# Considerations for Integrating Women into Closed Occupations in the U.S. Special Operations Forces: Appendices 

Thomas S. Szayna, Eric V. Larson, Angela O'Mahony, Sean Robson, Agnes Gereben Schaefer, Miriam Matthews, J. Michael Polich, Lynsay Ayer, Derek Eaton, William Marcellino, Lisa Miyashiro, Marek Posard, James Syme, Zev Winkelman, Cameron Wright, Megan Zander Cotugno, William Welser IV

RAND National Defense Research Institute
Forces and Resources Center

RR-1058/1-USSOCOM
May 2015
Prepared for the United States Special Operations Command
Approved for public release, distribution unlimited

## Prepublication Copy

This document has completed RAND's research quality assurance process but has not yet been edited or proofread. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark.

## Limited Print and Electronic Distribution Rights

This document and trademark(s) contained herein are protected by law. This representation of RAND intellectual property is provided for noncommercial use only. Unauthorized posting of this publication online is prohibited. Permission is given to duplicate this document for personal use only, as long as it is unaltered and complete. Permission is required from RAND to reproduce, or reuse in another form, any of its research documents for commercial use. For information on reprint and linking permissions, please visit www.rand.org/pubs/permissions.html.

The RAND Corporation is a research organization that develops solutions to public policy challenges to help make communities throughout the world safer and more secure, healthier and more prosperous. RAND is nonprofit, nonpartisan, and committed to the public interest.

RAND's publications do not necessarily reflect the opinions of its research clients and sponsors.

Support RAND
Make a tax-deductible charitable contribution at
www.rand.org/giving/contribute

## Preface

The technical appendices included in this report present ancillary material in support of the "Considerations for Integrating Women into Closed Occupations in the U.S. Special Forces" report, which documents the findings of the task "Analytical support to USSOCOM regarding the future role of women in Special Operations Forces (SOF)." The task was part of the project "Enabling an Efficient and Effective Global SOF Network." The project had the goal of providing analytical assistance to USSOCOM concerning all aspects of implementation of the future vision and operating concept put forth by USSOCOM. Task Four of the project aimed to assess the range of potential challenges to effective integration of women into SOF, focusing on the unit- and team-level.

This research was sponsored by USSOCOM and conducted within the Forces and Resources Center of the RAND National Defense Research Institute, a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense Intelligence Community. The overall project, as well as research on other tasks that were a part of the project, was conducted within the International Security and Defense Policy Center of the RAND National Defense Research Institute.

For more information on the RAND Forces and Resources Center, see http://www.rand.org/nsrd/ndri/centers/frp.html or contact the director (contact information is provided on the web page). For more information on the International Security and Defense Policy Center, see http://www.rand.org/nsrd/ndri/centers/isdp.html or contact the director (contact information is provided on the web page).
(This page is intentionally left blank.)

## Table of Contents

Preface ..... i
Figures ..... vii
Tables ..... xi
Abbreviations ..... xiii
Appendix A. USSOCOM MOS and Positions Previously Closed to Women ..... 1
Appendix B. Women in SOF Survey Design ..... 9
Approach to Survey Instrument Development ..... 9
Policy Questions Addressed ..... 13
Q. Do special operators generally favor or oppose policies to open their specialties and units to women? ..... 13
Q. How important is the issue of integration of Women in SOF to special operators? ..... 14
Q. What do special operators believe might be the greatest benefits that might result from opening USSOCOM-controlled positions to women? ..... 14
Q. What do special operators believe might be the greatest challenges USSOCOM leaders will face in opening USSOCOM-controlled positions to women?. ..... 14
Q. What impacts do special operators expect on the following: unit performance, unit cohesion, unit trust, and leadership and personnel management? ..... 14
Q. What implementation actions do special operators believe USSOCOM leaders should take to foster more beneficial outcomes, and to address key challenges? ..... 14
Q. What pre-existing attitudes do special operators have regarding women who may be integrated into their specialties? ..... 15
Q. What experience do special operators have working with military women? ..... 15
Q. How do responses to the above questions vary by key sub-group (e.g., service, unit, specialty, grade)? ..... 15
Appendix C. Women in SOF Survey Sample Size Requirements. ..... 17
Statistical Appendix ..... 20
Appendix D. Efforts to Reduce Respondent Burden ..... 21
Survey Response Rate ..... 21
Survey Length. ..... 22
Mode of Implementation ..... 23
Contacting Participants ..... 23
Question Structure and Wording ..... 23
Conclusion ..... 24
Appendix E. Notes on Selected Survey Questions ..... 25
Q20. Do you favor or oppose the following? Opening your specialty to women ..... 25
Q21. Do you favor or oppose the following? Opening your unit to women ..... 25
The Importance of Standards (Q4 and Q5) ..... 26
Standards Index ..... 27
Q12. Please rate the quality of your working experience with U.S. military women in a combat environment. ..... 27
Expectations Regarding Women's Capabilities (Q23, Q24, and Q25) ..... 28
Expected Capabilities Index ..... 29
Task Cohesion (Q13, Q17, Q28, and Q33) ..... 29
Social Cohesion (Q14, Q18, Q29, and Q34) ..... 30
Unit Trust (Q15, Q16, Q31, and Q32) ..... 31
The Availability of Leaders for Conflict Resolution (Q19 and Q35) ..... 32
Years of Service (Q40) ..... 33
Rank Group (Q41) ..... 33
Currently Married (Q43) ..... 33
Extreme Negative Response Index ..... 33
Appendix F. Women in SOF Informed Consent Statement ..... 36
Appendix G. Women in SOF Survey Instrument ..... 38
Appendix H. Women in SOF Survey Recruitment Materials ..... 51
DRAFT Language for ADM McRaven Email Announcement ..... 52
DRAFT Language for Initial RAND Invitation ..... 53
DRAFT Language for RAND Reminders (2) ..... 54
DRAFT Language for Final ADM McRaven Email Reminder ..... 55
Appendix I. Women in SOF Survey Review of Scientific Merit ..... 57
Appendix J. Women in SOF Survey Implementation \& Results ..... 59
Response Flow ..... 59
Response Rates by Population Sub-Category ..... 61
Appendix K. Charts for Survey Results ..... 65
Appendix L. Women in SOF Survey: Descriptive Statistics ..... 91
Appendix M. Content Analysis of Responses to Open-Ended Questions ..... 93
Coding of Question 1 ..... 95
Categories ..... 96
i. None/No Benefits ..... 96
ii. Increased Cultural Access ..... 96
iii. HUMINT/Intelligence and Clandestine ..... 96
iv. Attachment/Support Roles ..... 97
v. Unique Perspective/Diversity ..... 97
vi. Miscellaneous ..... 98
vii. Missing ..... 98
viii. Increased Pool of SOF ..... 98
ix. Explicit Support/Approval for Women in Specialist Roles ..... 98
x. Explicit Opposition to Women in Specialist Roles. ..... 98
xi. Explicit Support/Approval for Women in Unit ..... 99
xii. Explicit Opposition to Women in Unit ..... 100
Coding of Question 2 ..... 102
Categories ..... 102
xiii.None/No Concerns ..... 102
xiv.Physical Abilities ..... 102
xv. Standards Will be Lowered. ..... 102
xvi. Team Cohesion/Morale ..... 103
xvii. Decreased Cultural Access ..... 103
xviii. Concerns about Order and Discipline ..... 103
xix. Sexual Harassment/SHARP/Equal Opportunity [EO] ..... 104
xx. Spousal/Family Concerns ..... 104
xxi.Female Health and Safety ..... 105
xxii. Politicization of SOF ..... 105
xxiii. Missing ..... 105
xxiv. Explicit Support/Approval for Women in Specialist Roles ..... 105
xxv. Explicit Opposition to Women in Specialist Roles ..... 105
xxvi. Explicit Support/Approval for Women in Unit ..... 105
xxvii. Explicit Opposition to Women in Unit ..... 106
Coding of Question 3 ..... 106
Categories ..... 106
xxviii. No Solution ..... 106
xxix. No Ideas How to Address ..... 106
xxx. Do Not Lower Standards ..... 106
xxxi. Non-Gendered Standards ..... 106
xxxii. Attachment/Support/Other Specialized Roles for Women ..... 107
xxxiii. Separate Men and Women ..... 107
xxxiv. Sexual and Relationship Misconduct Regulations ..... 107
xxxv. Female Health and Safety Regulations ..... 107
xxxvi. Education ..... 108
xxxvii. Leadership ..... 108
xxxviii. Implementation/Timing/Phasing ..... 108
xxxix. Explicit Support/Approval for Women in Specialist Roles ..... 108
xl. Explicit Opposition to Women in Specialist Roles. ..... 108
xli. Explicit Support/Approval for Women in Unit ..... 108
xlii.Explicit Opposition to Women in Unit ..... 108
xliii. Miscellaneous ..... 109
xliv. Missing ..... 109
Coding of Question 39 ..... 109
Categories ..... 109
xlv. Support for Operational Specialties/Units ..... 109
xlvi. Oppose for Operational Specialties/Units ..... 110
xlvii. Highly Detrimental Concerns ..... 111
xlviii. General Standards Concerns ..... 112
xlix. Team Cohesion, Morale, Effectiveness, and Performance Concerns ..... 113

1. Concern Regarding the Treatment of Women ..... 113
li. Do Not Lower Standards ..... 113
lii. Non-Gendered Standards ..... 113
liii. Non-Team Roles for Women ..... 113
liv. Implementation, Timing, and Phasing ..... 113
lv. Survey Concerns/Predetermined Outcome ..... 114
lvi. None/No additional comments ..... 114
lvii.Missing ..... 114
Random Sampling of Survey Responses for Coding ..... 114
Methodology ..... 117
Appendix N. Automated Linguistic Analysis of Responses to Open-Ended Questions:
Docuscope ..... 119
Overview of Method ..... 119
Summary of Findings ..... 119
Findings ..... 120
Software: DocuScope ..... 120
Relationships ..... 120
Personal Perspective ..... 122
Reasoning ..... 123
Values ..... 124
Emotion ..... 125
Conclusion ..... 126
Appendix O. Automated Linguistic Analysis of Responses to Open-Ended Questions: LIWC ..... 129
Overview of Method ..... 129
Summary of Findings ..... 129
Findings ..... 129
Software: LIWC ..... 129
Overview: All questions / All elements. ..... 132
Finding: Emphasizing achievement and professionalism in their responses. (Achievement and Occupation Words) ..... 133
Finding: Express high levels of negations, low levels of agreement words. (Assent, Negations and Positive Emotions Words) ..... 134
Finding: Raise challenges to actions under consideration and project future outcomes as the result. (Discrepancy, Causal, Future Tense Verbs, and Certainty Words) ..... 136
Finding: Use language suggesting anger, negative emotions, anxiety, and sadness (Anger, Anxiety, Negative Emotion, Sadness, Sexual, and Social Words) ..... 138
Conclusions ..... 140
Appendix P. Women in SOF Focus Group Oral Consent Form ..... 141
Appendix Q. Women in SOF Focus Group Questions for Service Members in Closed Positions ..... 143
References ..... 145

