

YOU SHOULD BE YOUR BIGGEST CRITIC.
IF YOU THINK "YOU'RE GOOD" THEN
YOU ARE FAR FROM IT.

HE GIVE
WEARY A
OF THE
ISAIAH

The Firehouse Subconscious

IT'S HARD TO BEAT A PERSON
WHO NEVER GIVES UP. - BABE RUTH

Stress and the Built Environment

THIS PROFESSION COMES WITH
A BANK OF RESPECT. YOU CAN GAIN
MORE THE HARD WAY OR LOSE IT
ALL THE EASY WAY.



375+

firehouses

100+

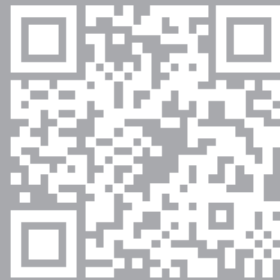
design awards

200+

communities served

CONNECT WITH US

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brwarch.com/fire

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ckesler@brwarch.com

Civic Studio Strategist



MEET YOUR SPEAKER

Survey Sheds Light on Post-Traumatic Stress in the Fire Service

95% have experienced critical stress on the job

77% said stressful experiences as a fire fighter caused lingering or unresolved emotional issues

71% have trouble sleeping

65% have recurring/unwanted memories

27% said the stress has led to substance abuse

19% have had thoughts of suicide

78% said their department did not educate them about behavioral health

63% said their existing EAP services were not helpful

77% found peer support helpful



More than 7,000 IAFF members responded to an IAFF/WNBC survey about the stresses of the job and the impact on their mental health. To watch, visit www.iaff.org/WNBC.



ADVANCED RECOVERY
SYSTEMS
an advanced approach to patient care

IAFF Center of Excellence for
Behavioral Health Treatment and Recovery

For more information, visit
www.iaffrecoverycenter.com
or call (855) 900-8437.

2023 | U.S. Fire Administrator's Summit on Fire Prevention and Control

Firefighter Mental Health and Well-being

20% of firefighters and paramedics meet the criteria for post-traumatic stress at some point during their careers compared to a 6.8% lifetime risk for the general population.





What is Stress? When needs are not met, we experience stress.

Resiliency measures how well we respond to stress.

Moral injury is the damage done to one's conscience or moral compass when that person perpetrates, witnesses, or fails to prevent acts that transgress one's own moral beliefs, values, or ethical codes of conduct.

Masking involves suppressing emotions, engaging in unhealthy coping mechanisms, or withdrawing from social activities.

Recommended Read: White Paper by Jeff Dill, M.A., Mark Schimmelpfennig, M. Div., Elizabeth Anderson-Fletcher, Ph.D., Feb.9, 2023: <https://www.ffbha.org/wp-content/uploads/2023/02/Moral-Injury-White-Paper-2-9-23.pdf>

Is organizational stigma associated with reporting mental health disorders in U.S. fire investigators?

Study Approach:

515 U.S. Fire Investigators completed an anonymous 35-item questionnaire screening for generalized anxiety disorder (GAD), depression, post-traumatic stress disorder (PTSD) risk and mental health services use.



- 18.0% of fire investigators had GAD, 22.8% depression, and 18.2% PTSD risk
- Those reporting organizational stigma were more than 5X more likely to be at risk for PTSD.

Conclusion: Mental health disorders are present in the fire investigator workforce and organizational stigma is associated with limited report of PTSD risk.

Mental Health Disorders, Organizational Stigma, and Health Service Utilization among U.S. Fire Investigators: A Cross-Sectional Survey. Addison C. Testoff, Jeffrey L. Pauley, Michael Brewer, Christopher P. Weidlich, Tulay Koru-Sengul, Natasha Schaefer Solle, Alberto J. Caban-Martinez



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JOEM

Journal of
Occupational and
Environmental Medicine

Resilience

Bouncing
back



Joyce, Sadhbh MCLinNeuroPsy; Tan, Leona MORGPsych; Shand, Fiona MCLinPsych, PhD; Bryant, Richard A. MCLinPsych, PhD; Harvey, Samuel B. FRANZCP, PhD. *Journal of Occupational and Environmental Medicine* 61(4):p 285-292, April 2019. | DOI: 10.1097/JOM.0000000000001526

Results:

Those reporting higher resilience levels had lower symptomology at 6-month follow-up. **Eighty percent** of first-responders who screened positive for **low resilience** went on to develop **more PTSD symptoms**.

Conclusions:

Higher levels of resilience may protect the long-term mental health of first-responders, particularly in regard to future PTSD.

Building Resilience in Firefighters: A Systematic Review



Ahad Heydari, Abbas Ostadtaghizadeh, Davoud Khorasani-Zavareh, Ali Ardalan, Abbas Ebadi, Iraj Mohammadfam, Hojjat Shafaei. Review Article
Copyright © 2022 Heydari et al. Published by Tehran University of Medical Sciences in Iran J Public Health, Vol. 51, No.7, Jul 2022, pp.1546-1558.

Conclusion: This study suggests six main domains, including **physical health, physical fitness, mental health, lifestyle, job-related competencies, and demographic status**, to categorize different indicators of firefighters' resilience. Building resilience in firefighters requires all these domains to be considered in the assessment, planning, and evaluation processes.

Recommended Read: Article by Brandon Evans, Feb. 18, 2025:

<https://www.firefighternation.com/health-wellness/firefighter-mental-health/defining-resilience-for-firefighters/>

Mental Health Among Firefighters: Understanding the Mental Health Risks, Treatment Barriers, and Coping Strategies



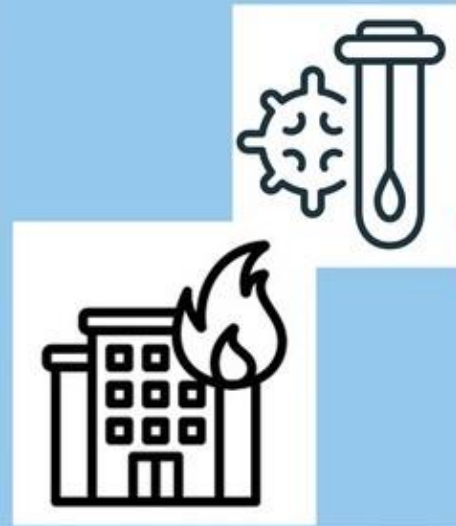
DeMoulin, Doug MS, GSP, PhD; Jacobs, Samuel MPH; Nam, Yoon-Sung MPH, PhD; Harding, Alyson B. MPH; Moskowitz, Adam F. BA; Shi, Yihe MS; Kim, Hyun ScD. *Journal of Occupational and Environmental Medicine* 64(11):p e714-e721, **November 2022.** | DOI: 10.1097/JOM.0000000000002680

Results

- Firefighters recognized personalizing events by relating calls to their personal lives or prior life experiences as the main risk factor.
- Department **debriefing with fire chiefs or leadership** after traumatic events was reported as the primary coping strategy firefighters found most effective.
- **Stigma and lack of medical professionals understanding** the firefighter culture were identified as barriers for accessing mental health services or their effectiveness.

This study highlights the physiological stress response to a real-world live fire training evolution, providing insight to the allosteric load a firefighter experience

Firefighting is recognized as a high-stress occupation. The role of physiological stress in disease development and progression is not fully understood.



Immediately post live-fire training evolution

Alpha-Amylase (AA) = $\uparrow \approx 94\%$

Secretory Immunoglobulin-A (SIgA) = $\uparrow \approx 42\%$

Cortisol (CORT) = $\uparrow \approx 91\%$

Previous research demonstrates firefighting leads to elevations in stress biomarkers; however, no study has assessed an entire fire response operation, such as a live-fire training evolution.

Physiological stress responses to a live-fire training evolution in career structural firefighters

Drew E. Gonzalez, PhD; Courtney C. Dillard, MS; Sarah E. Johnson, MS; Steven E. Martin, PhD; & Matthew J. McAllister, PhD



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JOEM Journal of Occupational and Environmental Medicine

Stress Recovery During Exposure to Natural and Urban Environments



Roger S. Ulrich, Robert F. Simons, Barbara D. Losito, Evelyn Fiorito, Mark A. Miles, and Michael Zelson. *Journal of Environment Psychology* (1991) 11, 201-230.

