Building a Web-based Environment to Support Sponsored Research and University-wide Collaborations

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Resume of the Presenter

- Fatemeh Jamshidi is a Ph.D. student under Dr. Richard Chapman and Dr. Marghitu in Computer Science and Software Engineering at Auburn University. Her research is focused on machine learning techniques in music.
- She has been a part of Military REACH team since 2019 focusing on making user interaction easy and efficient to use and providing the best user-experience across all the devices.

Outline

- The purpose of Military REACH
- Military REACH Architecture
- Introduction to the Cascade CMS
- What We Do and How We Do It?
- Evaluation Methods

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Presentation Video Link:

- YouTube Link of the presentation:

https://www.youtube.com/watch?v=k61__2DLU3c

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Military REACH: Purpose

Across disciplines, it takes 17 years, on average, for professionals to have access to “current” research implications (Munro, 2016).

Military REACH: Purpose

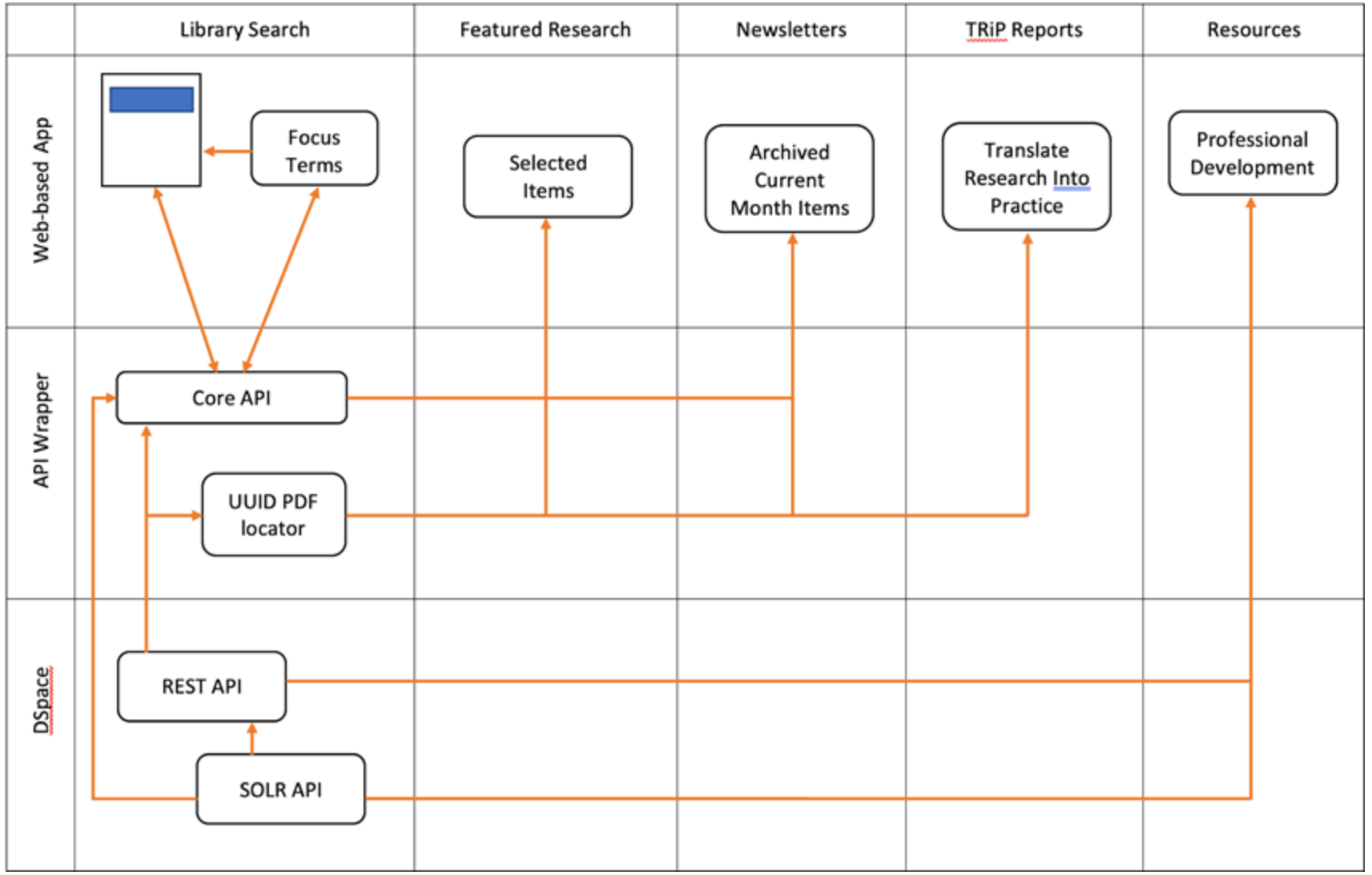
- University-wide collaboration between
  - Auburn University Libraries
  - Department of Computer Science
  - Department of Human Development and Family Sciences