## Figures

Figure C.1. Incumbents in USSOCOM-Controlled Level 2 Positions ..... 18
Figure J.1. Cumulative Survey Completes By Day ..... 59
Figure J.2. Cumulative Survey Completes by Component by Day ..... 61
Figure K.1. Q4. Importance of Establishing Common Performance Requirements ..... 66
Figure K.2. Q5. Importance of Establishing Common Standards of Conduct ..... 66
Figure K.3. Q6. How Important Is... Providing Education and Training on How to Work with SOF Women? ..... 67
Figure K.4. Q7. How Important Is... Leaders Consistently Engaging Personnel During the Integration of Women into SOF? ..... 67
Figure K.5. Q8 How important is... selecting SOF men who are better suited to working in a mixed gender environment? ..... 68
Figure K.6. Q9 How much have you... paid attention to news and other information about opening SOF specialties to women? ..... 68
Figure K.7. Q10 How much have you... thought about the issue of opening SOF specialties to women? ..... 69
Figure K.8. Q11. How many U.S. military women have you worked with in a combat environment? ..... 69
Figure K.9. Q12. Please rate the quality of your working experience with U.S. military women in a combat environment. ..... 70
Figure K.10. Q13. The extent to which your unit members work together to accomplish the mission. ..... 70
Figure K.11. Q14. The extent to which your unit members are like a family. ..... 71
Figure K.12. Q15. The level of trust among members in your unit. ..... 71
Figure K.13. Q16. Your level of trust for members in your unit. ..... 72
Figure K.14. Q17. My unit is united in trying to accomplish its missions. ..... 72
Figure K.15. Q18. Most members of my unit socialize when off-duty. ..... 73
Figure K.16. Q19. I can go to unit leaders for help if I have a problem or concern regarding conflicts between members of my unit. ..... 73
Figure K.17. Q20. Do you favor or oppose the following? Opening your specialty to women ..... 74
Figure K.18. Q21. Do your favor or oppose the following? Opening your unit to women ..... 74
Figure K.19. Q22. How worried or not are you that the physical job standards of your specialty will be reduced during the opening of SOF specialties to women? ..... 75
Figure K.20. Q23. Women will have the physical strength and stamina to be effective in my specialty. ..... 75
Figure K.21. Q24. Women will have the mental toughness to be effective in my specialty ..... 76
Figure K.22. Q25. Women will be capable of handling the demands of my specialty. ..... 76
Figure K.23. Q26. If women are assigned to your unit... how do you think the order and discipline in your unit will be affected?. ..... 77
Figure K.24. Q27. If women are assigned to your unit... how often do you expect these women will be treated unfairly in your unit? ..... 77
Figure K.25. Q28. If women are assigned to your unit... The extent to which your unit members will work together to accomplish the mission. ..... 78
Figure K.26. Q29. If women are assigned to your unit... The extent to which your unit members will be like a family ..... 78
Figure K.27. Q30. If women are assigned to your unit... The level of trust among members in your unit. ..... 79
Figure K.28. Q31. If women are assigned to your unit... Your level of trust for members in your unit. ..... 79
Figure K.29. Q32. If women are assigned to your unit... Your level of trust for women in your unit. ..... 80
Figure K.30. Q33. If women are assigned to your unit... Men and women in my unit will be united in trying to accomplish mission. ..... 80
Figure K.31. Q34. If women are assigned to your unit... Most men and women in my unit will socialize when off-duty ..... 81
Figure K.32. Q35. If women are assigned to your unit... I will be able to go to unit leaders for help if I have a problem or concern regarding women members of my unit. ..... 81
Figure K.33. Q36. If women are assigned to your unit... If they pull their share of the load, men will accept them as equals. ..... 82
Figure K.34. Q37. If women are assigned to your unit... it will improve my unit's ability to conduct sensitive, low-profile operations (e.g. unconventional warfare). ..... 82
Figure K.35. Q38. If women are assigned to your unit... it will improve my unit's ability to communicate with segments of foreign populations. ..... 83
Figure K.36. Q41. Rank Grouping ..... 83
Figure K.37. Q43. Marital Status ..... 84
Figure K.38. Q44. Education ..... 84
Figure K.39. Q45. Race ..... 85
Figure K.40. Q46. Ethnicity ..... 85
Figure K.41. SOF Element ..... 86
Figure K.42. Capabilities Index ..... 86
Figure K.43. Importance Index. ..... 87
Figure K.44. Task Cohesion Difference Index (Unit Climate with Women - Current Unit Climate) ..... 87
Figure K.45. Social Cohesion Difference Index (Unit Climate with Women - Current Unit Climate) ..... 88
Figure K.46. Trust Difference Index (Unit Climate with Women - Current Unit Climate) ..... 88
Figure K.47. Leadership Difference Index (Leaders in Units with Women - Current Leaders) ..... 89
Figure K.48. Extreme Response Index ..... 89
Figure M.1. Sampling Algorithm. ..... 115
Figure N.1. Building \& Maintaining Relationships Language ..... 122
Figure N.2. Insistence \& Intensity Language ..... 123
Figure N.3. Reasoning Types Language ..... 124
Figure N.4. Social Goods \& Ills Language ..... 125
Figure N.5. Positive and Negative Emotion Language ..... 126
Figure O.1. Overview of presence of relevant LIWC categories in corpus ..... 132
Figure O.2. Achievement and Occupation Words ..... 133
Figure O.3. Assent, Negations, Positive Emotions ..... 134
Figure O.4. Assent, Negations, Positive Emotions - by Question ..... 135
Figure O.5. Discrepancy, Causal, Future Tense Verbs, Certainty Words ..... 136
Figure O.6. Discrepancy, Causal, Future Tense Verbs, Certainty Words - by Question ..... 137
Figure O.7. Anger, Anxiety, Negative Emotion, Sadness, Sexual, Social Words ..... 138
Figure O.8. Anger, Anxiety, Negative Emotion, Sadness, Sexual, Social Words - By Question ..... 139
(This page is intentionally left blank.)

## Tables

Table C.2. Illustrative Estimated Required Sample Sizes* by Sampling Frame Option ..... 19
Table J.1. Completed Surveys by Element ..... 61
Table J.2. Comparison of Population and Sample, by SOF Element and Rank Group (Percent) ..... 63
Table L.1. Basic Descriptive Statistics for Survey Questions ..... 91
Table M.1. Number of surveys received of surveys randomly sampled from those received, by unit and rank group. ..... 116
Table N.1. Relevant Language Features ..... 121
Table O.1. Relevant Word Categories ..... 130
Table O.2. Categories Grouped by Finding ..... 131
(This page is intentionally left blank.)

## Abbreviations

| AFSOC | Air Force Special Operations Command |
| :--- | :--- |
| AFSC | Air Force Specialty Code |
| APFT | Army Physical Fitness Test |
| BUD/S | Basic Underwater Demolition / SEAL |
| CA | Civil affairs |
| CID | Case identification number |
| CST | Cultural Support Teams |
| DADT | Don't Ask, Don't Tell" |
| DMDC | Defense Manpower Data Center |
| EO | Equal opportunity |
| ESL | English as a second language |
| HUMINT | Human Intelligence |
| IO | Industrial/organizational |
| IRR | Inter-rater reliability |
| LIWC | Linguistic Inquiry and Word Count |
| MARSOC | Marine Special Operations Command |
| MEDCAP | Medical Civil Action Program |
| MOS | Military Occupational Specialty |
| NAVSPECWARCOM | Navy Special Warfare Command |
| NCO | Non-Commissioned Officer |
| NSW | Sexychological operations |
| ODA | Senior Non-Commissioned Officer |
| PSYOPS | Operational Detachment-Alpha Operational Detachment - Alpha |
| SFODA | Serassment/Assault Response and Prevention |
| SHARP | SNCO |

# Prepublication Copy: This document has not yet been edited or proofread. 

SOF Special Operations Forces

SWCC
UCMJ
USASOC
USSOCOM

Special Warfare Combatant-Craft Crewmen
Uniform Code of Military Justice
United States Army Special Operations Command
U.S. Special Operations Command

## Appendix A. USSOCOM MOS and Positions Previously Closed to Women

This Appendix presents the figures on U.S. Special Operations Command (USSOCOM) personnel in positions that were closed either by unit assignment or by specialty. The tables are reproduced as they appeared in a Memorandum from Admiral William McRaven, Commander USSOCOM on the subject "U.S. Special Operations Command Implementation Plan for Elimination of Direct Combat Assignment Rule," dated 22 March 2013.

# Prepublication Copy: This document has not yet been edited or proofread. 

UNITED STATES SPECIAL OPERATIONS COMMAND
OFFICE OF THE COMMANDER
7701 TAMPA POINT BOULEVARD
MACDILL AIR FORCE BASE, FLORIDA 33621-5323

MEMORANDUM FOR
22 March 2013

CHIEF OF STAFF, U.S. ARMY, 0200 ARMY PENTAGON, WASHINGTON, DC 203100200

COMMANDANT, U.S. MARINE CORPS, 3000 MARINE CORPS PENTAGON, WASHINGTON, DC 20350-3000

CHIEF OF NAVAL OPERATIONS, 2000 NAVY PENTAGON, WASHINGTON, DC 203502000

CHIEF OF STAFF, U.S. AIR FORCE, 1670 AIR FORCE PENTAGON, WASHINGTON, DC 20330-1670

SUBJECT: U.S. Special Operations Command Implementation Plan for Elimination of Direct Combat Assignment Rule

1. I applaud the Department's decision to eliminate the Direct Combat Assignment Rule (DCAR) and believe the eventual and complete integration of women into U.S. Special Operations Command (USSOCOM) will provide a new and powerful dimension to our Special Operations Forces (SOF) formations. However, much work remains to be done. I have concerns specific to USSOCOM that must be addressed prior to making an informed recommendation which complies with the Chairman's guiding principles for implementation. USSOCOM is inherently Joint, and our Forces have achieved a level of interdependence critical for operating in small, self-contained teams that usually typify our operations, many of which are in austere, politically-sensitive environments for extended periods. This complexity requires an assessment predicated upon detailed analysis, ultimately providing a single, clear procedure for execution throughout the USSOCOM enterprise.
2. The scope of my assessment is focused on our Special Forces Groups, SEAL Teams, Ranger Regiment, 160th Special Operations Aviation Regiment, SOF Battlefield Airmen, and Marine Special Operators. We are also evaluating the implications of integrating Service- provided female enablers (predominately supporting specialties listed in Enclosure 1) into the formations referenced above. We will continue to work closely and transparently with each of the Military Services throughout this assessment, ultimately providing a coordinated recommendation for implementation.
3. I have initiated three independent efforts.
a. My primary focus is an ongoing, comprehensive USSOCOM-wide Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P) analysis with special emphasis on gender-neutral training standards in our SOF initial entry (qualification) courses, Leadership and Education requirements associated with integration, and an evaluation of our facilities.

SOCC
SUBJECT: U.S. Special Operations Command Implementation Plan for Elimination of Direct Combat Assignment Rule
b. I have also tasked my Center for Special Operations Studies and Research in our Joint Special Operations University to research and analyze the social science impacts, to include surveys of integrating women into small, elite feams that operate in remote, austere environments.
c. Complementing the two efforts referenced above, I have contracted with RAND Corporation to provide their independent, non-biased analysis.
4. The DCAR Implementation Timeline (See Enclosure 2 for more details) follows. USSOCOM will:
a. Conduct a comprehensive DOTMLPF-P analysis of the impacts of integrating women into previously closed specialties, units, and positions, to include an assessment and validation of gender-neutral occupational performance standards no later than (NLT) 1 July 2014.
b. Conduct social science assessments of the psychological and social impacts of integrating women into small SOF units as part of a comprehensive study concluding NLT 1 July 2014.
c. Commission the RAND study and make available their findings NLT 1 July 2014.
d. Submit a USSOCOM-approved list of occupational specialties and positions open to wornen NLT 1 April 2015 for notification to Congress and follow-on integration. Concurrently, if required, request an exception to policy.
e. Assign senior and mid-grade female cadre members to SOF training commands and previously "closed" SOF operational units (except for any units or occupational specialties included in a request for exception to policy) NLT 1 October 2015.
f. Submit the USSOCOM quarterly progress reports at the end of each quarter, beginning in 3rd Quarter Fiscal Year 2013.
5. My primary point of contact is MG Bennet Sacolick, email: bennet.sacolick@socom.mil, commercial: 813-826-5710, DSN 299-5710.