Asher Brown Durand

Pastoral Landscape
1861

Biomarker Influencers

- Control
- Music, social structure
- Exercise, Sunlight, Sleep
- Food, Shelter

Self-Actualization

Esteem Needs

Social Needs

Safety Needs

Basic Needs

Resilience Building Blocks

- Job-related competencies
- Mental health
- Demographic status
- Lifestyle
- Physical health / Physical fitness

BRW Architects First Responder Trauma Survey 2025

How many years have you served as a first responder?

- ☐ 0 - 5 ☐ 16 - 30
☐ 6 - 15 ☐ 30 or longer

In a combined effort to learn more about the mental health of first responders and help prioritize typically limited construction and maintenance budgets, BRW Architects is surveying firefighters from multiple departments about what areas in their station most positively impact recovery from trauma and/or moral injury.

On a scale of 1 to 5, in the last 4 weeks, have you had any problems with your work or regular daily activities as a result of emotional problems? *

	1	2	3	4	5	
No, none of the time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Yes, all of the time

BRW Architects First Responder Trauma Survey 2025

On a scale of 1 to 5, in the last 4 weeks, how often have you felt happy and optimistic? *

	1	2	3	4	5	
None of the time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	All of the time

On a scale of 1 to 5, in the last 4 weeks, how often have you felt downhearted and blue? *

	1	2	3	4	5	
None of the time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	All of the time

BRW Architects First Responder Trauma Survey 2025

Compared to one year ago, how would you rate your emotional problems? *

	1	2	3	4	5	
Much better	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Much worse

At which firehouse do you currently serve? (This is only for use in identifying spaces for further analysis. If there is a trend in preference for a certain room or area, we may stop by to take a picture of this space. If you are not comfortable answering, enter "N/A".)

Your answer

What more can your leadership provide or do to protect your mental health that they are not already doing?

Your answer

IAFF Center of Excellence



Utilized Trauma-Informed Design per the National Council for Behavioral Health

<https://www.iaffrecoverycenter.com/>

Trauma-Informed Design



- Reduce or remove identified adverse objects and stimuli.
- Increase natural lighting, access to green spaces, and easy-to-care-for plants.
- Promote opportunity for individual choice in balance with everyone's safety and comfort.
- **Limit visual complexity, such as distracting patterns on the walls or flooring.**
- Ensure adequate lighting that does not buzz or flicker and that can be manipulated for those with light sensitivities and visual impairment.
- **Use color schemes that emphasize cool colors, such as blue, green, and purple.** Avoid stark, white walls.
- Do not overcrowd furniture and ensure adequate space to navigate around each piece.
- Keep spaces neat and clean.
- Ensure décor and design is culturally sensitive and relevant.
- Create a balance between social spaces and private spaces.

<https://www.TheNationalCouncil.org/>



Trauma-Informed Design?



“The guys love it.”

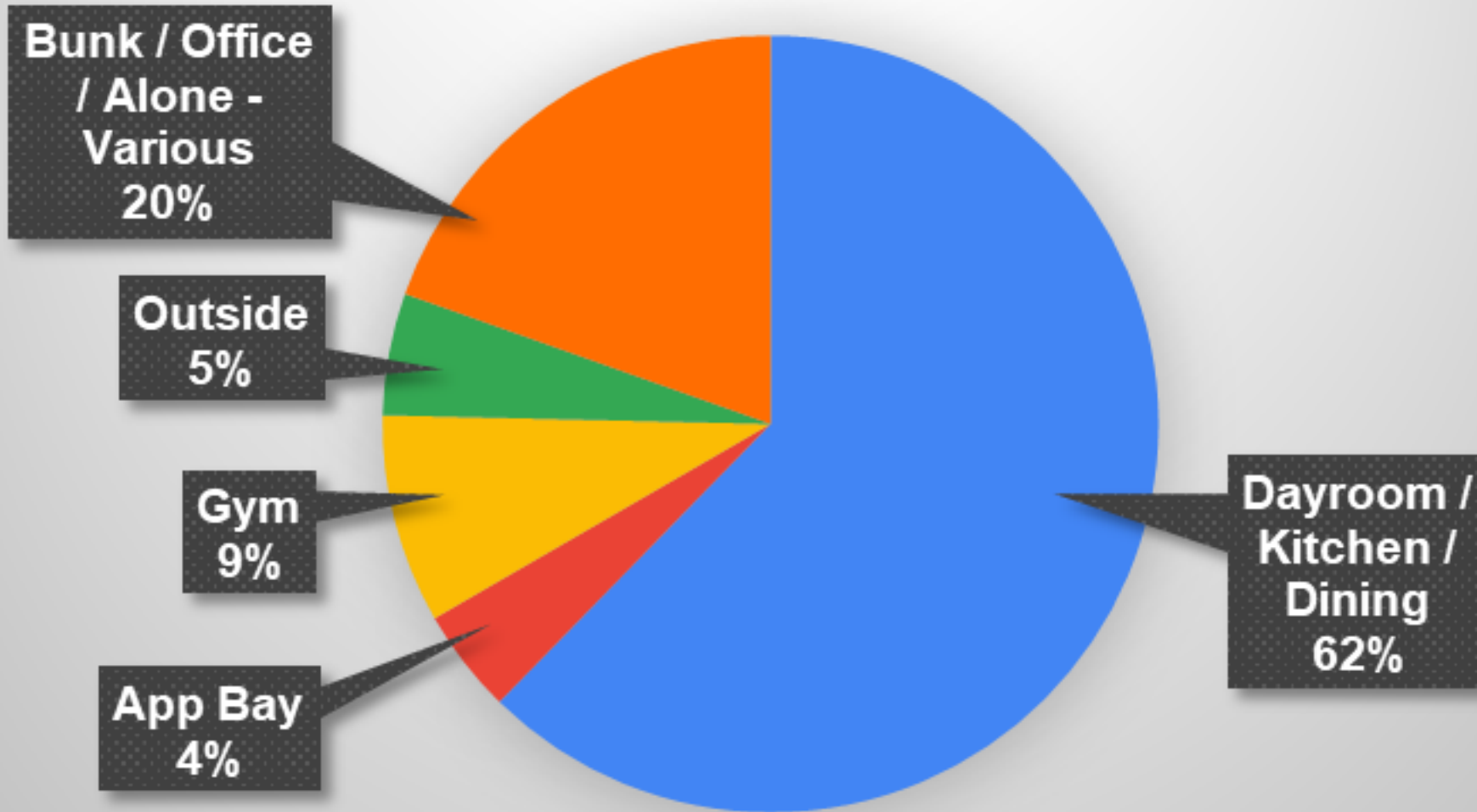
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<https://www.TheNationalCouncil.org/>

Color Psych 101

<div>TRANQUILITY</div> <div>AUTHORITY</div> <div>WISDOM</div> <div>STABILITY</div> <div>CLEANLINESS</div> <div>FRESHNESS</div> <div>FREEDOM</div> <div>COLD</div> <div>SADNESS</div> <div>DEPRESSION</div>	<div>LOVE</div> <div>EXCITEMENT</div> <div>WARMTH</div> <div>ROMANCE</div> <div>PASSION</div> <div>SPEED</div> <div>LUCK</div> <div>RAGE</div> <div>BLOOD</div> <div>AGGRESSION</div>	<div>HEALTH</div> <div>HAPPINESS</div> <div>FRIENDLINESS</div> <div>ENTHUSIASM</div> <div>ENERGETIC</div> <div>YOUTH</div> <div>FUN</div> <div>RUIN</div> <div>DANGER</div> <div>DESOLATION</div>	<div>CREATIVITY</div> <div>FRIENDLINESS</div> <div>CHEERFULNESS</div> <div>ENERGETIC</div> <div>OPTIMISM</div> <div>WARMTH</div> <div>JOY</div> <div>ILLNESS</div> <div>DANGER</div> <div>MADNESS</div>	<div>NATURE</div> <div>GROWTH</div> <div>PROSPERITY</div> <div>HEALTH</div> <div>HOPE</div> <div>LUCK</div> <div>LIFE</div> <div>ENVY</div> <div>POISON</div> <div>CORRUPTION</div>
<div>ROMANCE</div> <div>NURTURING</div> <div>INNOCENCE</div> <div>DELICATE</div> <div>PLAYFUL</div> <div>SWEET</div> <div>KIND</div> <div>IMMATURITY</div> <div>DECEPTION</div> <div>MATERIALISM</div>	<div>LUXURY</div> <div>MYSTERY</div> <div>SPIRITUALITY</div> <div>ATTRACTION</div> <div>FUTURE</div> <div>ROYALTY</div> <div>MAGIC</div> <div>ILLUSION</div> <div>DECEPTION</div> <div>DETACHMENT</div>	<div>LUXURY</div> <div>DARKNESS</div> <div>SOPHISTICATION</div> <div>AUTHORITY</div> <div>ELEGANCE</div> <div>MYSTERY</div> <div>POWER</div> <div>FEAR</div> <div>LONELINESS</div> <div>HOPELESSNESS</div>	<div>LIGHT</div> <div>HOLINESS</div> <div>CLEANLINESS</div> <div>SPIRITUALITY</div> <div>INNOCENCE</div> <div>PURITY</div> <div>HOPE</div> <div>COLD</div> <div>ISOLATION</div> <div>EMPTINESS</div>	<div>STRENGTH</div> <div>CALM</div> <div>TIMELESSNESS</div> <div>NEUTRALITY</div> <div>AUTHORITY</div> <div>WISDOM</div> <div>STABILITY</div> <div>DULL</div> <div>LIFELESS</div> <div>ABANDONMENT</div>