have supported the University's research enterprise in a new way: by serving as a high-level Information Technology (IT) and data-management consultants to faculty researchers who are pursuing external funding.

Military REACH: Purpose

1. Provide timely, high-quality research reports at the request of DoD.
2. Re-engineer, grow, and promote an online library of current research and its implications related to the well-being of military families.
3. Design and market professional development opportunities, tools, and resources for youth development professionals.

Military REACH: Architecture



Military REACH: Architecture

1. Web-based app (Front-end layer):
   - Hypertext Markup Language (HTML)
   - Cascading Style Sheets (CSS)
   - JavaScript in Java Server Pages (JSP)
   - Cascade Content Management System (CMS)

Military REACH: Architecture

2. Application Programming Interface (API) Wrapper (Back-end layer):
    - Java Servlets
    - Java Server Pages (JSP)

Military REACH: Architecture

3. DSpace:
    - A database to store Military REACH related research articles
    - Search, Manage and preserve digital content
    - Allows for a group based access to control the setting for level based permission to individual files

Introduction to the Cascade CMS

Cascade Content Management System (CMS) is used in the Web application to update and manage site content.

1. Content creation
2. Content storage
3. Workflow management
4. Publishing

Use of Cascade CMS on Military REACH

(www.militaryreach.org/)

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What We Do and How We Do IT

Research Summaries

Translating Research Into Practice (TRIP) Reports

Research Reports

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TRiP Reports

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Identify

During this step, we…

- Identify current research on military families.
- Determine how the information provided can help our target audiences

Evaluate

During this step, we evaluate the research based on three components:

1. Credible – Sound science
2. Contributory – Impact of the research
3. Communicative – Well-written

Translate

During this step, we translate research into useful, practical, and high-quality resources by:

- *summarizing* the key findings
- *synthesizing* the research into implications for military families, helping professionals, and those who work on behalf of military families.

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Archive

During this step, we archive research and resources in the REACH online library.

- It is publically accessible and free.
- Users can find detailed-information on each study, a link to the original source, and, when available, a TRIP report.

Refine Search

Select Year:

2019 - 2019

Military REACH Publications

- Research Summary (10)
- Research Report (1)

Focus Terms

- Mental health (46)
- Veterans (17)
- Trauma (14)
- Other (13)
- Children (11)
- Physical health (10)
- Couples (9)
- Deployment (9)
- Substance use (7)
- Programming (7)
- Youth (6)
- Parents (6)

1 Physical fighting among male and female adolescents of military families: Results from a representative sample of high school students

Authors: Reinhardt, Jason; Clements-Nolle, Kristen; Yang, Wei
Year: 2019

Article & Summary

▶ Abstract

Detailed Record | View Research Summary | Link to Source

2 Exploring the association between changes in partner behaviors, perceived service member drinking, and relationship quality: Secondary analysis of a web-based intervention for military partners

Authors: Trail, Thomas E.; Osilla, Karen Chan; Rodriguez, Lindsey M.; Pedersen, Eric R.; Gore, Kristie L.
Year: 2019