## 2 Encls

as

WILLIAM H. McRAVEN
Admiral, U.S. Navy Cornmander

## Implementation Timeline



| Closed By Unit <br> Level 1 Positions |  |  | Service-common specialties or career fields with previously closed billets in SOF formations due to the combat exclusion rule |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AFSOC |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title | Total | Open | Closed | \% Open |
| Air Force | Officer | 13DX | Combat Rescue Officer | 24 | 0 | 24 | 0.0\% |
| Air Force | Enlisted | 1C4XX | Tactical Air Control Party (Enlisted) | 124 | 0 | 124 | 0.0\% |
| Air Force | Enlisted | 1T2XX | Pararescue (Enlisted) | 183 | 0 | 183 | 0.0\% |
|  |  |  | Total | 331 | 0 | 331 | 0.0\% |
| USASOC |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title | Total | Open | Closed | \% Open |
| Army | O/E | 12X | Engineer | 223 | 195 | 28 | 87.44\% |
| Army | O/WO/E | 13XX | Field Artillery Targeting Technician | 227 | 23 | 204 | 10.13\% |
| Army | O/WO/E | 15XX | Aviation | 2856 | 304 | 2552 | 10.64\% |
| Army | O/WO/E | 25XX | Signals / Comm | 1864 | 982 | 882 | 52.68\% |
| Army | O/E | 27X | Legal | 137 | 81 | 56 | 59.12\% |
| Army | O/WO/E | 29XX | Electronic Warfare | 72 | 37 | 35 | 51.40\% |
| Army | Officer | 30A | Info Ops | 2 | 1 | 1 | 50.00\% |
| Army | O/WO/E | 35XX | Intell | 1648 | 720 | 928 | 43.70\% |
| Army | O/E | 36 X | Financial | 93 | 70 | 23 | 75.27\% |
| Army | Enlisted | 37 F | Psychological Operations Specialist | 981 | 740 | 241 | 75.43\% |
| Army | O/E | 38 X | Civil Affairs | 1298 | 1254 | 44 | 96.61\% |
| Army | O/WO/E | 42XX | Human Resources | 637 | 382 | 255 | 59.97\% |
| Army | Officer | 50A | Force Development | 1 | 0 | 1 | 0.00\% |
| Army | Officer | 51 X | Systems Development | 31 | 19 | 12 | 61.29\% |
| Army | Officer | 53A | Information Systems Management | 11 | 10 | 1 | 90.91\% |
| Army | O/E | 56 X | Chaplain | 135 | 73 | 62 | 54.07\% |
| Army | Officer | 57A | Simulations Operations Officer | 3 | 2 | 1 | 66.67\% |
| Army | Officer | 59A | Strategist | 1 | 0 | 1 | 0.00\% |
| Army | O/E | 61X-73X | Medical | 448 | 170 | 278 | 37.95\% |
| Army | O/E | 74 X | Chemical, Biological, Radiological, and Nuclear (CBRN) | 425 | 143 | 282 | 33.65\% |
| Army | O/E | 79x | Career Counselor | 61 | 57 | 4 | 93.40\% |


| Army | O/WO/E | 88XX | Transportation | 307 | 236 | 71 | 77.00\% |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Army | WO/E | 89XX | Ammo | 172 | 71 | 101 | 41.28\% |
| Army | Officer | 90A | Logistics | 184 | 124 | 60 | 67.39\% |
| Army | WO/E | 91XX | Automotive Maintenance | 817 | 454 | 363 | 55.57\% |
| Army | WO/E | 92XX | Supply | 2215 | 953 | 1262 | 43.02\% |
| Army | WO/E | 94XX | Electronic Systems Maintenance | 237 | 90 | 147 | 37.97\% |
|  |  |  | Total | 15086 | 7191 | 7895 | 47.7\% |
| MARSOC |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title | Total | Open | Closed | \% Open |
| USMC | E3-E9 | 8071_06XX | SPECIAL OPERATION CAPABILITY SPECIALIST (SOCS-C) NMOS - COMM | 380 | 356 | 24 | 93.68\% |
| USMC | E3-E9 | $\begin{array}{\|c\|} \hline 8071 \_5812 \_ \\ 5811 \\ \hline \end{array}$ | SPECIAL OPERATION CAPABILITY SPECIALIST (SOCS-D) NMOS - MPC | 34 | 0 | 34 | 0.0\% |
| USMC | E5-E9 | 8071_2336 | SPECIAL OPERATION CAPABILITY SPECIALIST (SOCS-E) NMOS - EOD | 52 | 0 | 52 | 0.0\% |
| USMC | O/E | $\begin{aligned} & 0202,0491, \\ & 7502,8999 \\ & \hline \end{aligned}$ | Intel, Log/Mob Chief, FAC/AO, SgtMaj/1stSgt | 133 | 85 | 48 | 63.9\% |
| USMC | E3-E9 | $\begin{array}{\|c\|} \hline 8071 \_8002 \_ \\ 0861 \end{array}$ | SPECIAL OPERATION CAPABILITY SPECIALIST (SOCS-B) NMOS - JTAC | 54 | 0 | 54 | 0.0\% |
| USN | E35-E8 | 8403_27 | CORPSMEN | 120 | 0 | 120 | 0.0\% |
|  |  |  | Total | 773 | 441 | 332 | 57.1\% |
| NAVSPECWARCOM |  |  |  |  |  |  |  |
| USN | E5-E7 | HM | Medical Support | 27 | 0 | 27 | 0.0\% |
| USN | E4-E7 | 9613/9527 | Communications Support | 18 | 0 | 18 | 0.0\% |
| USN | E5-E8 | CT | Tactical Information Operations (TIO) | 81 | 0 | 81 | 0.0\% |
| USN | E5-E8 | 3912 | Intelligence Specialist (IS) Supporting Submarine Operations | 13 | 0 | 13 | 0.0\% |
| USN | E3-E8 | Seabee | Combat Systems Support | 116 | 0 | 116 | 0.0\% |
| USN | E4-E9 | EOD | EOD MOA (1 Officer and 7 Enlisted per deploying NSWRON) | * | * | * | 0.0\% |
| USN | E5-E7 | 9534 | SEAL Delivery Vehicle Team Technician | 69 | 0 | 69 | 0.0\% |
| USN | E4-E8 | Sub Rates | Submarine coded enlisted billets | 63 | 0 | 63 | 0.0\% |
|  |  |  | Total | 387 | 0 | 387 | 0.0\% |
| Level 1 Total |  |  |  | 16577 | 7191 | 8945 | 55.0\% |


| AFSOC |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Service | Grade | MOS/AFSC | Service_Title |  | Total | Open | Closed | \% Open |
| Air Force | Officer | 13CX | Special Tactics Officer |  | 104 | 0 | 104 | 0.0\% |
| Air Force | Officer | 15WXC | Special Operations Weather Officer |  | 18 | 0 | 18 | 0.0\% |
| Air Force | Enlisted | 1C2XX | Combat Control (Enlisted) |  | 561 | 0 | 561 | 0.0\% |
| Air Force | Enlisted | 1W0X2 | Special Operations Weather (Enlisted) |  | 120 | 0 | 120 | 0.0\% |
|  |  |  |  | Total | 803 | 0 | 803 | 0.0\% |
| USASOC |  |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title |  | Total | Open | Closed | \% Open |
| Army | Enlisted | 11X | Infantryman (Ranger Rgt) |  | 2277 | 0 | 2277 | 0.0\% |
| Army | O/WO/E | 18XX | Special Forces |  | 7153 | 0 | 7153 | 0.0\% |
|  |  |  |  | Total | 9430 | 0 | 9430 | 0.0\% |
| Service MARSOC |  |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title |  | Total | Open | Closed | \% Open |
| USMC | O/E | 037X | Special Operations / Critical Skills Operators |  | 928 | 0 | 928 | 0.0\% |
|  |  |  |  | Total | 928 | 0 | 928 | 0.0\% |
| NAVSPECWARCOM |  |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title |  | Total | Open | Closed | \% Open |
| NAVY | O/WO/E | $\begin{array}{\|c\|} \hline 1130 / 7150 / \\ 5326 \\ \hline \end{array}$ | SEAL Officer/Warrant Officer/Enlisted |  | 3394 | 0 | 3394 | 0.0\% |
| NAVY | WO/E | 7170/5352 | SWCC Warrant Officer/Enlisted |  | 942 | 0 | 942 | 0.0\% |
|  |  |  |  | Total | 4336 | 0 | 4336 | 0.0\% |
| Level 2 Total |  |  |  |  | 15497 | 0 | 15497 | 0.0\% |
| Level 1 \& 2 Total |  |  |  |  | 32074 | 7191 | 24442 | 22.4\% |

(This page is intentionally left blank.)

## Appendix B. Women in SOF Survey Design

This Appendix provides details on the construction of the survey instrument.

## Approach to Survey Instrument Development

Based upon an analysis of the task description and available theoretical and empirical work on the integration of women and other out-groups into the military and other institutions, we identified six key themes to be explored in the survey:

1. cohesion;
2. performance;
3. readiness;
4. morale;
5. leadership/personnel management; and
6. general women in Special Operations Forces (SOF) issues.

We also identified seven sections for the survey, each of which we believed needed to be addressed to provide a well-rounded picture of SOF beliefs and attitudes regarding the issue of women in SOF:

1. survey screening questions;
2. general topical awareness and importance;
3. experience working with military women downrange;
4. preexisting attitudes about integrating women into previously closed SOF specialties;
5. expectations regarding the results of integrating women into SOF;
6. implementation advice; and
7. demographics.

To develop a pool of potential items for our instrument that might be included in the survey, we collected questions asked in previous RAND studies and other surveys that addressed the themes of women in the military, Don't Ask Don't Tell (DADT), and other related social attitudes. ${ }^{1}$ We also reviewed relevant scholarly research, and collected additional candidate items for the survey that were published in peer-reviewed social science journal articles.

[^0]The initial collection effort yielded about 140 candidate questions for the survey, which, with our additional research into relevant scholarly work in the area, expanded the pool of items to about 300 candidate questions for the draft instrument.

To ensure a balanced survey and the availability of multiple items for each construct we were measuring, we constructed a 24 -cell survey design matrix defined by the six key themes and the four substantive sections (experience, attitudes, expectations, and implementation advice). Our initial planning target was a survey of about 100 mostly closed-ended questions that would take respondents about 20 minutes to complete, and would, on average, entail about four questions in each cell of our survey design matrix; in consultation with USSOCOM, this was subsequently reduced to a shorter instrument of about 50 questions that would take respondents about 10 minutes to complete, and would, on average, have about two questions in each cell. ${ }^{2}$

We organized the collected survey items into the survey design matrix to facilitate the process of eliminating candidate questions from our instrument, and generally balancing the questions across key themes and survey sections, as described above. Once the candidate survey items were organized in the survey design matrix, we conducted more than a dozen rounds of reviews in which two reviewers independently reviewed items related to each key theme and each survey section based upon their ability to reliably address key policy issues. In each round, the reviewers compared their observations on item selection, and discussed the relative merits of each identified item for possible inclusion in the survey. As candidate items were selected, the reviewers also discussed the standardization and refinement of question wording and measurement scales. This process led, initially, to a draft instrument of about 100 items, and was subsequently repeated to achieve an instrument of the desired length of about 50 items. Once the candidate survey items were established, proposed survey question order, skip logic, and scales were finalized in an instrument of 46 questions, including seven questions on the demographic background characteristics of respondents.