Survey Space Preference

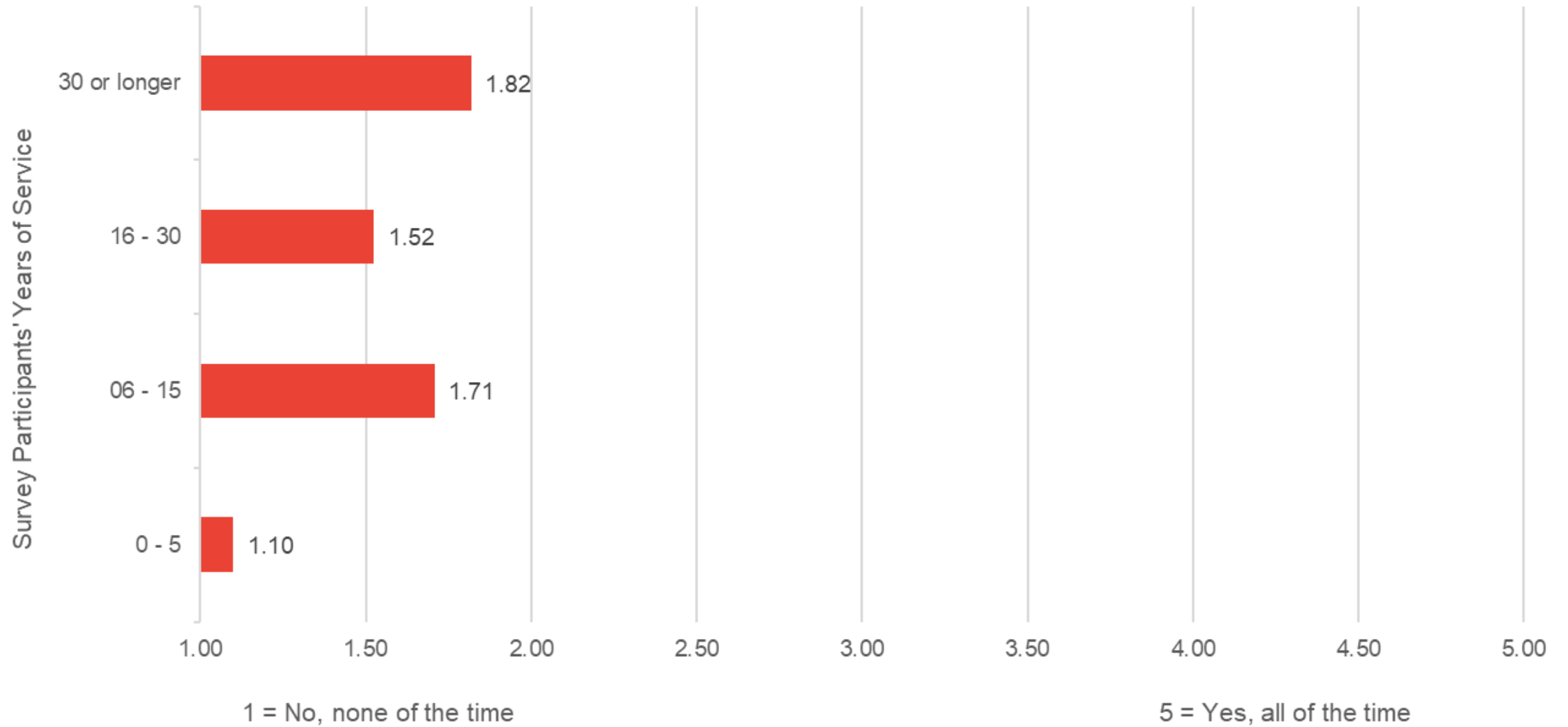


Survey participants included 150 first responders from 8 different fire departments, representing 26 stations. Of the 150 participants, 135 indicated a favorite place.



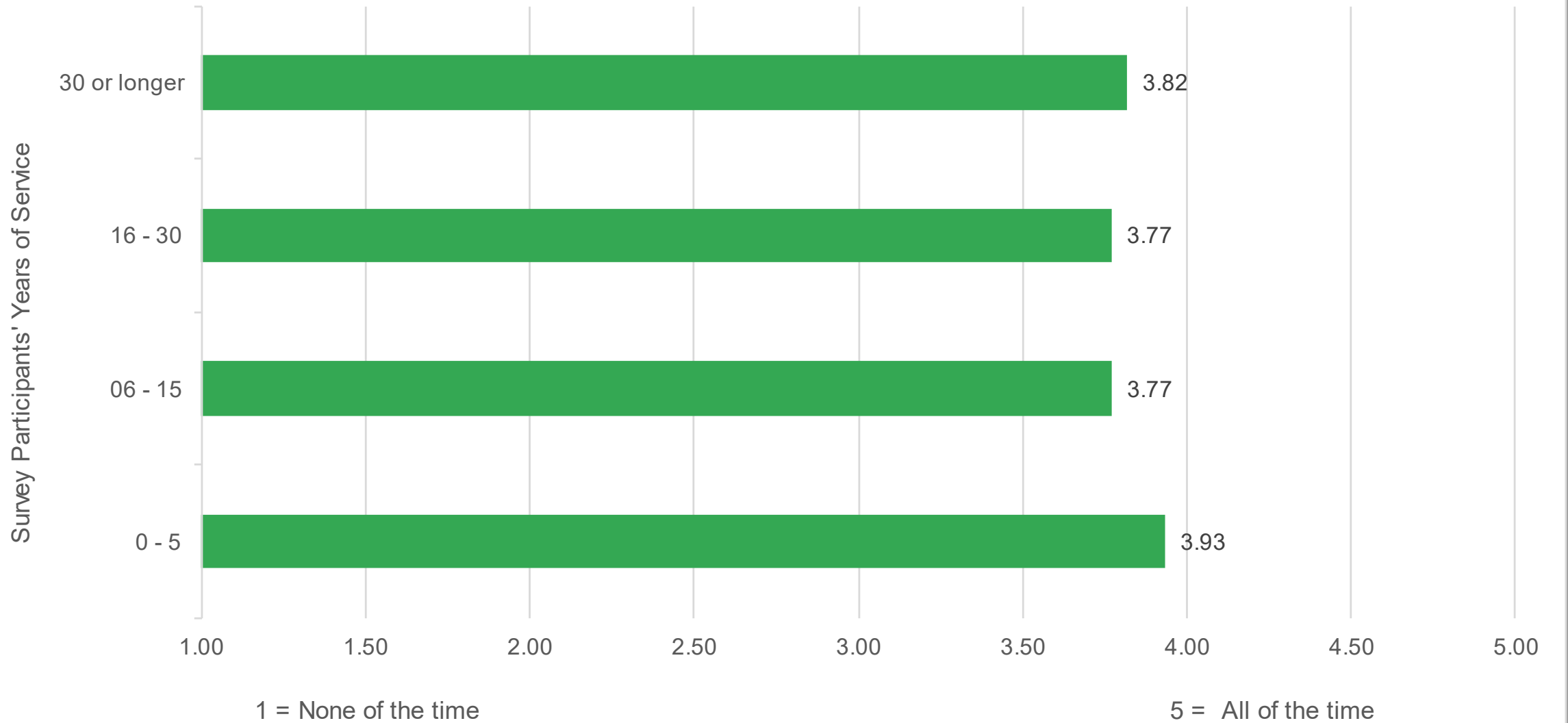
BRW Architects First Responder Trauma Survey Results

Years of Service Averages of "On a scale of 1 to 5, in the last 4 weeks, have you had any problems with your work or regular daily activities as a result of emotional problems?"