Article & Summary

▶ Abstract

Detailed Record | View Research Summary | Link to Source

3 Intergenerational resilience in families affected by war, displacement, and migration: "It runs in the family"

Authors: Denov, Myriam; Fennig, Maya; Rabiau, Marjorie Aude; Shevell, Meaghan C.
Year: 2019

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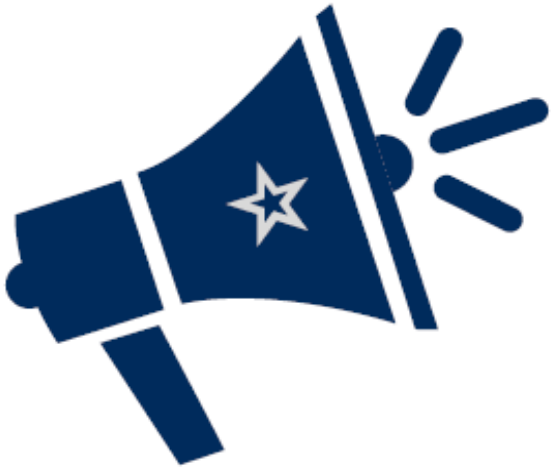
Distribute

During this stage, we …

- Distribute research and resources to military families, helping professionals, and policy makers.
- Send reports directly to the DoD for distribution to those who can use the information to inform policy and practice.
- Disseminate the key findings through multiple social media platforms, linking viewers to resources and reports (e.g., TRIP reports).



Distribute

You can receive our monthly newsletters which provide comprehensive updates about our recent products and new research.

https://www.militaryreach.auburn.edu/#/reach_updates

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Research Reports

TRANSLATING RESEARCH INTO PRACTICE (TRIP) REPORT

Military REACH's review of

THE ASSOCIATION OF PARENTIFICATION INDICATORS WITH SUBSTANCE USE PATTERNS AMONG MILITARY-CONNECTED ADOLESCENTS

Sullivan, K. S., Capp, G., & Gilreath, T. D. (2018). The association of parentificationindicators with substance use patterns among military-connected adolescents. *The American Journal of Orthopsychiatry*. Advanced online publication. http://dx.doi.org/10.1037/ort0000331

BRIEF SUMMARY: Instrumental parentification is the process of youths inheriting household responsibilities that are typically allocated to adults. According to structural family systems theory, healthy families have clear, appropriate boundaries between what is expected of children and adults, furthermore, families without these differentiations are likely to experience negative outcomes. However, it is possible that parentification is not a risk in the context of cultures where it is expected. Participants were adolescents (*N*= 1,441) who had a parent in the military and completed the 2013 California Healthy Kids Study. Analyses examined the patterns of parentification experienced by adolescents and if these patterns predicted substance use. Findings showed that military-connected adolescents who reported greater parentification (evidenced by more household responsibilities compared to their peers) appear to be at lower risk for regular substance use compared to those reporting lower parentification.

KEY FINDINGS

Three classes of parentification were identified:

High Parentification	Moderate Parentification	Low Parentification
34%	30%	36%
The highest probability of reporting more responsibilities at home, more independence, and better problem solvers than their peers.	"Pretty much" or "a little true" that this group had more responsibilities at home, more independence, and better problem solving skills than their peers.	The least likely to report more responsibilities at home, more independence, and better problem solving skills than their peers.

Three classes of substance use were identified:

Abstainer	Polysubstance Experimenter	Frequent Polysubstance User
74%	14%	12%
Reported limited to no substance use.	Reported some substance use in their lifetime, but no recent use.	More likely to report regular use of tobacco, alcohol, marijuana, and inhalants.

- High parentification adolescents were more likely to report having experienced a parental deployment in the last 10 years (84%) compared to low parentification adolescents (73%). Additionally, high parentification adolescents were more likely to report worrying about a deployed family member (72%) compared to the low parentification group (55%).
- In comparison to the low parentification adolescents, high parentification adolescents were 62% less likely to be in the frequent polysubstance use group compared to the abstainer group.

IMPLICATIONS FOR FAMILIES

- Increasing adolescents' household responsibilities, perhaps especially during times of deployment, may reduce the risk of frequent substance use.
- Be aware that the vast majority of military-connected adolescents report little to no substance use. Seek appropriate support services if you have concerns about the substance use of your adolescent.