The draft survey instrument also was reviewed informally at various points by a number of RAND industrial/organizational (IO) psychologists and other psychologists, ${ }^{3}$ as well as several former and current SOF operators and Military Fellows at RAND. The instrument and approach also were formally reviewed by a senior IO psychologist.

The final instrument approved by our USSOCOM sponsors has six sections and addresses seven themes. The seven sections are:
${ }^{2}$ USSOCOM expressed concern that its personnel already were subject to "survey fatigue" and that a 50 -question instrument would be less onerous than a 100-question instrument.
${ }^{3}$ Informal reviewers included RAND colleagues with backgrounds in social psychology, clinical psychology, industrial/organizational psychology, political science, and education, as well as several Army Fellows at RAND. A formal review was provided by Larry Hanser, senior I/O psychologist. The sampling strategy was reviewed by Lou Mariano, senior statistician.
a. Screening Questions: The screening section contains questions that are designed to ensure that only individuals in the target population participate in the survey. Specifically, this survey is designed to be administered to individuals with the following characteristics:
i. Active Duty or currently drilling or mobilized member of the Guard or Reserve;
ii. Current incumbent in a USSOCOM Level 2 specialty that has been closed to women by specialty.
b. Implementation Section: The implementation section provides opportunities for participants to suggest actions that may help smooth the introduction of the policy change to open previously closed specialties to women. These questions may provide useful insights and previously unconsidered options for USSOCOM leaders to consider during policy implementation.
c. Importance Section: This section contains questions that assess the extent to which participants perceive the opening of previously closed SOF specialties to women to be an important topic. These questions assess different dimensions of attitude importance that have been shown to be associated with attitude stability and strength. In terms of policy relevance, this section will help to assess how strongly held opinions on this topic may be, and to inform command information, education, and training activities that support implementation. The dimensions assessed include the following:
i. Frequency of thought about the issue;
ii. Interest in information about the issue; and
iii. Frequency of talking about the issue.
d. Experience Section: The experience section addresses participants' attitudes and experiences working with their current unit and working with women in a combat environment. Experience has been shown to affect attitudes. As such, this section has been included to facilitate better understanding of which experiences are associated with attitudes toward opening SOF specialties to women and with a more positive work environment. Understanding the association between experiences and current unit attitudes may permit identification of audiences to target for increased education, training, and monitoring during the opening of SOF specialties to women. The policy relevance of this section lies in providing a basis for identifying opinions that do and do not build from direct experience, the latter of which are likely to be more fluid and less stable.
e. Expectations Section: The expectations section will illuminate participants' outlooks regarding potential positive and negative consequences of opening previously closed SOF specialties to women. These items directly assess attitudes toward this policy and its expected impacts, and the items are designed to identify areas of optimism or pessimism that may need to
be addressed during implementation. USSOCOM leaders may use this information to understand and address respondents' key concerns by developing policies that mute negative impacts, foster positive ones, and, where there are misperceptions, contribute to more realistic or positive attitudes and expectations.
f. Demographics Section: This section addresses characteristics that may be associated with attitudes and expectations regarding the opening of SOF specialties to women. For example, anecdotally, individuals have suggested that married SOF men (and their wives) may be more concerned regarding the opening of specialties to women than unmarried SOF men. Further, responses may be associated with age or years of service, which has implications for recruitment, retention, personnel, and force management policies. The data from these questions also may be important in reweighting the sample to compensate for nonresponse bias.

The experience, expectations, and implementation survey sections contain a set of common themes that are addressed across sections. Most of these themes have been prominent ones in past scholarly and policy debates about the potential impacts of opening the force to previously excluded groups, and include the following:
a. Performance: This theme addresses perceptions regarding current unit combat performance, and expectations about impacts on individual and unit performance if women are integrated into their specialty or unit.
b. Readiness: This theme addresses perceptions regarding current unit combat readiness, and expectations about potential impacts on readiness if women are integrated into their specialty or unit.
c. Cohesion: This theme addresses perceptions of two types of cohesion-task cohesion, which involves shared task goals, and social cohesion, which involves emotional and trust bonds among group members-that have been theorized to be associated with unit performance and that may be affected by the opening of SOF specialties to women.
d. Leadership: This theme addresses the leadership environment, and the extent to which respondents believe various leadership actions may help to facilitate implementation of the policy to open previously closed SOF specialties to women.
e. Climate: This theme encompasses perceptions of the current and expected organizational climate in terms of the levels of sexism and sexual discrimination or harassment toward women. As such, this may be helpful in targeting informational,
education, and training programs and informing personnel and force management decisions.
f. Perceptions of Women in SOF: This theme addresses various perceptions regarding the potential positive and negative implications of opening previously closed SOF specialties to women. These include:
i. Perceptions regarding potential benefits and challenges of women entering previously closed SOF specialties and units
ii. Concerns regarding the impacts of physiological differences and health needs
iii. General attitudes about having one's specialty open to women, and women joining one's unit. ${ }^{4}$

## Policy Questions Addressed

The final version of RAND's Women in SOF Survey approved by USSOCOM consists of a total of 46 questions that have been designed to provide USSOCOM with a broad understanding of operators' experience, attitudes, and beliefs about the integration of women into USSOCOM SOF Level 2 positions that have previously been closed to women, and possible policy actions that can foster positive outcomes with this policy change.

As an overall point, the survey aims to provide detailed data on the differences across ranks and SOF service components in terms of outlooks toward the potential integration of women into SOF and the extent of possible resistance to such integration. In general, the main policy question that the survey data will inform is the following:

What perceptions and concerns of USSOCOM operators should be of interest to USSOCOM leaders because they can inform implementation of the policy to integrate women into previously closed SOF specialties?

## Q. Do special operators generally favor or oppose policies to open their specialties and units to women?

Rationale: The basic orientation of respondents toward opening positions women, whether favorable or unfavorable, will be a key indicator of the basic level of support or resistance USSOCOM leaders can expect from special operators.

Relevant Questions/Index Construction: Q20-Q21

[^1]
## Q. How important is the issue of integration of Women in SOF to special operators?

Rationale: The importance of an issue has been shown to relate to the strength of the attitude and, in the present case, the potential strength of support or opposition for the policy change. In addition, the perceived importance of an issue is related to the likely stability of the attitude; if special operators think this an unimportant issue, their support or opposition is likely to be quite weak.

Relevant Questions/Index Construction: Q9, Q10

## Q. What do special operators believe might be the greatest benefits that might result

 from opening USSOCOM-controlled positions to women?Rationale: The extent to which special operators can imagine benefits from the policy change will help in gauging support for the policy; their ideas also may be helpful to USSOCOM leaders in communications that tout potential positive outcomes that may offset special operators' concerns about challenges.

Relevant Questions/Index Construction: Q1, Q37, Q38

## Q. What do special operators believe might be the greatest challenges USSOCOM leaders will face in opening USSOCOM-controlled positions to women?

Rationale: The degree of convergence or divergence on this question will provide a better idea of whether the success of efforts to explain and build support for the policy is likely to hinge on a small number of key issues, or a much larger number of diffuse ones.

Relevant Questions/Index Construction: Q2
Q. What impacts do special operators expect on the following: unit performance, unit cohesion, unit trust, and leadership and personnel management?

Rationale: These dimensions are considered to be core aspects of high-performing SOF units, and concerns about any of them will need to be allayed or, if warranted, addressed through additional policy actions.

Relevant Questions/Index Construction: Q13-Q19, Q26 -Q35

## Q. What implementation actions do special operators believe USSOCOM leaders should take to foster more beneficial outcomes, and to address key challenges?

Rationale: special operators may have recommendations or pre-existing opinions regarding measures that can be taken to smooth the integration of women into SOF. As such, these questions are designed to obtain special operator's suggestions, assess common themes in recommendations regarding areas to address, and assess operators' views on the efficacy of various policy actions.

Relevant Questions/Index Construction: Q3, Q4-Q8, Q39
Q. What pre-existing attitudes do special operators have regarding women who may be integrated into their specialties?

Rationale: The basic orientation of respondents-positive or negative-toward women who may be integrated into SOF specialties will serve as another indicator of support or resistance for the integration policy. If negative, this would suggest that USSOCOM leaders may need to take additional actions to address perceptions of the qualities and abilities of these women or, if accurate, other actions, e.g., related to assessment, selection, and qualification.

Relevant Questions/Index Construction: Q22-Q25, Q36

## Q. What experience do special operators have working with military women?

Rationale: Positive experiences with members of out-groups may be associated with more favorable attitudes toward the out-group; if special operators perceive generally favorable experiences working with U.S. military women, they may have more favorable attitudes toward the policy change. On the other hand, generally negative experiences working with U.S. military women could be harder to redress.

Relevant Questions/Index Construction: Q11-Q12
Q. How do responses to the above questions vary by key sub-group (e.g., service, unit, specialty, grade)?

Rationale: Certain groups, e.g., Non-Commissioned Officers (NCOs) and mid-level officers, may be particularly important stakeholder groups in successfully addressing challenges, and fostering more favorable outcomes.

Relevant Questions: S1, S2, Q11, Q12, Q40-Q46
(This page is intentionally left blank.)

## Appendix C. Women in SOF Survey Sample Size Requirements

This Appendix provides the sampling frame options for the Women in SOF survey.
As of March 2013, USSOCOM figures showed a total of 15,497 "Level 2" positions, i.e., USSOCOM-controlled military occupational specialties (MOS), occupations, specialties, and career fields that have been closed to women by specialty. ${ }^{5}$ These Level 2 positions are broken out into nine distinct specialties, as described in Figure C.1.

In order to understand fully the magnitude and scope of the potential barriers and challenges to inclusion of women in Level 2 positions, we wanted to ensure an inclusive and comprehensive picture of the personnel currently serving in Level 2 positions, taking into account differences across service components, specialties, ranks, and various other sub-groups, not all of which can be anticipated a priori. That means being able to provide statistically reliable results to distinguish between groups at the highest level of granularity (i.e., by component, MOS, Primary Service Occupation Code, and grade), while hedging against a low response rate. ${ }^{6}$

We are also cognizant of the sponsor wanting a detailed understanding of the potential challenges and obstacles at the small unit and team level, which accentuates the need for a high level of granularity in findings. We explored alternative sampling frames that might achieve standard levels of statistical precision, while seeking to reduce the overall response burden on currently serving service members in USSOCOM Level 2 positions.

We present in Table C. 2 the estimated sample sizes that would meet the basic statistical criteria of a 95 percent confidence level and a confidence interval of plus or minus three percent for alternative sampling frames. ${ }^{7}$ The table presents the estimated base sample size that would be required to achieve standard levels of statistical precision, as well as the estimated sample sizes that would be needed to hedge against a 75 or 50 percent response rate.