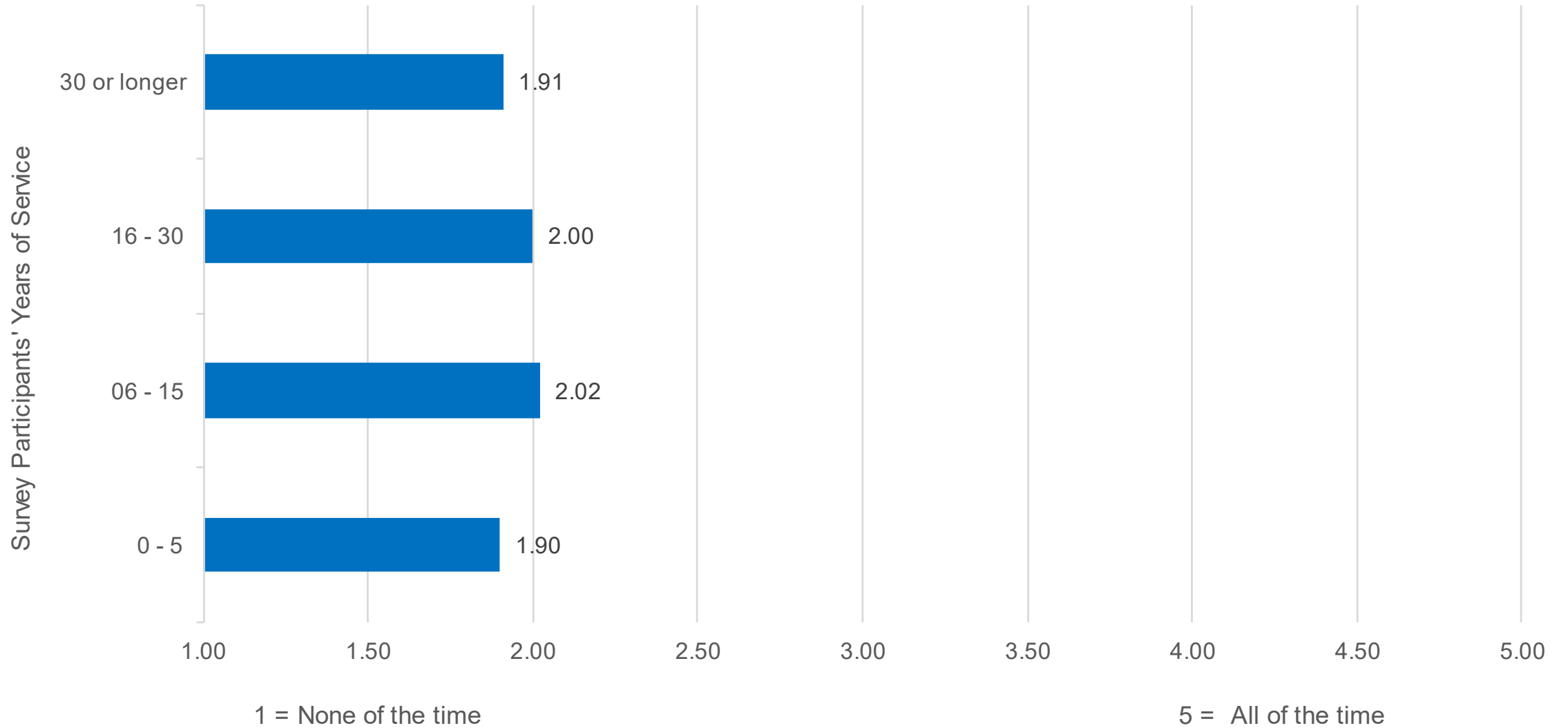
BRW Architects First Responder Trauma Survey Results

Years of Service Averages of "On a scale of 1 to 5, in the last 4 weeks, how often have you felt happy and optimistic?"



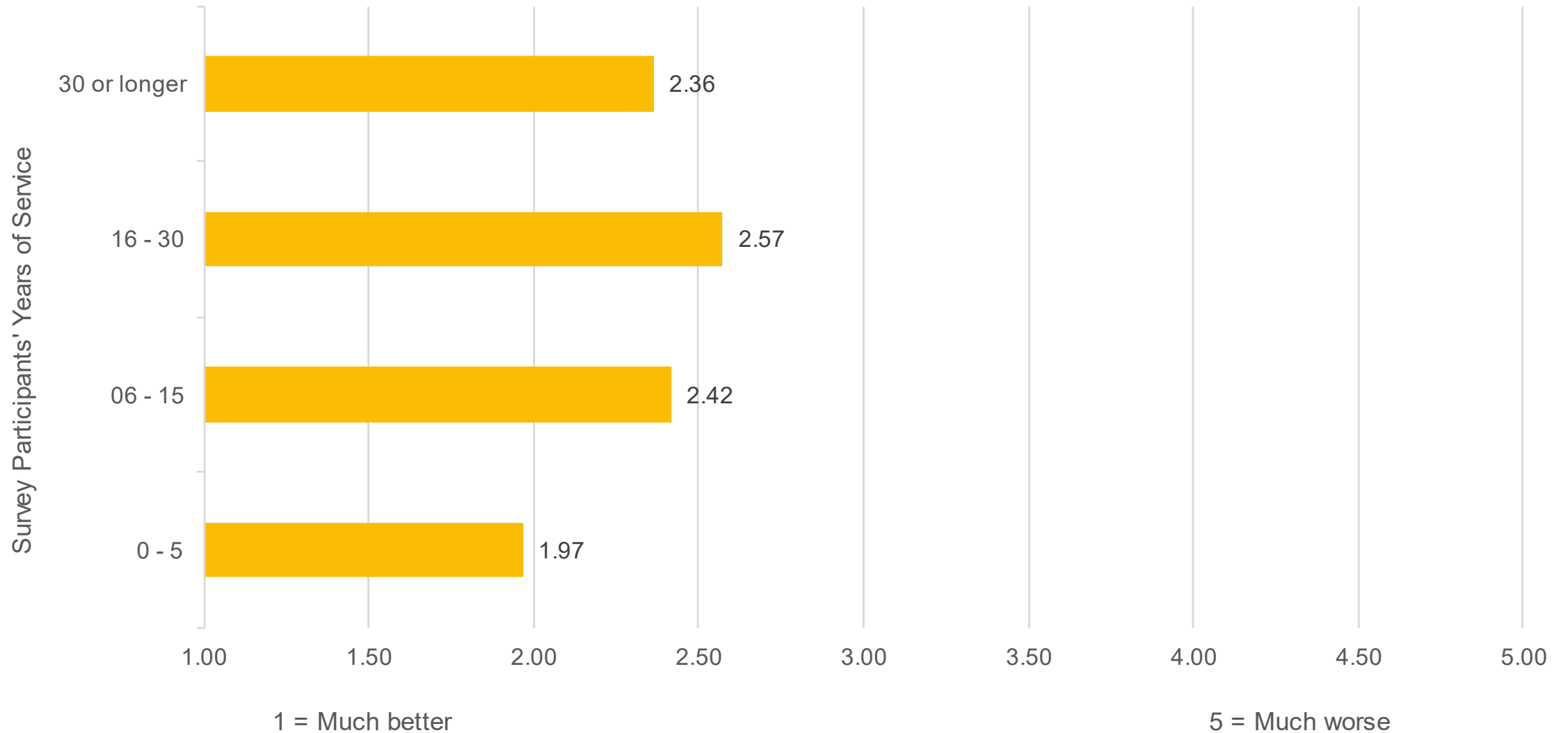
BRW Architects First Responder Trauma Survey Results

Years of Service Averages of "On a scale of 1 to 5, in the last 4 weeks, how often have you felt downhearted and blue?"

