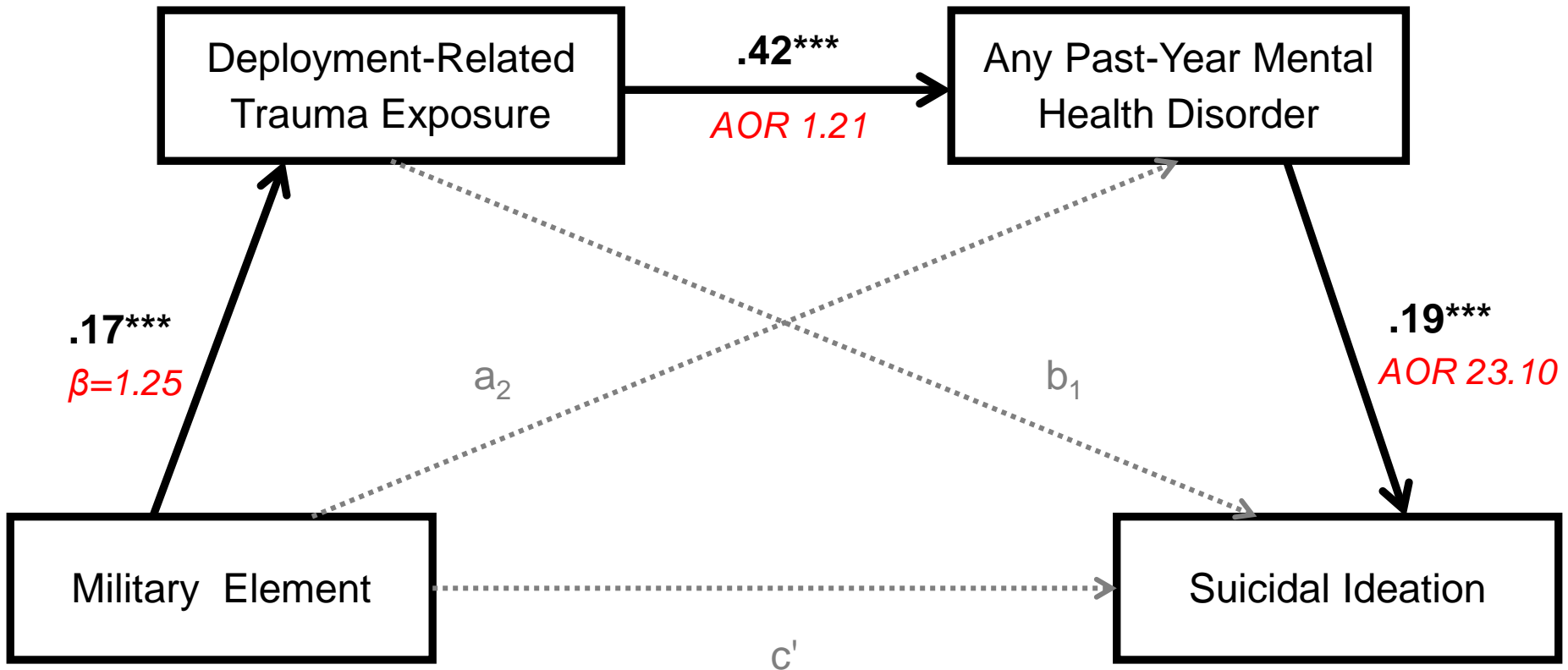
Note. All results control for age, sex, and rank group

***p < .01, ***p < 0.001*

¹Relative to Navy, AOR 1.39 [95%CI, 1.05-1.83]; and Air Force, AOR 1.55 [95%CI, 1.22-1.97]