[^2]Figure C.1. Incumbents in USSOCOM-Controlled Level 2 Positions

| Closed By Specialty <br> Level 2 Positions |  |  | USSOCOM-controlled MOS, occupations, specialities, and career fields |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| AFSOC |  |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title |  | Total | Open | Closed | \% Open |
| Air Force | Officer | 13CX | Special Tactics Officer |  | 104 | 0 | 104 | 0.0\% |
| Air Force | Officer | 15WXC | Special Operations Weather Officer |  | 18 | 0 | 18 | 0.0\% |
| Air Force | Enlisted | 1C2XX | Combat Control (Enlisted) |  | 561 | 0 | 561 | 0.0\% |
| Air Force | Enlisted | 1W0X2 | Special Operations Weather (Enlisted) |  | 120 | 0 | 120 | 0.0\% |
|  |  |  |  | Total | 803 | 0 | 803 | 0.0\% |
| USASOC |  |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title |  | Total | Open | Closed | \% Open |
| Army | Enlisted | 11X | Infantryman (Ranger Rgt) |  | 2277 | 0 | 2277 | 0.0\% |
| Army | O/WO/E | 18XX | Special Forces |  | 7153 | 0 | 7153 | 0.0\% |
|  |  |  |  | Total | 9430 | 0 | 9430 | 0.0\% |
| MARSOC |  |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title |  | Total | Open | Closed | \% Open |
| USMC | O/E | 037X | Special Operations / Critical Skills Operators |  | 928 | 0 | 928 | 0.0\% |
|  |  |  |  | Total | 928 | 0 | 928 | 0.0\% |
| NAVSPECWARCOM |  |  |  |  |  |  |  |  |
| Service | Grade | MOS/AFSC | Service_Title |  | Total | Open | Closed | \% Open |
| NAVY | O/WO/E | $\begin{gathered} \hline 1130 / 7150 / \\ 5326 \\ \hline \end{gathered}$ | SEAL Officer/Warrant Officer/Enlisted |  | 3394 | 0 | 3394 | 0.0\% |
| NAVY | WO/E | 7170/5352 | SWCC Warrant Officer/Enlisted |  | 942 | 0 | 942 | 0.0\% |
|  |  |  |  | Total | 4336 | 0 | 4336 | 0.0\% |
|  |  |  |  | Level 2 Total | 15497 | 0 | 15497 | 0.0\% |
|  |  |  |  | Level 182 Total | 32074 | 7191 | 24442 | 22.4\% |

NOTES: MOS = Military Occupational Specialty; AFSC = Air Force Specialty Code; AFSOC = Air Force Special Operations Command; USASOC = U.S. Army Special Operations Command; MARSOC = U.S. Marine Corps Special Operations Command; NAVSPECWARCOM = Naval Special Warfare Command; SEAL = Sea-Air-Land; SWCC = Special Warfare Combatant Craft.

As shown in the table, to achieve conventional levels of statistical precision in the survey results:

1. a random sample of the total population of Level 2 positions would require about 1,000 respondents, twice that if we assume a response rate of 50 percent;
2. a random sample of Level 2 positions by component (i.e., AFSOC, USASOC, MARSOC, and NAVSPECWARCOM) would require 2,700 to 5,500 respondents;
3. a random sample of positions by MOS/AFSC would require about 4,000 to 8,200 respondents;
4. a random sample by MOS/AFSC and Officers/Warrant Officers/Enlisted would require 5,300 to 10,700 respondents;
5. a random sample by MOS/AFSC and grade would require a sample of 10,400 respondents to the full population; and
6. a random sample by Primary Service Occupation Code and grade would require 12,800 respondents to the full population.
7. A census ( 100 percent sample) would draw from the entire estimated population of 15,500 to 16,600 personnel in USSOCOM Level 2 positions.

Table C.1. Illustrative Estimated Required Sample Sizes* by Sampling Frame Option

|  | Estimated Base <br> Sample Size* | Sample Needed <br> Assuming 75\% <br> Response Rate | Sample Needed <br> Assuming 50\% <br> Response Rate |
| :--- | :---: | :---: | :---: |
| Sampling Frame Option | 1,000 |  |  |
|  | $2,700-2,800$ | 1,300 | 2,000 |
| [1] USSOCOM Level 2 Positions | $3,600-3,700$ | $5,400-5,500$ |  |
| [2] By Component (AFSOC/USASOC/ | $4,000-4,100$ | 5,400 | $8,100-8,200$ |
| MARSOC/NAVSPECWARCOM) | 5,300 | 7,100 | 10,700 |
| [3] By MOS/AFSC | 10,400 | 13,800 | $* *$ |
| [4] By MOS/AFSC by Enlisted/WO/Officers | $\mathbf{1 2 , 8 0 0}$ | $* *$ | $* *$ |
| [5] By MOS/AFSC by Grade |  | na | na |

NOTES: Estimated sample sizes rounded to the nearest 100. *Estimated required sample size to achieve a confidence level of 0.95 and a confidence interval of plus or minus three percent using formula for sample size calculation with finite population correction reported in Daniel (1999). The first number in each range is the estimate based upon the relevant total in USSOCOM's March 2013 memo, while the second number is the estimate based upon totals from DMDC's Active Duty Master File, as of September 2013. **= Required sample size exceeds 100 percent of population, and is impossible to attain. na = Not applicable.

As options 1 through 5 would achieve the desired level of statistical precision but would not generate results at the desired level of granularity (Primary Service Occupation Code by grade), the option that would best meet that goal is Option 6, which, in order to compensate for potential low response rates ( $75 \%$ and below), essentially becomes identical to Option 7. This option -conducting a survey using a 100 percent sample of Level 2 position holders -- will best ensure our ability to compare and contrast results by detailed occupation code and grade, while also providing the best foundation for re-aggregating results in various meaningful ways. ${ }^{8}$

Given that we recommend surveying all service members in USSOCOM Level 2 positions, we are taking steps to minimize the survey burden on these service members, principally by designing a short survey instrument that should be able to be completed in about 20 minutes.

[^3]
## Statistical Appendix

Sample size estimates were generated for each cell in a sampling frame (e.g., for Option 1, a single cell containing all USSOCOM Level 2 personnel, for Option 6, the matrix created by Primary Service Occupation Codes by grade) in Microsoft Excel using the sample size formula with finite population correction described in Daniel (1999) as follows:

$$
n^{\prime}=\frac{N Z^{2} P(1-P)}{d^{2}(N-1)+Z^{2} P(1-P)}
$$

where $n^{\prime}=$ Sample size with finite population correction, $N=$ Population size, $Z=Z$ statistic for a level of confidence, $P=$ Expected proportion (If the prevalence is $20 \%, P=0.2$ ), and $d=$ Precision (If the precision is $5 \%$, then $d=0.05$ )

The calculation for each cell used the following parameters:

- $\mathrm{N}=$ the number of personnel in the cell;
- $\mathrm{Z}=1.96$, corresponding to a confidence level of 95 percent;
- $\mathrm{P}=0.5$, providing a conservative estimate; and
- $\mathrm{d}=.03$, corresponding to a confidence interval of plus or minus three percent.

These results were then summed across all of the cells in the matrix to generate an overall estimate of the required sample size for the sampling frame.

## Appendix D. Efforts to Reduce Respondent Burden

This Appendix describes our rationale and attempts to reduce respondent burden and promote higher response rates in the Women in SOF survey. We gave careful consideration to survey design and implementation factors that past scholarship has shown are associated with burden reduction and higher response rates. These include the following:

- The Questionnaire Will Be Shorter Than The Threshold Where Respondent Fatigue Typically Sets In. Survey researchers suggest that participants are more likely to respond to surveys that are no longer than 20 minutes, which translates to about 100 closed-ended questions; we are designing our instrument of fewer than 50 questions that will have a completion time of about 10 minutes.
- The Web-Based Instrument Will Be Readily Accessible To Respondents. Web-based surveys are at least comparable to paper-based surveys in terms of response rates when all respondents have web access, and have cost and methodological advantages over paper-based surveys; we accordingly plan to field a web-based survey. (The survey was hosted on a dedicated RAND server.)
- Invitations Will Include Language Designed to Increase Response Rates. Use of clear and concise messages to make completion of the survey a more appealing proposition can also contribute to higher rates of participation. We accordingly have designed our survey invitations and reminders to provide the sort of language that has been shown to increase the perceived importance of survey topics and reduce the perceived burden of taking a survey, draw upon respondents' innate tendencies to want to be helpful when asked, and accent the reputability of the organization conducting the survey. (Invitations were sent by USSOCOM.)
- Respondents Will Be Given Several Reminders To Complete The Survey. Providing several survey reminders has been shown to increase rates of participation; we planned for a total of four contacts to be sent by USSOCOM to respondents.
- The Questionnaire Will Largely Consist of Short, Easy To Answer Items. Closed-ended questions take less time to answer than longer ones, or open-ended questions; our survey instrument consists primarily of short, closed-ended questions.


## Survey Response Rate

Survey researchers seek to obtain information that accurately reflects the attitudes, experiences, and expectations of a given population (Dillman, Smyth and Christian, 2009).
Different factors can impede this goal. For example, nonresponse is one form of survey error that can reduce survey accuracy. It occurs when there is a difference between those who do and do not respond to a survey in which they have been asked to participate, and when there is a difference between those who do and do not respond to certain items within a survey. Multiple assessments have been conducted to examine the survey design and implementation factors
associated with increasing survey response rate, which may decrease the potential for nonresponse error (Umbach, 2004). Among the numerous factors assessed, survey length, mode of implementation, the number and quality of contacts, and question structure and wording are some of the more commonly considered design elements.

## Survey Length

Survey length (and perceived burden) may play an important role in influencing response rates. Generally, longer surveys are associated with lower response rates (Newell et al., 2004; Deutskens et al., 2004). Although a number of studies using both mail and web-based surveys support this proposition, the strength of the association between survey length and response rate appears to be moderate to weak (Porter, 2004). ${ }^{9}$ For example, a meta-analysis of military-only samples found a weak effect of survey length on response rate, and concluded that the effect in this population may be "negligible (i.e., minimal practice significance)" (Parrish, 2007, p.31).

To reduce the potential for survey length to influence participation decisions, surveys should be of reasonable length. Building from experiments that have varied survey length and examined the effect on response rates among civilian samples and from meta-analyses addressing the topic, a common recommendation is that it should take participants no longer than 20 minutes to complete a survey (Umbach, 2004; Gunn, 2002). Other studies have suggested that surveys conducted with college students, such as Air Force Academy cadets, should take no longer than 13 minutes (Fan and Yan, 2010).

The amount of time participants use to complete a survey is related to the number of survey items and other features of the questionnaire and questionnaire items (Puleston, 2012). The average amount of time participants spend on each survey item can vary by characteristics of the survey, survey items, and population. However, survey practitioners suggest that the average amount of time to complete 100 closed-ended questions is approximately $12.5-20$ minutes. ${ }^{10}$ To estimate the length of time that participants from a particular population will require to complete a specific survey, a pilot test of the survey using a small number of participants from the target population should be conducted. ${ }^{11}$

[^4]
## Mode of Implementation

Surveys may be administered via the Web or in paper-based format. Web-based surveys have several methodological and financial advantages over paper-based surveys, but they are not without limitations, including the potential for a single survey to have a different appearance in different browsers. Further, response rates among a civilian population with variable access to the Web may differ across the modes of survey implementation. However, research using populations in which all members were able to access the Web found that the response rates to Web-based surveys were comparable to those of mailed paper-based surveys (Kaplowitz, Hadlock, and Levine, 2004; Kiernan et al., 2005).

Web-based and paper-based surveys may differ in the amount of time required by participants to complete the surveys. However, no known research has addressed differences between these modes in terms of number of minutes from survey start to completion. ${ }^{12}$ Due to their advantages, web-based surveys may be a preferred mode of survey implementation in many instances.

## Contacting Participants

The number of times to contact potential participants and the design of these contacts can also influence survey response rates. Sending several contacts has been shown to increase survey response rates by up to 37 percent (Wygant et al., 2005). Following an initial contact, researchers suggest sending two to four survey reminders (Dillman, Smyth and Christian, 2009). Guidelines regarding the timing of these contacts have not been firmly established. In terms of the content of these contacts, messages should be simple and concise, and participants should be informed of the approximate number of minutes required to complete the survey, and the deadline for survey completion (Umbach, 2004). In addition, a brief invitation that accents the confidentiality of responses, the importance of the survey topic, the benefits of survey participation, the minimal burden of participation, and the reputability of the survey organization have all been shown to be associated with higher response rates. ${ }^{13}$

## Question Structure and Wording

Research has shown that item nonresponse rates are associated with the characteristics of survey items, including the format, structure, and content of these items. Nonresponse rates can be reduced by limiting the number of open-ended questions and personal or organizationally

[^5]sensitive questions. ${ }^{14}$ Combining similarly-structured or -worded questions into blocks can also reduce the number of words and cognitive burden of answering these questions (TomaskovicDevey, Leiter, and Thompson, 1995).