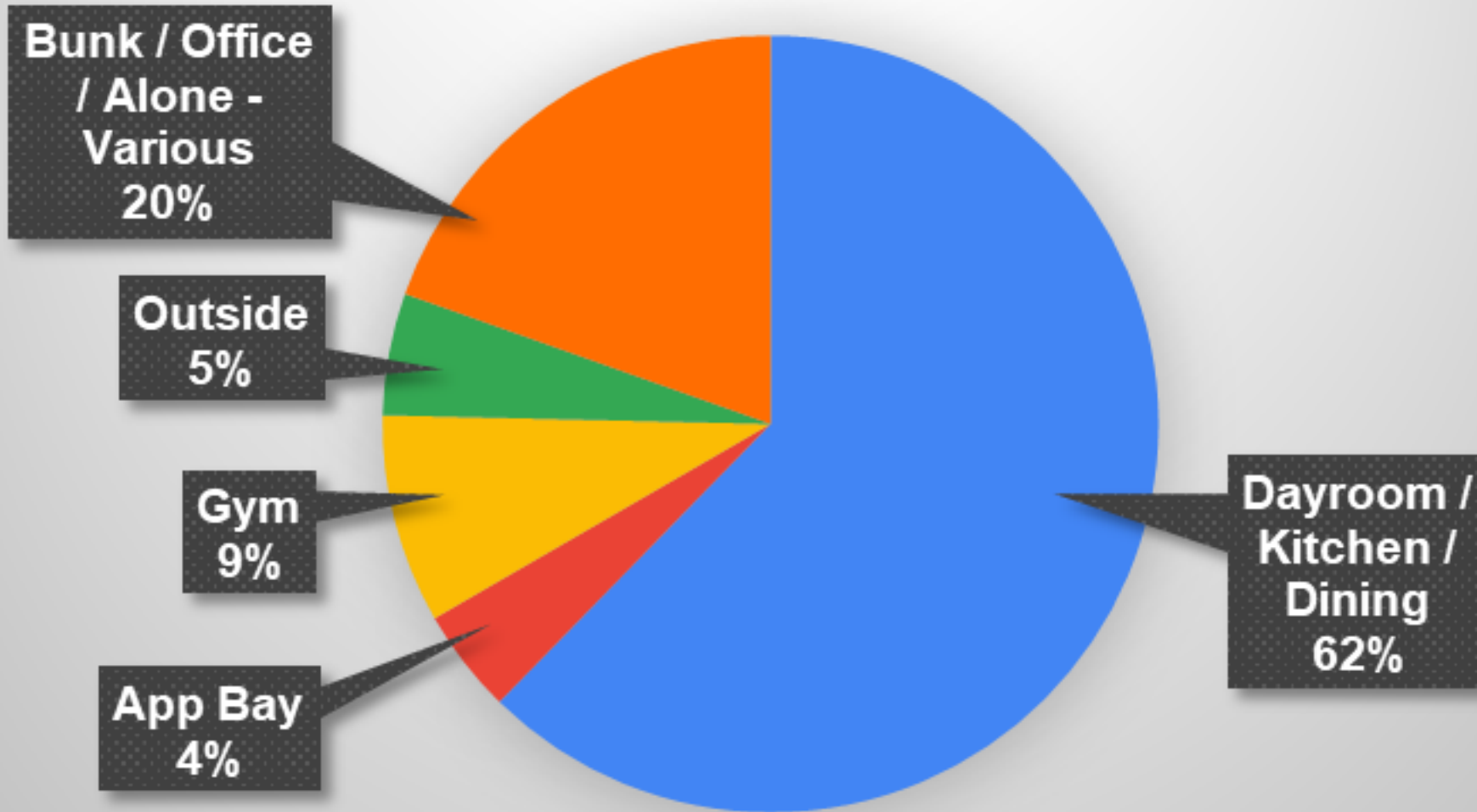


BRW Architects First Responder Trauma Survey Results

Years of Service Averages of "Compared to one year ago, how would you rate your emotional problems?"



Survey Space Preference

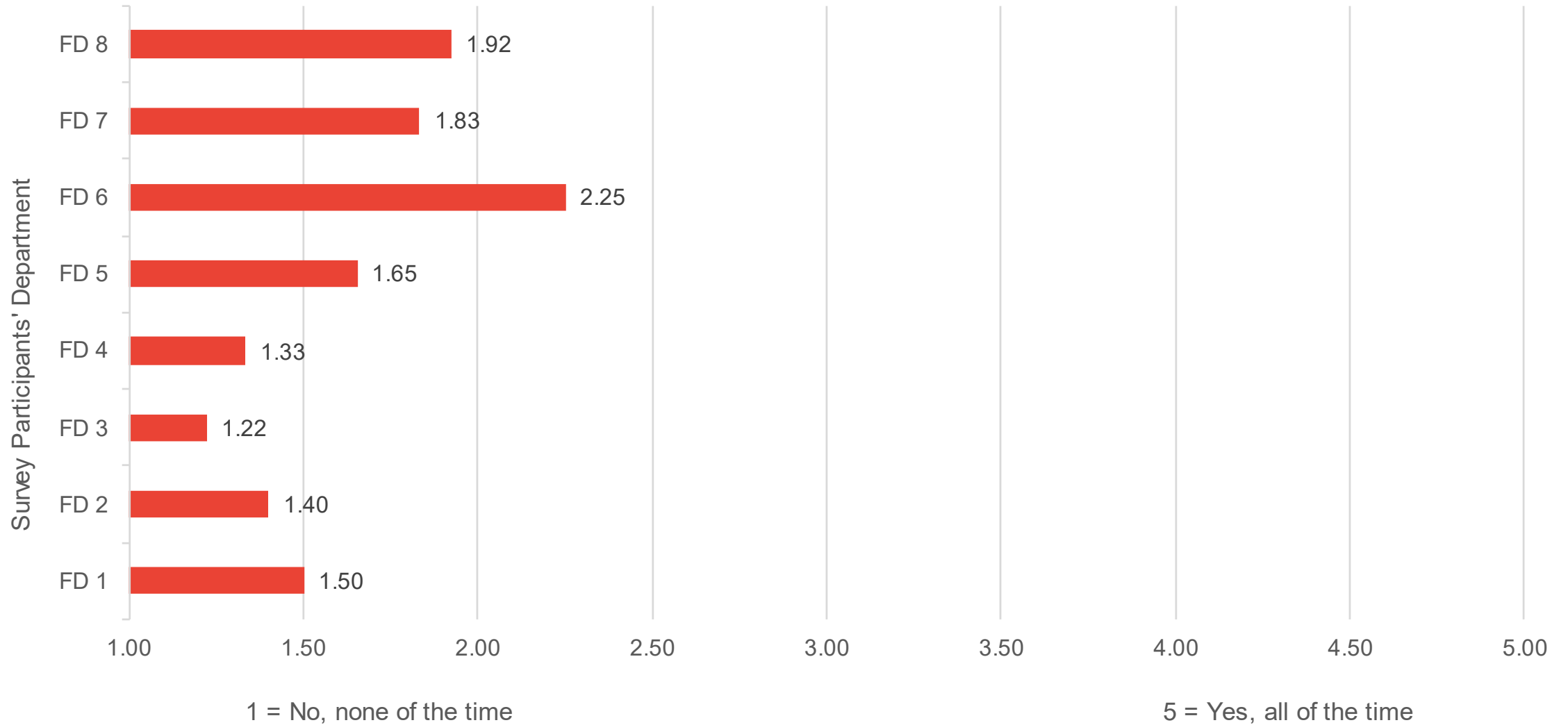


Notable generational differences:

- Millennials indicated a 74% preference for Dayroom / Dining / Kitchen, more than any other generation.
- Boomers indicated a 40% preference for being alone, more than any other generation.
- Most know to not hang out in the bay, but Gen X at 6% is setting a bad example for Gen Z at 7%.
- 0% of Boomers preferred the Gym.
- A dislike of being outside in Texas spans all generations, but Boomers dislike it least.