Results: Indirect effect $adj a_1 d_1 b_2$

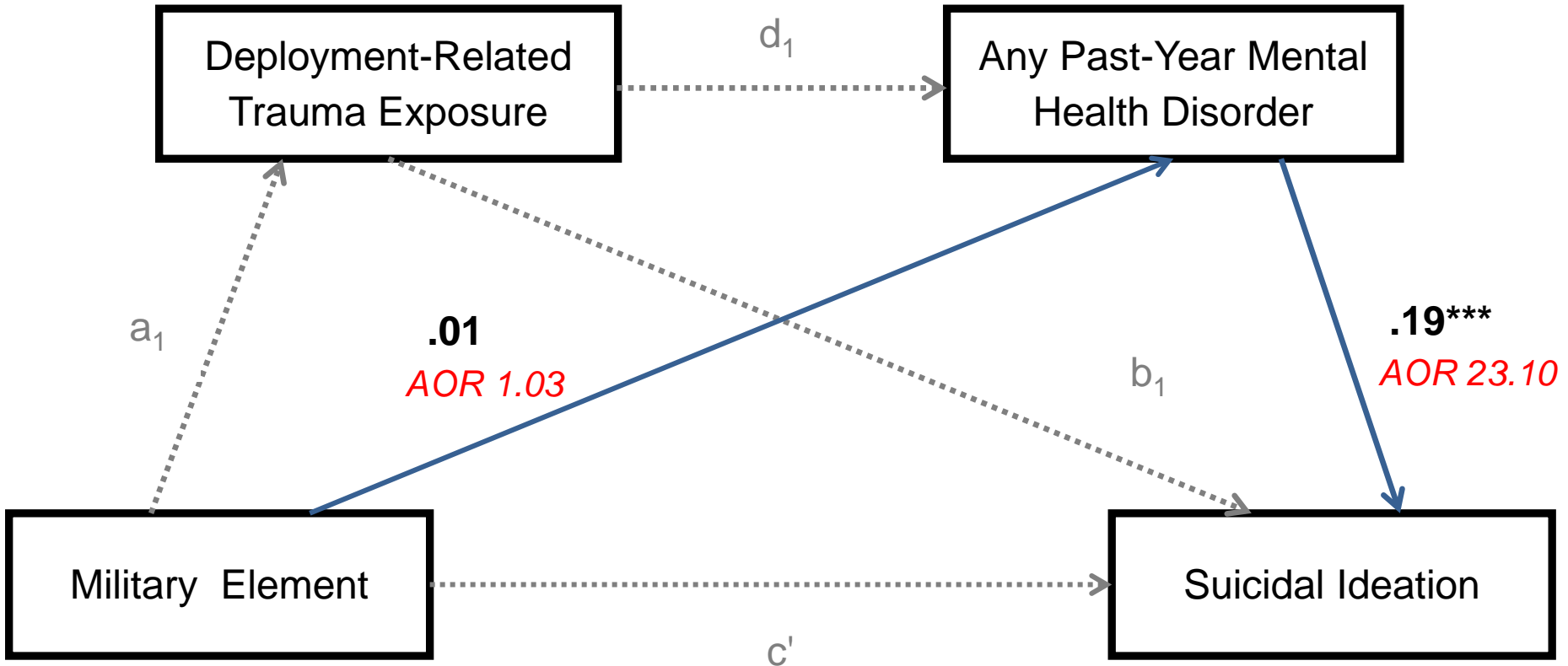


point estimate .01 (%95 CI, .01;.02)

Note: Results control for age, sex, rank group, and non-occupational trauma exposure