## Conclusion

As currently designed, the Women In SOF Survey has been designed to present a small burden to respondents-about 10 minutes to answer fewer than 50 questions-while providing essential insights into respondents' relevant experiences and views of a range of potential impacts, including unit performance, readiness, cohesion, order and discipline, and organizational climate. The survey also will provide essential information for designing education, training, information, and other efforts to promote positive outcomes, and mute negative ones.

[^6]
## Appendix E. Notes on Selected Survey Questions

This Appendix provides additional detail on key variables and constructed indexes used in our analyses.

## Q20. Do you favor or oppose the following? Opening your specialty to women

This question was the principal dependent variable in our study. The question was preceded by the following preamble, which defined the meaning of "women" as follows:
"By 'women,' we mean U.S. military women who will have passed the admission and qualification standards for your specialty."

The question aimed to measure respondents' opinions about women joining the primary job that respondents currently perform in SOF. It was assumed that respondents interpret the words, "your specialty," to mean their primary military occupational specialty. The question was loosely modeled after similar items used in Harrell and Miller (1997). For example, one question from this study asked respondents, "Do you think women should be allowed to serve in your occupation/career field?"

Respondents were able to choose one of five answer choices in response to this question: "Strongly Oppose" (coded as a 1) "Somewhat Oppose" (coded as a 2), "Neither Oppose Nor Favor" (coded as a 3), "Somewhat Favor" (coded as a 4), and "Strongly Favor" (coded as a 5). ${ }^{15}$ Respondents who did not answer these questions we scored as missing.

## Q21. Do you favor or oppose the following? Opening your unit to women

Although not the focus of the policy change, second question was designed to provide a measure of the degree that respondents favored or opposed women joining their current SOF unit, to enable comparisons between support and opposition for opening SOF specialties to women, on the one hand, and opening SOF units to women, on the other. Prior to presentation of this question, the survey instrument defined "current unit" as follows:

[^7]"By 'unit,' we mean [Programmed: Relevant small team entered, such as Special Tactics teams or detachment, Ranger element, MARSOC platoon, SEAL platoon, SWCC detachment] that you operate with in conducting combat missions."

This question also was loosely modeled after similar items used by Harrell and Miller (1997). For example, Q37 from their questionnaire for males asked respondents, "Are you worried about how to conduct yourself around women in your unit." Q38 from this same questionnaire asked respondents, "How would you rank the women in your unit?"

Other surveys of military respondents have used the term, "your unit" in questions, as well. For example, one question from the 2012 Workplace and Gender Relations Survey of Active Duty Members (DMDC, 2013, p. 100) asked respondents, "Overall, how well prepared is your unit to perform its wartime mission?" Similar question wording also has been used in academic research on military respondents' attitudes and opinions (Ender, 2013; Posard, Hultquist, and Segal 2013). Put simply, it is common for surveys of American respondents to use the term "your unit" when asking questions about their primary combat group.

## The Importance of Standards (Q4 and Q5)

Two questions asked respondents about the importance of establishing standards:
"How important would each of the following be in successfully integrating women into SOF?"

Q4. ...establishing performance requirements that are the same for men and women in SOF?

Q5. ...consistently enforcing standards of conduct that are the same for men and women in SOF:?

Q4 asked respondents to rate how important they believed it was for SOF to establish genderneutral requirements for job performance. It asked respondents to rate their opinions about establishing performance requirements, which is distinct from how the military would enforce these requirements. The survey did not explicitly define the meaning of "performance," meaning that respondents could interpret it to mean physical, mental, or other qualities that respondents believe are necessary to be in SOF. Thus, these questions represent respondent opinions about "performance" in its broader, conventional usage, rather than any specific sense of the word.

Q5 asked respondents to rate how important it was for SOF to consistently enforce standards regardless of a respondents' gender. This question measured respondent opinions on how the military would implement pre-defined standards for men and women in SOF. Nor were "standards of conduct" defined in more specific terms.

Each of the two questions displayed the same answer choices for respondents. These choices ranged along a five-point scale, where 1 represented "Not Important At All," 2 was "A Little

Important," 3 was "Somewhat Important," 4 was "Quite Important," and 5 was "Extremely Important."

## Standards Index

We constructed a standards index to create a composite of responses to Q4 and Q5 by computing the average between respondents' answers for Q 4 and Q 5 . Let us say, for example, that a respondent who took this survey selected the highest category for one question ( $5=$ Extremely Important), but he chose the lowest category for the second question ( $1=$ Not Important At All). The summation of these two values is six, and the index score for this respondent is three $(6 / 2=3)$. That is how we constructed all indices in this study.

The standards index had an acceptable level of internal consistency with a Cronbach's alpha coefficient of 0.78 . This coefficient means there was a strong interrelationship between respondent answers to Q4 and Q5. ${ }^{16}$

Neither the standards index, nor individual items Q4 and Q5, achieved statistical significance in our multivariate models, so both were dropped.

## Q12. Please rate the quality of your working experience with U.S. military women in a combat environment.

Studies find that expectations and evaluations of task performance vary by the observable features of people (Walker and Fennell, 1986). For example, studies find that gender is a social category that people associate with performance on gender-neutral tasks (Correll, 2001; Lucas, 2003). Merely knowing that someone is capable of performing well on tasks may counteract negative associations (Berger et al., 1992). More generally, evidence from research on the contact hypothesis shows that the quality of contact with people from out-groups may reduce biases against them held by those in in-groups (Pettigrew, 1998).

We measured quality of contact with a single question that asked respondents to rate the quality of their work experience with women in combat environments:

> We would now like to ask you about your experience working with U.S. military women in a combat environment.

Q12. Please rate the quality of your working experience with U.S. military women in a combat environment.

The item gave the respondent six response choices, where 0 represented "I have not worked in a combat environment," 1 was "Extremely Negative," 2 was "Somewhat Negative, 3

[^8]was "Neither Negative Nor Positive," 4 was "Somewhat Positive," and 5 was "Extremely Positive." We re-coded respondents who did not select an answer as missing data, and dropped those who said that they had not had any experience working with women in a combat environment from our multivariate models.

## Expectations Regarding Women's Capabilities (Q23, Q24, and Q25)

We define expectations as anticipatory beliefs about others' abilities and capacities to accomplish relevant tasks (Berger and Webster, 2006). Three items in this survey asked respondents for their level of agreement or disagreement regarding statements about women's capabilities for SOF-

Please state your level of agreement or disagreement with the following statements:

Q23. Women will have the physical strength and stamina to be effective in my specialty

Q24. Women will have the mental toughness to be effective in my specialty
Q25. Women will be capable of handling the demands of my specialty

Several questions prior to this block of questions, a stem was presented that defined "women":

## Expectations on Working with Women in SOF

We would now like to ask you several questions about opening SOF specialties to women. By "women," we mean U.S. military women who will have passed the admission and qualification standards for your specialty.

Q23 measures two dimensions of physical demands for SOF operators. The first is the physical strength necessary to exert oneself in bodily activities (e.g. running or lifting objects). The second is stamina, defined here as the degree that women can exert themselves in physically demanding activities over time. Both dimensions are necessary for performance in SOF, given the high level of physical demands these respondents endure for prolonged time periods.

Q24 asked respondents to rate their level of agreement or disagreement that women would have the mental toughness to perform effectively in their specialty. This question did not give respondents a specific definition of "mental toughness." Thus, respondent ratings on this item represent general opinions about women's mental resilience to perform effectively in SOF.

Finally, Q25 asked respondents to rate their perceptions of women's capabilities for handling the overall demands of their specialty. This question represents respondents' general ratings about women's capabilities to perform in SOF.

Each of these three questions gave respondents the same answer choices. Respondents could choose one of five answers using a five-point scale, were 1 represented "Strongly Disagree," 2 is
"Somewhat Disagree," 3 is "Neither Agree Nor Disagree," 4 is "Somewhat Agree," and 5 represented "Strongly Agree." We re-coded the scales for each question, where -2 represents "Strongly Disagree," -1 is "Somewhat Disagree," 0 is "Neither Agree Nor Disagree," +1 is "Somewhat Agree," and +2 is Strongly Agree." We coded respondents who did not select any of these answers as missing data. Below are details for each of these questions and the index that we constructed.

## Expected Capabilities Index

Our expected capabilities index is the average between respondent answers in Q23, Q24, and Q25. This index has an acceptable level of internal consistency, with a Cronbach's alpha coefficient of 0.85 . It is important to note that questions within this index are not measures of actual abilities or capacities of women who may join SOF; rather, the index measures expectations that respondents have formed about women's capabilities, which might or might not be based upon actual experience working with women in a combat environment.

## Task Cohesion (Q13, Q17, Q28, and Q33)

We conceive of task cohesion as the degree to which respondents share the same goals for their group (MacCoun, Kier, and Belkin, 2006; MacCoun, 1993). Our survey asked respondents about current levels of task cohesion in their units early in the survey, and later in this survey, respondents answered similar questions about their expectations for task cohesion in their units if women joined their units.

Task cohesion in the current unit was assessed with the following items:
Please rate the following aspects of your current unit:
Q13. The extent to which your unit members work together to accomplish the mission.

Q17. My unit is united in trying to accomplish its missions

Later in the survey, the survey posed an analogous pair of questions regarding their expectations about a future hypothesized unit that included women:
"If women are assigned to my current unit..."
Q28. The extent to which your unit members will work together to accomplish the mission.

Q33. Men and women in my unit will be united in trying to accomplish missions

For the first question in each pair (Q13 and Q28), respondents answered using a five-point scale, where 1 represented "Very Low," 2 was "Low," 3 was "Neither High Nor Low," 4 was "High," and 5 was "Very High." We re-coded these scales so that -2 represented "Very Low," -1
was "Low," 0 was "Neither High Nor Low," +1 was "High," and +2 was "Very High." We recoded respondents who did not choose an answer as missing data.

For Q17 and Q33, respondents also used a five-point scale but they were asked to rate their level of agreement or disagreement with statements about task cohesion, as follows: 1 represented "Strongly Disagree," 2 was "Disagree," 3 was "Neither Agree Nor Disagree," 4 was "Agree," and 5 was "Strongly Agree." We also re-coded these scales so that -2 represented "Strongly Disagree," 1 was "Disagree," 0 was "Neither Agree Nor Disagree," +1 was "Agree," and +2 was "Strongly Agree." We re-coded values for respondents who did not choose an answer as missing data.

We constructed difference scores to capture respondents' expectations regarding change from their current ratings of task cohesion to an hypothesized future in which women join these units. We did this by subtracting their current ratings for task cohesion from their expected ratings if these units were gender-integrated. The first difference score was a measure of respondents' expected change in the degree that members of their unit would work together if women joined their units. This was constructed by subtracting respondent answers to Q13 from Q28.

The second difference score measures respondents' expectations of change in the degree to which their unit would be united in accomplishing relevant missions. We constructed this second variable by subtracting Q17 from Q33.

Finally, we constructed a task cohesion difference index that took an average of these difference scores to capture overall respondent expectations for task cohesion in genderintegrated units. This index had an acceptable level of inter-reliability, with a Cronbach's alpha coefficient of 76 .