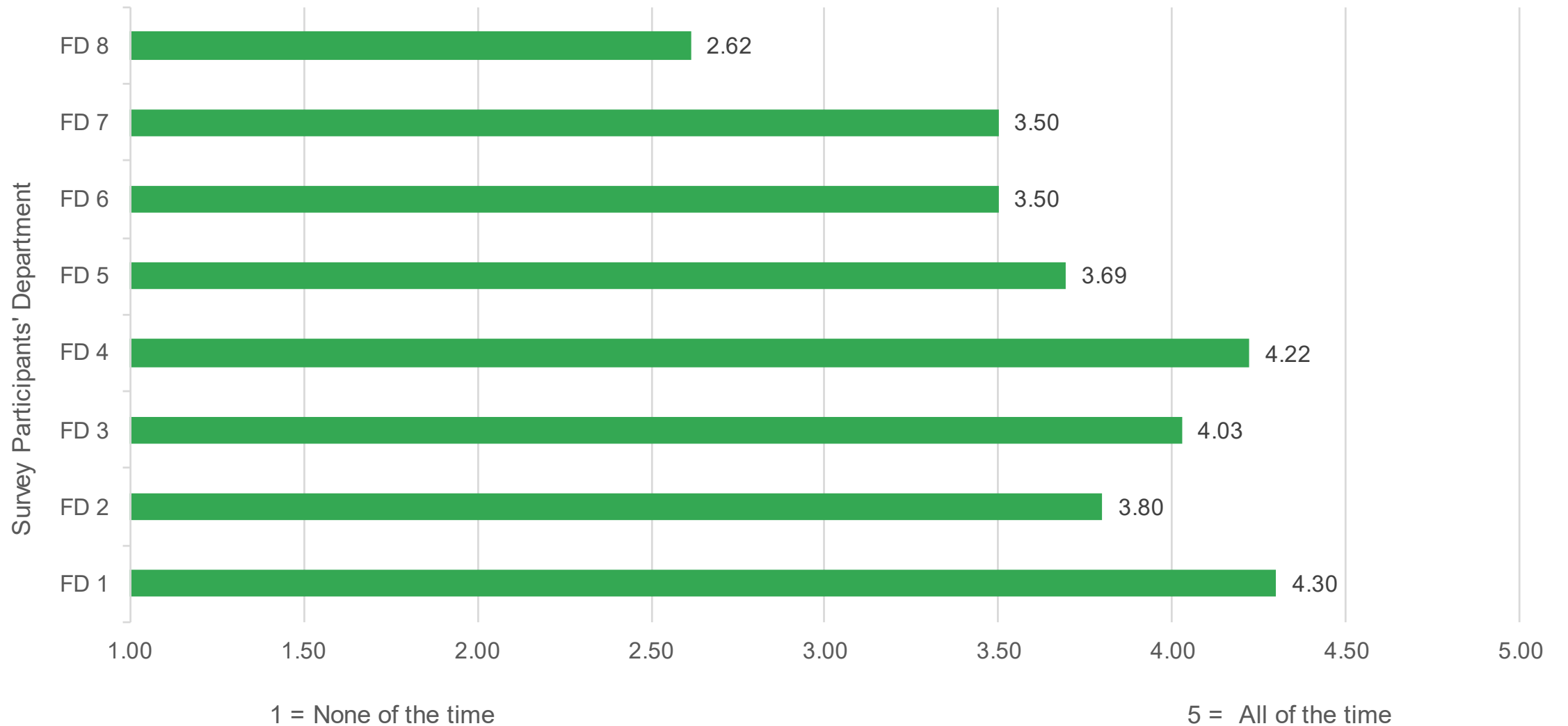
BRW Architects First Responder Trauma Survey Results

Department Averages of "On a scale of 1 to 5, in the last 4 weeks, have you had any problems with your work or regular daily activities as a result of emotional problems?"