IMPLICATIONS FOR HELPING PROFESSIONALS

- Highlight the potential positive outcomes of parentification during deployment for military-connected adolescents, such as improved problem solving skills, increased responsibility, and more independence.
- Recognize how parentification (although often labeled as unhealthy) may be adaptive for adolescents in military settings, and appropriately adapt services provided.

IMPLICATIONS FOR POLICY MAKERS AND MILITARY LEADERSHIP

- Help families understand what is normative in terms of parentification and substance use through educational materials. Provide information for appropriate support services for when instrumental parentification and substance use may reach levels that are unhealthy.

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SAMPLE CHARACTERISTICS

- ☑ Adolescents (*N*= 1,441) who had a parent in the military
- ☑ Participants completed the 2013 California Healthy Kids Survey, and were in 7th-, 9th-, or 11th-grade
- ☑ Navy, Marine Corps, Army, Air Force, National Guard, or Reserves

METHODOLOGY

- The California Healthy Kids Survey (CHKS) is a statewide school health survey required by the California Department of Education for all districts receiving Title IV funding. The response rate was 87%.
- Adolescents reported on parental deployment in the past 10 years and if they were worried about a family member currently serving outside the U.S. Additionally, participants rated themselves on indicators of instrumental parentification, including independence, problem solving, and at home responsibilities compared to their peers. Finally, adolescents reported on their lifetime and recent use of substances including: a whole cigarette, one full drink of alcohol, marijuana, and inhalants.
- Adolescent were grouped into classes of parentification (high, moderate, low) and substance use (abstainers, polysubstance experimenters, frequent polysubstance users) using latent class analysis.
- Multinomial logistic regression was conducted to examine if parentification group predicted substance use group, controlling for sex, grade (age proxy), race/ethnicity, and school cluster.

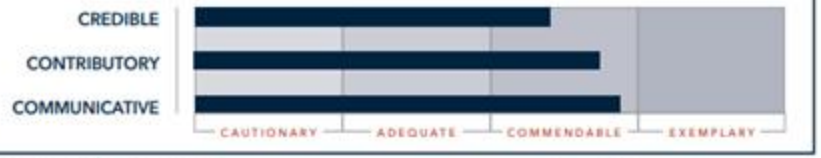
STRENGTHS

- A large sample was used to explore hypotheses, increasing the chances that observed patterns are true for the larger population of adolescents in military families.
- The paper recognizes that the relationship between role responsibilities and substance use can vary from positive to negative.

LIMITATIONS

- The items used to measureparentification only indirectly capture instrumental parentification and may more appropriately capture variability in role responsibilities that are normative for adolescents.
- Cross-sectional data were used, therefore, causality cannot be determined.
- The data were collected in one region in Southern California, with no information about military branch or rank, so it is unclear if these patterns might be different in other areas of the country, between various branches, or between various ranks.

ASSESSMENT OF THE STUDY



DIMENSIONS OF ASSESSMENT

- CREDIBLE: Research that is rigorous, transparent, consistent, and generalizable. This dimension reflects an evaluation of the study's scientific methodology.
- CONTRIBUTORY: Research that is original, applicable, and has the potential to enhance the well-being of military families. This dimension examines the impact of the study.
- COMMUNICATIVE: Research that is coherent, understandable, and readable. This dimension assesses how effectively the authors convey the content of the study.

* These dimensions are adapted from the work of Mårtensson et al. (2016). For more information on the REACH evaluation framework and rubric visit: militaryREACH.org

PARTNERSHIP

This work is result of a partnership funded by the Department of Defense (DoD) between the DoD's Office of Military Family Readiness Policy and the U.S. Department of Agriculture/National Institute of Food and Agriculture (USDA/NIFA) through a grant/cooperative agreement with Auburn University. USDA/NIFA Award No. 2017-48710-27339, PI, Mallory Lucier-Greer.