## Social Cohesion (Q14, Q18, Q29, and Q34)

Some scholars propose that task-relevant cohesion is distinct from social forms of cohesion (MacCoun, Kier, and Belkin, 2006); while others disagree, suggesting that this distinction is illconceived) (Siebold, 2013). ${ }^{17}$

In light of this lack of agreement among scholars, we took a neutral position, deciding to instrument for the concept in our survey, but remaining agnostic as to whether it would prove to be relevant to explaining support or opposition to opening SOF specialties.

We broadly define social cohesion as the degree to which respondents who work together on tasks also like each other. According to this treatment, task and social cohesion represent distinct concepts. The former involves the extent that respondents work together to successfully complete some collective task. Social cohesion, in comparison, is the degree these respondents like working with each other (MacCoun, Kier, and Belkin, 2006). Put simply, social cohesion has qualities of interpersonal attraction between respondents in the same unit.

[^9]We included four items on social cohesion in our survey, two eliciting information on social cohesion in the current unit, and two with a parallel construction eliciting information on social cohesion in an hypothesized future unit that included women:

> Please state your level of agreement or disagreement with the following statements about your current unit." Below is the wording for each of these questions:
> Q13. The extent to which your unit members are like a family
> Q18. Most members of my unit socialize when off-duty

> If women are assigned to my current unit..."
> Q29 The extent to which your unit members will be like a family
> Q34. Most men and women in my unit will socialize when off-duty

We then constructed social cohesion difference scores by subtracting the current unit assessment from the future unit assessment (i.e., Q29 minus Q13, and Q34 minus Q18), and constructed a social cohesion difference index that took the average of these differences. This index had only a modest level of inter-reliability with a Cronbach's alpha coefficient of 0.58 , below the .70 or higher that generally is considered sufficient for this coefficient (Cortina, 1993). Thus, the inter-reliability for our social cohesion falls short of this standard. Accordingly, we dropped the social cohesion difference index from our multivariate models, and instead used the individual difference scores for being like a family, and socializing when off-duty.

## Unit Trust (Q15, Q16, Q31, and Q32)

The command structure of SOF is unique in that it relies on small, cohesive units that engage in highly specialized missions where respondents employ limited force projection (Shelton, 1997). These missions often present unique dangers of death or injury to individuals, requiring extraordinarily levels of trust among respondents. The subject of trust is accordingly a recurring one within the SOF community, but one that has not been examined very closely by scholars. Although the survey did not explicitly define trust for respondents, we conceived of trust as a system that provides security to individuals for their expected futures constituted by the others (Lewis and Weigert, 1985).

Please rate the following aspects of your current unit:
Q15. The level of trust among members in your unit
Q16. Your level of trust for members in your unit

If women are assigned to your current unit, what are your expectations about the following?

Q31. The level of trust among members in your unit
Q32. Your level of trust for members in your unit

All of these questions used the same five-point scale, where 1 represented "Very Low," 2 was "Low," 3 was "Neither High Nor Low," 4 was "High," and 5 was "Very High. "We recoded these scales so that -2 represented "Very Low," -1 was "Low," 0 was "Neither High Nor Low," +1 was "High," and +2 was "Very High." We also re-coded values for respondents who did not choose an answer as missing data.

As before, we constructed two new difference scores that measured expectations of trust, less current levels of trust (Q31 minus Q15, and Q32 minus Q16), and then averaged these differences to construct a unit trust difference index. This index had an acceptable level of interreliability, with a Cronbach's alpha coefficient of 0.94 .

## The Availability of Leaders for Conflict Resolution (Q19 and Q35)

There is considerable evidence that leadership is an important factor for morale and wellbeing of respondents (Segal and Bourg, 2002; Jacobs and Sanders, 2005). This survey had two questions that asked respondents about the level of support they receive from leaders of their units. These questions did not explicitly define leader. Thus, respondents may have interpreted "leader" narrowly (e.g. leaders of their primary combat unit) or broadly (e.g. leaders of SOF).

Respondents were asked to state their level of agreement or disagreement with the following two statements:

Please state your level of agreement or disagreement with the following statements about your current unit.

Q19. I can go to unit leaders for help if I have a problem or concern regarding conflicts between members of my unit

If women are assigned to my current unit...
Q35. I will be able to go unit leaders for help if I have a problem or concern regarding women members of my unit

Both questions used the same five-point scale, where 1 represented "Strongly Disagree," 2 was "Somewhat Disagree," 3 was "Neither Agree Nor Disagree," 4 was "Somewhat Agree," and 5 was "Strongly Agree." We re-coded values for respondents who did not choose an answer as missing data. Next, we subtracted values for Q19 from values to Q20. This created a measure of expected changes in the availability of leaders for conflict resolution should women join SOF relative to current levels of support.

## Years of Service (Q40)

Q40 asked respondents: "In what year did you first enter active duty U.S. military service? (Enter Year)". We estimated each respondent's years of service by subtracting the year they indicated they first entered active duty U.S. military service from the year of our study, 2014.

## Rank Group (Q41)

Q41 asked respondents "What is your current pay grade?" We recoded response to this question into six rank groups as follows:
(1) E-1 to E-4: Enlisted
(2) E-5 to E-6: Non-Commissioned Officer (NCO)
(3) E7 to E-9: Senior Non-Commissioned Officer (SNCO)
(4) W-1 to W-5: Warrant Officers
(5) O-1 to O-3: Junior Commissioned Officer
(6) O-4 to O-5: Field Grade Commissioned Officer
(7) O-6+: Senior Commissioned Officer

## Currently Married (Q43)

Q43 asked respondents "What is your current marital status?" and offered the following options: (1) now married; (2) widowed; (3) divorced; (4) separated; (5) never married; (6) civil commitment or union. We created a binary variable for currently married in which we recoded option 1 (now married) as a 1 (currently married), and all other responses as a 0 .

## Extreme Negative Response Index

To answer survey questions involves time and cognitive effort by the respondent. The respondent must read the content of a question, form an opinion based on a range of relevant considerations, and communicate this opinion using a rating scale. It is far easier for respondents to select extreme answers to questions, even if there is variation in their opinions. Moreover, respondents who receive numerous requests to complete surveys may suffer from survey fatigue (Miller et al., 2011, p. 52). This could lead some respondents to select extreme answers because it is easier than taking the time to think about the content of questions. Extreme response styles is the phrase used to describe respondents who select extreme positive or negative points on scales for questions, independent of the content of these questions (Greenleaf, 1992).

We calculated a measure of extreme response by counting up the number of times each respondent chose the most extreme negative response out of a total of eight questions from two sections of this survey, as follows:

If women are assigned to your current unit, what are your expectations about the following?

Q28. The extent to which your unit members will work together to accomplish the mission

Q29. The extent to which your unit members will be like a family
Q30. The level of trust among members in your unit
Q31. Your level of trust for members in your unit
Q32. Your level of trust for women in your unit

If women are assigned to my current unit... "
Q33. Men and women in my unit will be united in trying to accomplish missions
Q34. Most men and women in my unit will socialize when off-duty
Q35. I will be able to go unit leaders for help if I have a problem or concern regarding women members of my unit

The first set of questions used the same five-point scale, where 1 represented "Very Low," 2 was "Low," 3 was "Neither High Nor Low," 4 was "High," and 5 was "Very High." We recoded values for respondents who did not choose an answer as missing data.

For the second set of questions, respondents could choose one of five answers using a fivepoint scale, where 1 represented "Strongly Disagree," 2 was "Somewhat Disagree," 3 was "Neither Agree Nor Disagree," 4 was "Somewhat Agree," and 5 represented "Strongly Agree." We re-coded values for respondents who did not select any of these answers as missing data.

We constructed dichotomous variables for each of the seven questions listed above, where 1 represented respondents who selected the most extreme value ("Very Low" or "Strongly Disagree"), and summed the number of extreme negative responses for each respondent. We then created a dichotomous variable in which respondents who had two or more extreme negative responses were given a 1 (extreme negative responder), and those who had 0 or 1 extreme negative responses were coded as non-extreme responders.

The 78.2 percent of our sample who had either no or only one extreme negative answer to the eight questions were coded as "non-extreme responders," whereas the remaining 21.8 percent were coded as "extreme responders." As two or more extreme negative responses was a very low bar for a respondent qualifying as an extreme negative responder, we conducted sensitivity analyses to ascertain whether higher thresholds (e.g., three, four,...eight) for identifying extreme responders affected our multivariate statistical results. The extreme negative response index was not statistically significant, an outcome that held regardless of the threshold used for defining extreme negative responders.
(This page is intentionally left blank.)

# Prepublication Copy: This document has not yet been edited or proofread. <br> <br> Appendix F. Women in SOF Informed Consent Statement 

 <br> <br> Appendix F. Women in SOF Informed Consent Statement}

This Appendix presents the Informed Consent Statement contained at the beginning of the Women in SOF survey.

## RESTRICTED DRAFT - DO NOT CITE

## Informed Consent Statement

In January 2013, the DoD eliminated the 1994 Direct Ground Combat Definition and Assignment rule that excluded women from assignment to units and positions whose primary mission is to engage in direct ground combat. Then-Secretary of Defense Panetta ordered the Military Departments and USSOCOM to develop and implement validated, gender-neutral occupational standards, notify Congress of their decisions, and then open units and positions that had been closed to women.

To inform USSOCOM leaders and facilitate implementation of this guidance, Admiral William McRaven, Commander of USSOCOM, asked the RAND Corporation to conduct a survey of those serving in nine occupational specialties controlled by USSOCOM that have been closed to women by specialty:

1. AFSOC: Special Tactics Officer (13CX); Special Operations Weather Team Officer (15WXC); Combat Control Enlisted (1C2XX); and Special Operations Weather Team - Enlisted (1W0X2)
2. USASOC: Infantryman - Ranger Regiment (11X); Special Forces (18XX)
3. MARSOC: Special Operations/Critical Skills Operators (037X)
4. NAVSPECWARCOM: Seal Officer/Warrant Officer/Enlisted (1130/7150/5326); SWCC Warrant Officer/Enlisted (7170/5352)

We are inviting you to complete a survey on your views of potential impacts of opening up SOF specialties to women. The survey contains questions regarding experiences, expectations, and advice relevant to opening up SOF specialties that have been closed to women. All responses will be completely confidential. We expect the survey to take less than 10 minutes to complete.

WHAT IS RAND? The RAND Corporation is a non-profit research institution that conducts research for the Office of the Secretary of Defense (OSD), the Joint Staff, the Services, and other Department of Defense research sponsors. Information about RAND is available at www.rand.org.

WHY IS RAND DOING A SURVEY? USSOCOM asked RAND to conduct research examining the implications of the decision to open SOF specialties and combat units to women. This survey is one part of this research that aims to assess the potential implications of opening SOF specialties to women on unit cohesion, readiness and performance.

HOW WAS I CHOSEN? You were asked to complete this survey because you are a member of one of the USSOCOMcontrolled occupational specialties that have been closed to women by specialty.

WHAT DOES PARTICIPATION ENTAIL? The web-based survey is expected to take less than10 minutes to complete.
DO I HAVE TO PARTICIPATE? RAND has asked you to participate because USSOCOM leaders are very interested in understanding your views on the opening of SOF specialties that have been closed to women, and hope that the study findings can help to inform crucial USSOCOM decisions. The survey is however completely voluntary, and there is no penalty if you choose not to respond, or decide not to complete the survey; your commanders will not know whether you participated.

WHAT WILL BE DONE WITH MY SURVEY RESPONSES? RAND will treat your answers as strictly confidential. Your responses will not be connected with the email address used to request your participation. Your responses will be combined with information from other respondents to report the attitudes, opinions, and expectations of SOF service members. Comments from open-ended (write-in) questions may be reported word for word, but never with identifiable information. No one in your command or any other officials will see your survey results, nor will RAND release any data that could identify you to anyone in your Service, other Department of Defense agencies, or anyone else.