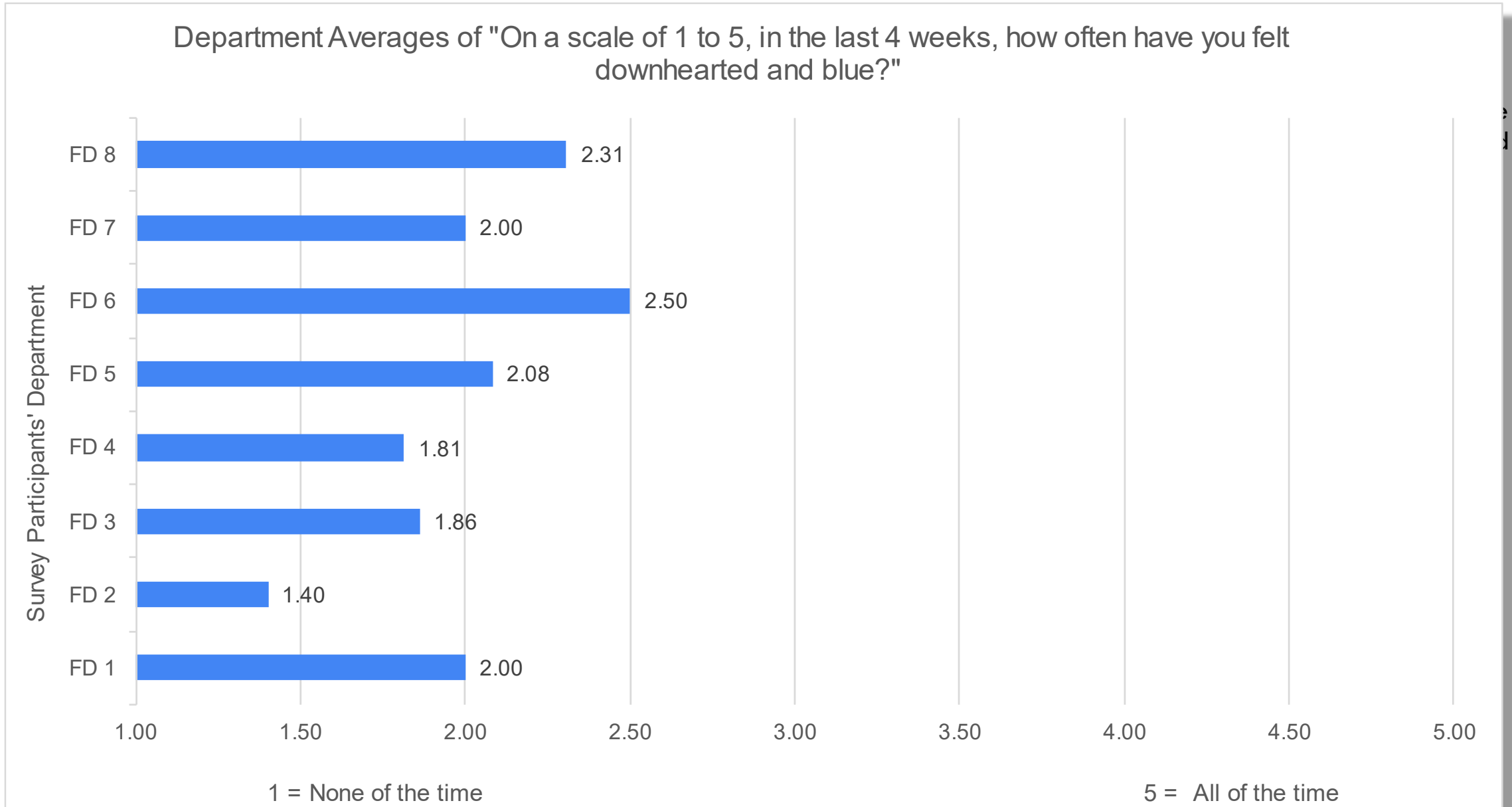


BRW Architects First Responder Trauma Survey Results

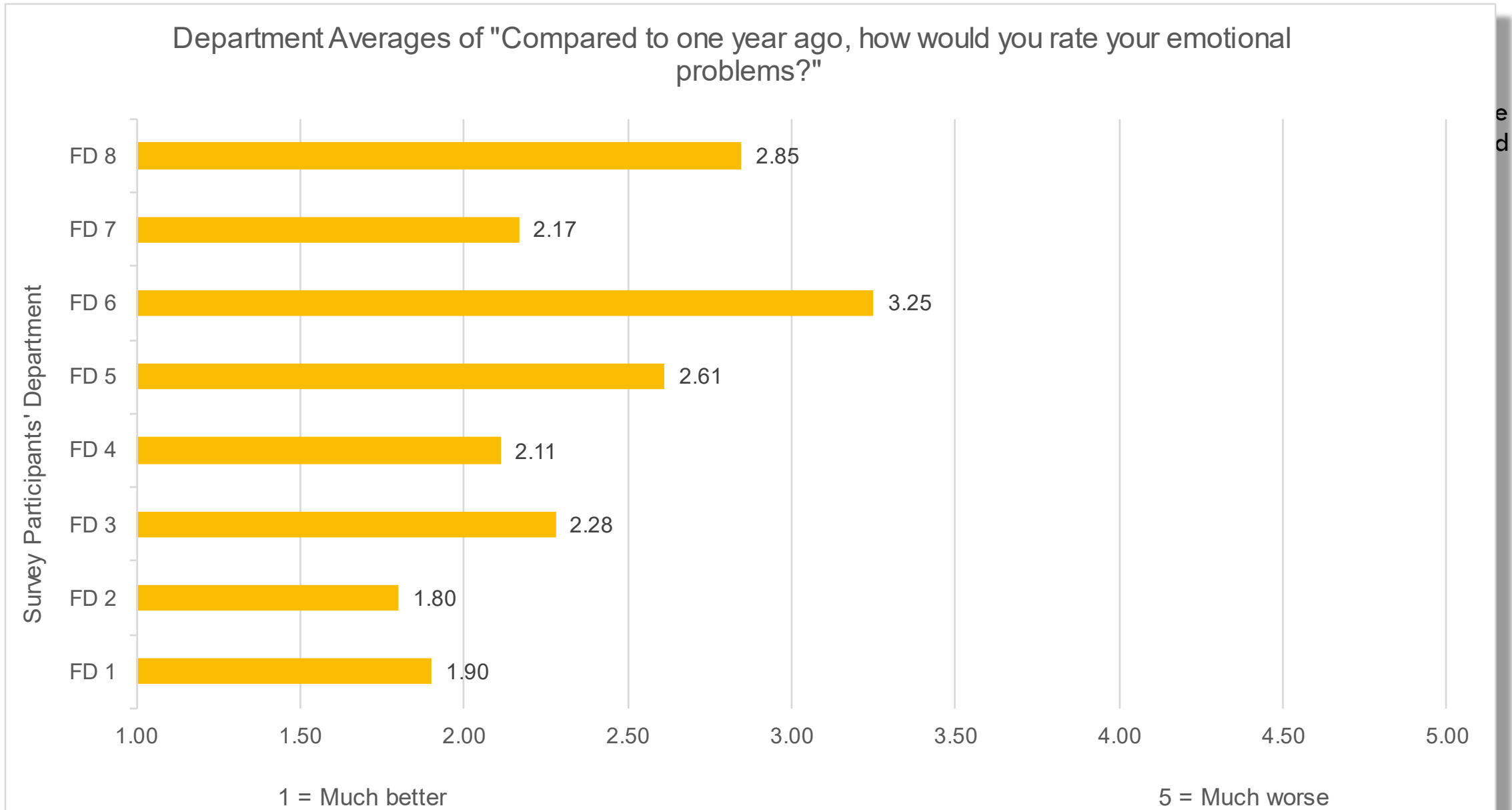
Department Averages of "On a scale of 1 to 5, in the last 4 weeks, how often have you felt happy and optimistic?"



BRW Architects First Responder Trauma Survey Results

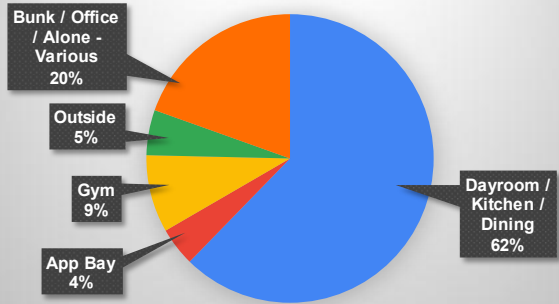


BRW Architects First Responder Trauma Survey Results

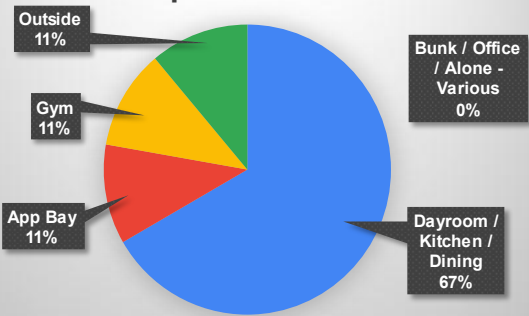


BRW Architects First Responder Trauma 2025 Survey Results

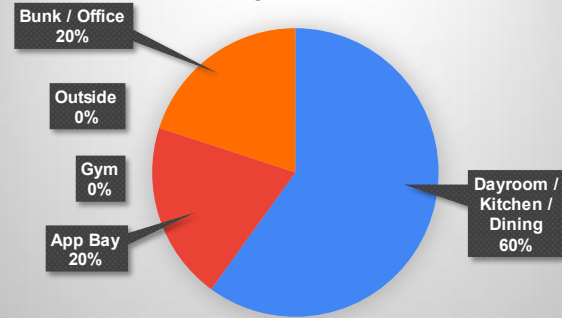
Survey Space Preference



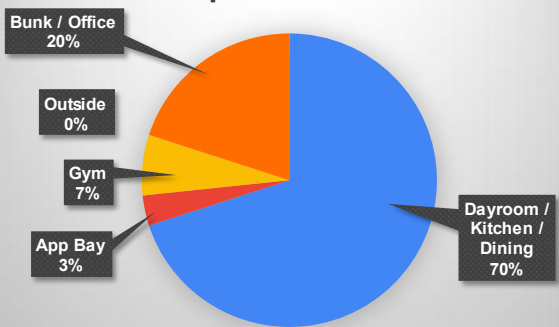
FD1 Space Preference



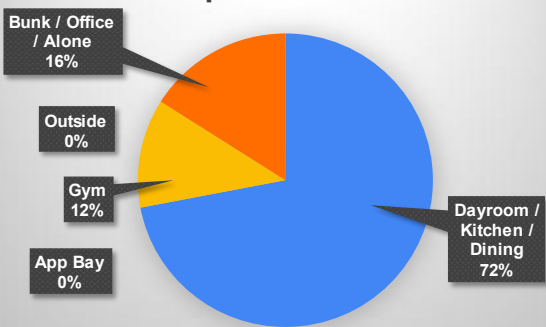
FD2 Fire Space Preference



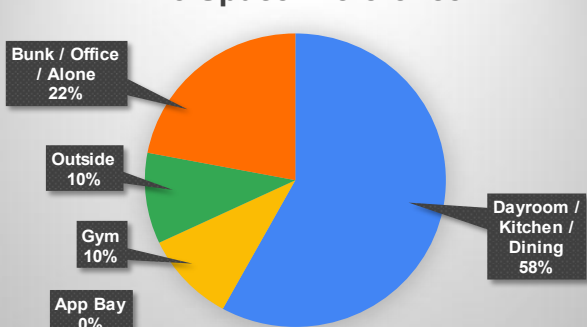
FD3 Space Preference



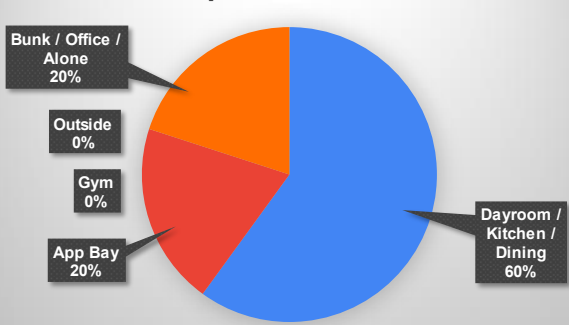
FD4 Space Preference



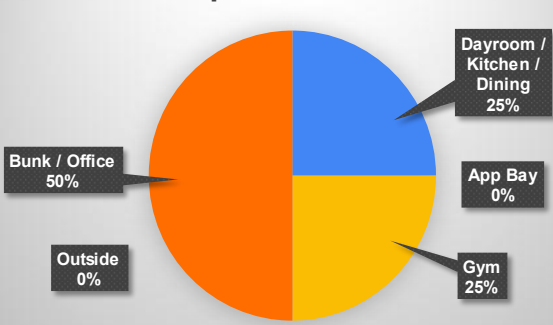
FD5 Space Preference



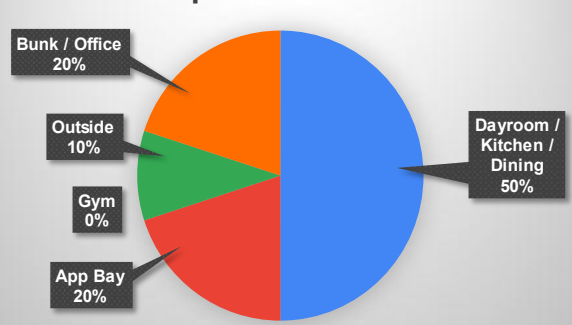
FD6 Space Preference



FD7 Space Preference



FD8 Space Preference





“Living Room because it’s where all of us come together to build comradery.”