Secondary Results: Indirect effect $adj a_2 b_2$

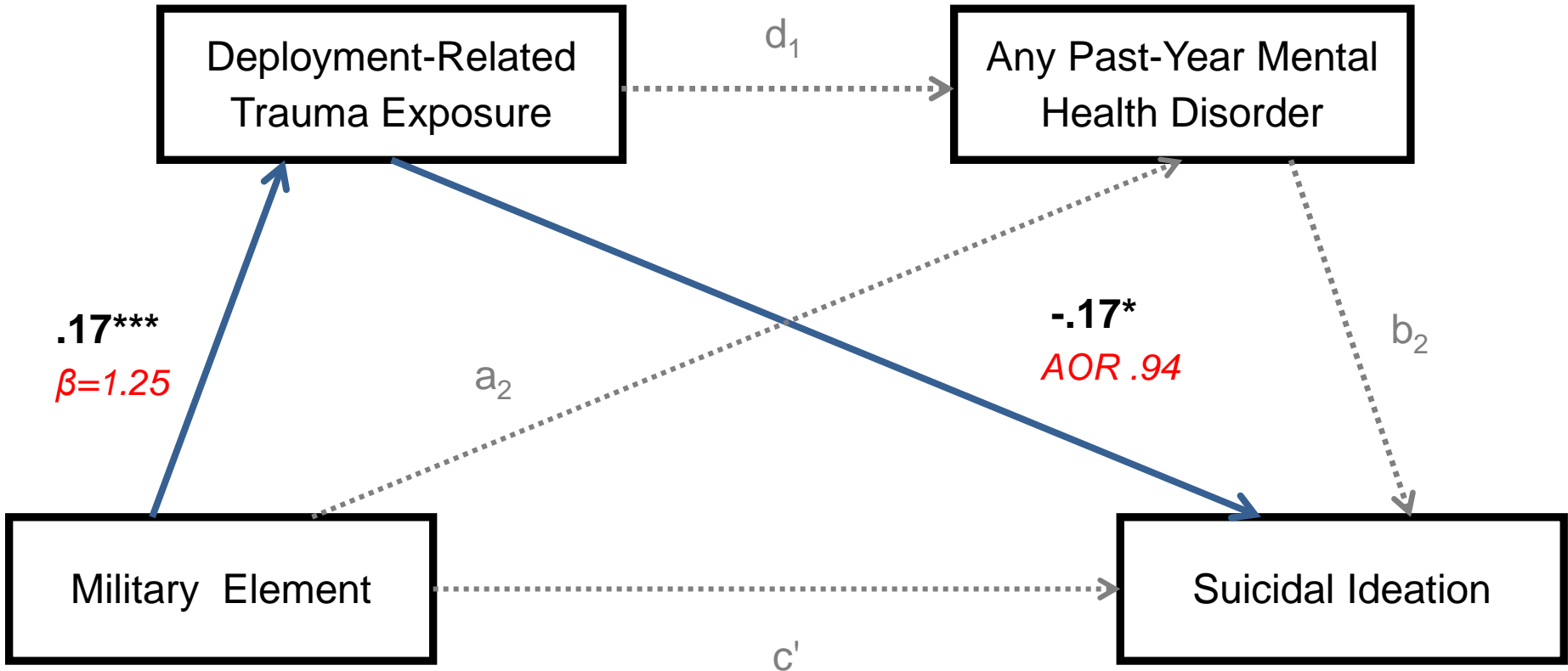


point estimate $<.01$ (%95 CI, $<-.01;.01$)

Note: Results control for age, sex, rank group, and non-occupational trauma exposure



Secondary Results: indirect effect $adj a_1 b_1$



point estimate $-.03$ (%95 CI, $-.05;-.01$)

Note: Results control for age, sex, rank group, and non-occupational trauma exposure



Discussion

- Initial regression: No differences in suicidality based on element
 - Being in the Army was linked to:
 - Higher numbers of (possibly traumatic) deployment experiences
 - Higher likelihood of past-year mental health disorder
- **Test of indirect effects: Being in the Army Command was linked to suicidality *indirectly* via:**
 - Higher deployment experiences, which linked to:
 - Past year mental health disorder
- While not part of primary analyses, individual mediation paths also provided information
 - Highlights need to consider pathways and underlying mechanisms



Limitations and Future Directions

- Need to consider variability of deployment experiences
 - Links between types of experiences and mental health
 - Measurement of impact
- Limitations of study design
 - Cross-sectional, self-report
 - Complexity of analysis: Trading ability to examine relationships for practical measures (i.e. effect sizes)
- Need to consider individual differences/complexity of risk factors
 - Other risk factors (including non-deployment occupational factors)
 - Changes in salience of risk factors over time and additive effects



Questions?

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