

Purpose-Driven Leadership Behavior Buffers the Effects of Insomnia on Burnout and Suicide Cognition: A Moderated Mediation Study

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Project Background

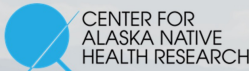
"Alaska is the most strategic place on earth."
Brig. Gen. Bill Mitchell
(testimony before Congress, 1936)



- Alaska's US military installations experience significantly more deaths by suicide compared to the majority of military installations.
- Soldiers in rural and remote locations such as the Arctic may experience unique factors impacting suicide risk.
- Given increased death by suicide and general lack of response to conventional intervention, **novel evidence-based suicide prevention programs must be explored.**
- The Suicide Prevention and Response Independent Review Committee (SPRIRC) Report (2022) recommends, among other lines of effort, **identifying early indicators of problematic leadership, fostering a supportive environment, revising suicide prevention training and promoting a culture of lethal means safety.**
- These lines of effort aid us in our focus on downstream suicide prevention.

Theoretical Framework

- CANHR's scientific and evidence-based approach validated from the past two decades addressing suicide among Yup'ik Alaska Native youth.





Protective Factors

TEACHINGS: "words to live by, instructions"
Qaniuyutet:

AWARENESS – "The point of becoming aware."
Ellangneq
Being aware of the consequences of one's own actions and how they affect family and community. Being conscious and developing a relationship with Elam Yu'agood.

SELF-EFFICACY – "I can."
Piyuqinangna
A person's belief and confidence that he/she can solve their own problems.

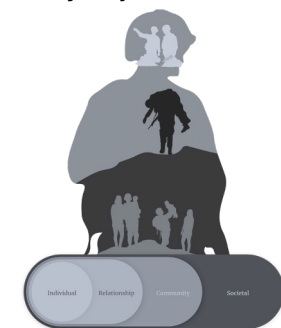
COMMUNAL-MASTERY – "We are strong."
Kauyukut
Confidence that personal problems can be solved by working together with other people, such as family and community members.

WANTING TO BE A ROLE MODEL – "I want to lead."
Culliaqavutia
Setting an example for others by choosing to live life in a good way. A person's actions can influence others' behavior.

GIVING – Someone who is compassionate, generous
Nakkeqalnia
Sharing with others and contributing to family and community. This cultivates a sense of purpose and responsibility.

- Leverage **Community-Based Participatory Research (CBPR).**
- Focus on **protective factors** to build strength and resiliency.
- Use a **socioecological framework** to identify relevant **protective factors** in an effort to address systemic influences.

Study Objective



- Suicide-related cognitions** (e.g., I'm unlovable, my pain is unbearable") predicts **suicide attempt** in military personnel denying significant suicide ideation.
- Insomnia** is a well-established risk factor for burnout, psychological distress, and suicidal thinking.
- Burnout**, characterized by emotional exhaustion and diminished coping capacity, may explain how sleep disturbances contribute to suicide-related cognitions.
- Protective organizational factors**, such as purpose-driven leadership (PDL) behaviors (Bx) (i.e., behaviors that instill purpose in subordinate actions), may buffer the negative effects of insomnia on burnout.

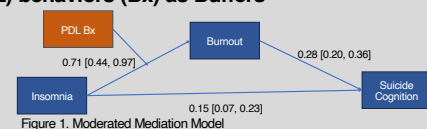
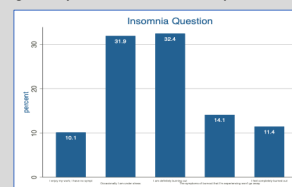
Study Design & Measures



- Design:** Quasi-experimental, longitudinal study integrated directly into an operational unit via CBPR
- Sample Size:** 386 junior enlisted subordinates (E1–E4)
- A moderated mediation model** to examine whether:
 - Burnout mediates the relationship between insomnia and suicide cognition.
 - Purpose-driven leadership (PDL) behaviors (Bx) moderate the association between insomnia and burnout, potentially reducing the harmful effects of burnout on suicide risk.

Findings

Purpose-driven leadership (PDL) behaviors (Bx) as Buffers		
Burnout Item (range 1-5; 5 is higher burnout)		
Item	N	(%)
I enjoy my work; I have no symptoms of burnout	38	(10.1%)
Occasionally I am under stress, and I don't always have as much energy as I once did, but I don't feel burned out	120	(31.9%)
I am definitely burning out and have one or more symptoms of burnout, such as physical and emotional exhaustion	122	(32.4%)
The symptoms of burnout that I'm experiencing won't go away; I think about frustration at work a lot	53	(14.1%)
I feel completely burned out and often wonder if I can go on; I am at the point where I may need some changes or may need to seek some sort of help	43	(11.4%)



Conditional indirect effects	estimate (S.D.)	95% CI
Low insomnia (n=1)	-0.034 (0.02)	[-0.07, 0.00]
Moderate insomnia (n=0)	-0.060 (0.02)	[-0.10, -0.03]
High insomnia (n=1)	-0.086 (0.02)	[-0.13, -0.05]

- The **interaction** between insomnia and PDL Bx was significant ($b = -0.095$, $SD = 0.038$, 95% CI [-0.171, -0.019]), indicating that **PDL Bx moderates the effect of insomnia on burnout.**
- The indirect effect of PDL Bx on suicidal cognition through burnout was **significant and negative across all levels of insomnia**, indicating that PDL Bx reduces suicidal cognition via its effect on burnout.
- The indirect effect becomes **stronger (more negative)** as insomnia increases, suggesting that the protective role of PDL Bx is **especially important among individuals with higher insomnia.**
- Individuals with more insomnia tend to feel more burned out, which increases suicidal thinking. However, higher PDL Bx acts as a protective factor by reducing burnout and weakening the impact of insomnia, thereby lowering suicidal risk indirectly.

Discussion

- Supported Model:** Moderated Mediation (PDL Behaviors × Insomnia → Burnout → Suicidal Cognition)
- Key Discovery:** PDL behaviors buffer burnout-related suicidal cognition, with maximum protection observed at **elevated insomnia levels.**
- Implication:** Combining leadership training with burnout interventions offers a high-impact strategy for military suicide prevention.

Scholarship

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