“Kitchen table. You are available for anyone who may need to talk. Kitchen table is where all the problems are talked and fixed.”



“The dayroom
or kitchen where
I can be with my
crew.”



“Hands down...
Kitchen Table.
We cuss, discuss,
learn, train,
pray and eat.
It's where
families and
bonds are
strengthened.”



“Kitchen table. Its where everything happens. Being alone after tough calls isn’t good for anyone. Open spaces in the firehouse help with promote a supportive team atmosphere.”





“After major calls our crew tends to meet in the kitchen just to talk and vent if needed. The kitchen is the heart of the firehouse is and where all world problems could be solved. If people just asked firefighters how to fix things we could do it.”

“in the gym.
Physical activity
helps relieve
stress”





"Bedroom. A place where I can have some peace and quiet"





“My office. It’s quiet and easy to unwind”



RETRACTABLE BLACKOUT SHADE

SINGLE HUNG WINDOW

3-WAY LIGHT SWITCH WITH DIMMER

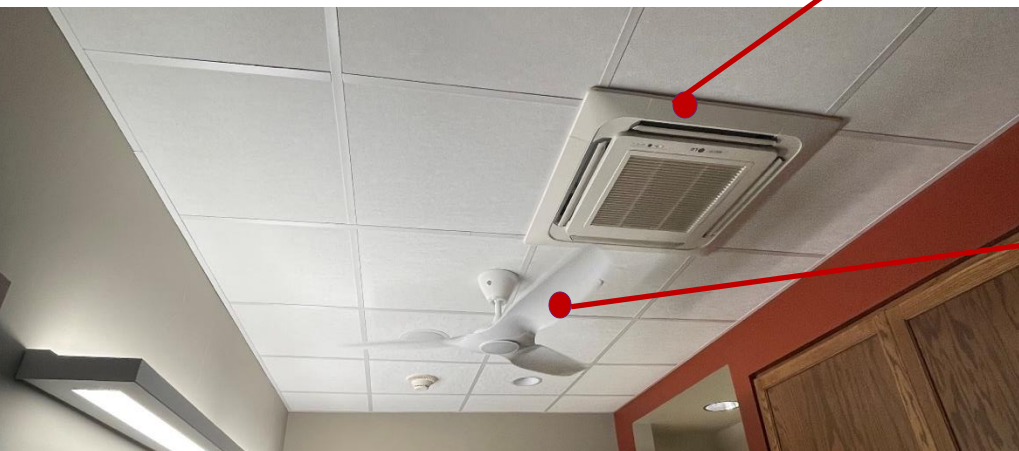
USB OUTLETS DESK

HVAC SYSTEM
Variable
Refrigerant
Flow

THERMOSTAT
Individual For Each Bedroom

CEILING FAN
▪ Remote Control

**“My bedroom. I’m able to adjust
ambiance to my personal preference.”**





Range Hood

- Cooking Lighting

Pot Filler

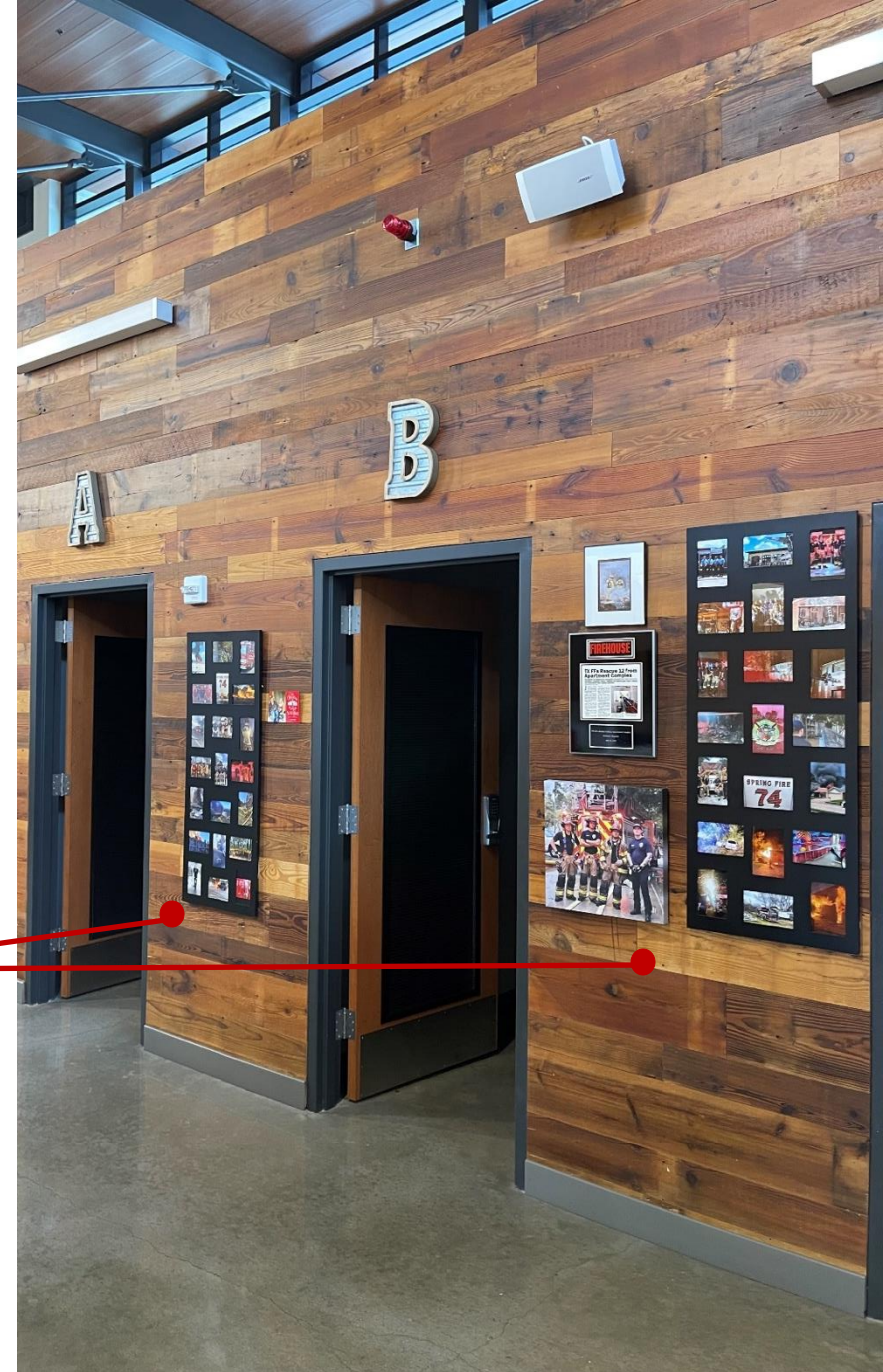
Solenoid Valve ON/OFF

ADA Workspace

- Doubles as Trash Area

Personalization

“Allow more personalization of station interior design. Don't make the station feel like a cold museum. Fire stations should be warm & inviting for personnel and the community, not impersonal and depressing.”



Thank you

Carol Ann T. Kesler,

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THAT LADDER'S
NOT GONNA THROW
ITSELF