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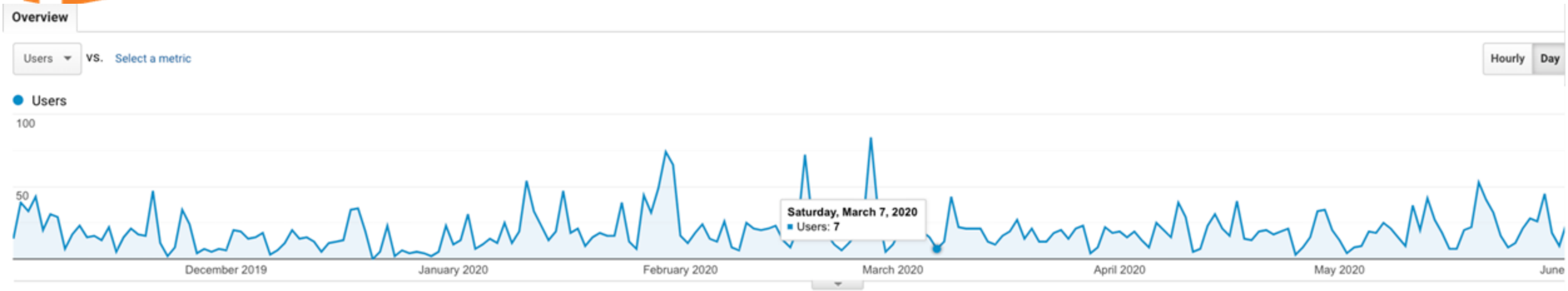
Evaluation Methods

- Google Analytics
  - Does not include personal identifiable information
  - Tracking code collects data such as length of the session, average time on each page, location, etc.

Google Analytics Data



Users	New Users	Sessions	Number of Sessions per User	Pageviews	Pages / Session
3,131	3,042	5,569	1.78	29,057	5.22

Avg. Session Duration	Bounce Rate
00:05:41	54.57%

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Google Analytics Data

	Acquisition		
	Users	New Users	Sessions
Change	175.93%	182.00%	169.62%
Total Nov 2, 2019 - Jun 11, 2020	3,129	3,040	5,565
Total Jul 15, 2019 - Nov 2, 2019	1,134	1,078	2,064
United States			
Nov 2, 2019 - Jun 11, 2020	2,804 (89.58%)	2,717 (89.38%)	5,193 (93.32%)
Jul 15, 2019 - Nov 2, 2019	1,050 (92.51%)	995 (92.30%)	1,969 (95.40%)
% Change	167.05%	173.07%	163.74%
Canada			
Nov 2, 2019 - Jun 11, 2020	88 (2.81%)	87 (2.86%)	106 (1.90%)
Jul 15, 2019 - Nov 2, 2019	4 (0.35%)	3 (0.28%)	8 (0.39%)
% Change	2100.00%	2800.00%	1225.00%
(not set)			
Nov 2, 2019 - Jun 11, 2020	29 (0.93%)	29 (0.95%)	29 (0.52%)
Jul 15, 2019 - Nov 2, 2019	48 (4.23%)	48 (4.45%)	48 (2.33%)
% Change	-39.58%	-39.58%	-39.58%
India			
Nov 2, 2019 - Jun 11, 2020	27 (0.86%)	26 (0.86%)	33 (0.59%)
Jul 15, 2019 - Nov 2, 2019	5 (0.44%)	5 (0.46%)	9 (0.44%)
% Change	440.00%	420.00%	266.67%
France			
Nov 2, 2019 - Jun 11, 2020	20 (0.64%)	20 (0.66%)	20 (0.36%)
Jul 15, 2019 - Nov 2, 2019	0 (0.00%)	0 (0.00%)	0 (0.00%)

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Conclusion

- Google Analytics results helped the Military REACH team analyze the website's usage to serve military families better. Compared to the first two years, website usage almost tripled last year.
- According to the Google Analytics results, 31% of users have access to the website through their phone.
- In the future, Military REACH plans to conduct a pilot testing of a newly developed mobile app that will be used for the dissemination of REACH reports, mainly Translating Research Into Practice (TRIP) reports.