If you have any questions or comments about this RAND research, please contact the project leaders, Thomas Szayna at 310-393-0411 x7758, szayna@rand.org or Bill Welser at 310-393-0411 x6435, bwelser@rand.org. You may also contact the RAND Human Subjects Protection Committee at 310-393-0411 x6939 or hspcadmin@rand.org.

I have read the information and I want to continue. (Check One Box)YES $\rightarrow$ CONTINUE TO S1NO $\rightarrow$ EXIT THE INSTRUMENT

## Appendix G. Women in SOF Survey Instrument

This Appendix presents the Women in SOF survey instrument in its entirety.

## RESTRICTED DRAFT - DO NOT CITE

## Screening Questions

This survey is designed to be administered to active duty U.S. military men who are currently in certain occupational specialties that have been closed to women. The following questions are designed to assess whether this survey is applicable to you.

S1. Are you: (Check One Box)Active duty military member $\rightarrow$ CONTINUE TO S2Currently drilling or mobilized member of the Guard or Reserve $\rightarrow$ CONTINUE TO S2Neither active duty nor drilling/mobilized member of the Guard or Reserve $\rightarrow$ SKIP TO S3

S2. Is your occupational specialty: (Check One Box)AFSOC: Special Tactics Officer (13CX) $\rightarrow$ SKIP TO Q1AFSOC: Special Operations Weather Team- Officer (15WXC) $\rightarrow$ SKIP TO Q1AFSOC: Combat Control - Enlisted (1C2XX) $\rightarrow$ SKIP TO Q1AFSOC: Special Operations Weather Team - Enlisted (1W0X2) $\rightarrow$ SKIP TO Q1USASOC: Infantryman -Ranger Rgt (11X) $\rightarrow$ SKIP TO Q1USASOC: Special Forces (18XX) $\rightarrow$ SKIP TO Q1MARSOC: Special Operations/Critical Skills Operators (037X) $\rightarrow$ SKIP TO Q1NAVSPECWARCOM: SEAL Officer/Warrant Officer/Enlisted (1130/7150/5326) $\rightarrow$ SKIP TO Q1NAVSPECWARCOM: SWCC Warrant Officer/Enlisted (7170/5352) $\rightarrow$ SKIP TO Q1None of the Above $\rightarrow$ CONTINUE TO S3

## ALL RESPONDENTS WHO DO NOT QUALIFY GO TO S3

S3. Thank you very much for your interest in the study. At this time we are not able to include you in this survey. For further information about RAND research or to follow results of this study when they are published see www.rand.org. $\rightarrow$ EXIT THE INSTRUMENT

## RESTRICTED DRAFT - DO NOT CITE

## Questions on Implementation

We would now like to ask you several questions regarding your current unit. By "unit," we mean the [Programmed: Relevant small team entered, such as Special Tactics team or detachment, Ranger element, MARSOC platoon, SEAL platoon, SWCC detachment] that you operate with in conducting combat missions.

Q1. What do you think might be the greatest benefit of opening SOF specialties to women? (Write Response on Lines)

Q2. What is your greatest concern about opening SOF specialties to women? (Write Response on Lines)

Q3. During the opening of SOF specialties to women, what action(s) should be taken to address this concern? (Write Response on Lines)

How important would each of the following be in successfully integrating women into SOF?

## How important is . . .

Q4....establishing performance requirements that are the same for men and women in SOF?
Q5....consistently enforcing standards of conduct that are the same for men and women in SOF?
Q6....providing education and training on how to work with SOF women?

Q7....leaders consistently engaging personnel during the integration of women into SOF?
Q8....selecting SOF men who are better suited to working in a mixed gender environment?


## RESTRICTED DRAFT - DO NOT CITE

## Questions on the Importance of the Women in SOF Issue

How much have you...

| Not | Very | Some | Quite <br> at Lot | A Great <br> Deal |
| :---: | :---: | :---: | :---: | :---: |
| $1 \square$ | $2 \square$ | $3 \square$ | $4 \square$ | $5 \square$ |
| $1 \square$ | $2 \square$ | $3 \square$ | $4 \square$ | $5 \square$ |

## RESTRICTED DRAFT - DO NOT CITE

## Questions on Experience Working with Women

We would now like to ask you about your experience working with U.S. military women in a combat environment.

Q11. With how many U.S. military women have you worked in a combat environment?

| I have not worked |  |  | $4-9$ |
| :---: | :---: | :---: | :---: |
| in a combat <br> environment | No | $1-3$ | $4-6$ |
| $0 \square$ | $1 \square \square$ | women | women |

Q12. Please rate the quality of your working experience with U.S. military women in a combat environment.


We would now like to ask you several questions regarding your current unit. By "unit," we mean the [Programmed: Relevant small team entered, such as Special Tactics team or detachment, Ranger element, MARSOC platoon, SEAL platoon, SWCC detachment] that you operate with in conducting combat missions.

Please rate the following aspects of your current unit.

Q13. The extent to which your unit members work together to accomplish the mission
Q14. The extent to which your unit members are like a family
Q15. The level of trust among members in your unit
Q16. Your level of trust for members in your unit

| Neither |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Very |  | High no |  | Very |
| Low | Low | Low | High | High |
| $1 \square$ | $2 \square$ | $3 \square$ | $4 \square$ | $5 \square$ |
| $1 \square$ | 2 | $3 \square$ | $4 \square$ | 5 |
| $1 \square$ | $2 \square$ | $3 \square$ | $4 \square$ | $5 \square$ |
| $1 \square$ | 2 | $3 \square$ | $4 \square$ | $5 \square$ |

## Prepublication Copy: This document has not yet been edited or proofread.

## RESTRICTED DRAFT - DO NOT CITE

Please state your level of agreement or disagreement with the following statements about your current unit.

Q17. My unit is united in trying to accomplish its missions.

Q18. Most members of my unit socialize when off- duty.

Q19. I can go to unit leaders for help if I have a problem or concern regarding conflicts between members of my unit.

## RESTRICTED DRAFT - DO NOT CITE

## Expectations on Working with Women in SOF

We would now like to ask you several questions about opening SOF specialties to women. By "women," we mean U.S. military women who will have passed the admission and qualification standards for your specialty.

Do you favor or oppose the following?

Q20. Opening your specialty to women


Q22. How worried or not are you that the physical job standards of your specialty will be reduced during the opening of SOF specialties to women?

| Not At All | A Little | Somewhat | Quite | Extremely |
| :---: | :---: | :---: | :---: | :---: |
| Worried | Worried | Worried | Worried | Worried |
| $1 \square$ | $2 \square$ | $3 \square$ | $4 \square$ | $5 \square$ |

Please state your level of agreement or disagreement with the following statements:

|  | Strongly <br> Disagree | Somewhat <br> Disagree | Neither <br> Agree Nor <br> Disagree | Somewhat <br> Agree | Strongly <br> Agree |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Q23. Women will have the physical strength and <br> stamina to be effective in my specialty. | $1 \square$ | $2 \square$ | ${ }_{3} \square$ | $4 \square$ | ${ }_{5} \square$ |
| Q24. Women will have the mental toughness to <br> be effective in my specialty. | $1 \square$ | $2 \square$ | $3 \square$ | $4 \square$ | $5 \square$ |
| Q25. Women will be capable of handling the <br> demands of my specialty. | $1^{2} \square$ | $2 \square$ | ${ }_{3} \square \square$ | $4 \square$ | $5 \square$ |

We would now like to ask you several questions regarding expectation for your current unit. By "unit," we mean the [Programmed: Relevant small team entered, such as Special Tactics team or detachment, Ranger element, MARSOC platoon, SEAL platoon, SWCC detachment] that you operate with in conducting combat missions.

If women are assigned to your current unit . . .
Q26. . . . how do you think the order and discipline in your unit will be affected?


Q27. . . . how often do you expect these women will be treated unfairly in your unit?


If women are assigned to your current unit, what are your expectations about the following?

|  | Very Low | Low | Neither <br> High nor Low | High | Very High |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Q28. The extent to which your unit members will work together to accomplish the mission | $1 \square$ | $2 \square$ | ${ }_{3} \square$ | ${ }_{4} \square$ | $5 \square$ |
| Q29. The extent to which your unit members will be like a family | $1 \square$ | $2 \square$ | ${ }_{3} \square$ | ${ }_{4} \square$ | $5 \square$ |
| Q30. The level of trust among members in your unit | $1 \square$ | $2 \square$ | ${ }_{3} \square$ | ${ }_{4} \square$ | $5 \square$ |
| Q31. Your level of trust for members in your unit | ${ }_{1} \square$ | ${ }_{2} \square$ | ${ }_{3} \square$ | ${ }_{4} \square$ | $5 \square$ |
| Q32. Your level of trust for women in your unit | $1 \square$ | $2 \square$ | ${ }_{3} \square$ | $4 \square$ | $5 \square$ |

If women are assigned to my current unit...

Q33. Men and women in my unit will be united in trying to accomplish missions.

Q34. Most men and women in my unit will socialize when off- duty.

Q35. I will be able to go to unit leaders for help if I have a problem or concern regarding women members of my unit.

Q36. . . . If they pull their share of the load, men will accept them as equals.

Q37. . . . it will improve my unit's ability to conduct sensitive, low-profile operations (e.g., unconventional warfare).

Q38 . . . . it will improve my unit's ability to communicate with segments of foreign populations.

# Prepublication Copy: This document has not yet been edited or proofread. 

## RESTRICTED DRAFT - DO NOT CITE

Q39. Do you have any additional thoughts or suggestions regarding the opening of SOF specialties to women? (Write Response on Lines)

# Prepublication Copy: This document has not yet been edited or proofread. 

## RESTRICTED DRAFT - DO NOT CITE

## General Demographics

Q40. In what year did you first enter active duty U.S. military service? (Enter Year) $\qquad$
Q41. What is your current pay grade?
$2 \square$
${ }_{4}$E4
$5 \square$ $\square$ E5E6
$7 \square$ E7
${ }_{8} \square$
$9 \square$ $\square$ E9
${ }_{10}$W1W2
12W4
14W5
${ }_{15} \square$O-1/O-1EO-2/O-2E
17O-3/O-3E

18O4

19O5
20O6 or above

Q42. How old are you? (Enter Age) $\qquad$
Q43. What is your current marital status?Now MarriedWidowedDivorcedSeparatedNever MarriedCivil Commitment or Union

## Prepublication Copy: This document has not yet been edited or proofread.

## RESTRICTED DRAFT - DO NOT CITE

Q44. What is the highest degree or level of education that you have completed?Less than high schoolHigh school diploma/GEDSome college credit, but LESS than 1 year of college credit 1 or more years of college credit, no degree Associate's degree (for example, AA, AS) Bachelor's degree (for example, BA, BS)Master's degree (for example, MA, MS, MEng, MEd, MSW, MBA)Professional degree beyond a bachelor's degree (for example, MD, DDS, DVM, LLB, JD)Doctorate degree (for example, PhD, EdD)

Q45. What is your race?WhiteBlack or African AmericanAmerican Indian or Alaska Native Asian IndianChinese FilipinoOther Asian (for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on)Native HawaiianGuamanian or ChamorroSamoanOther Pacific Islander (for example, Fijian, Tongan, and so on)

Q46. Are you of Hispanic, Latino, or Spanish origin?No, not of Hispanic, Latino, or Spanish origin Yes, Cuban Yes, Mexican, Mexican American, Chicano Yes, Puerto RicanYes, another Hispanic, Latino, or Spanish origin - For example: Argentinean, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on
(This page is intentionally left blank.)

## Appendix H. Women in SOF Survey Recruitment Materials

This Appendix provides the survey recruitment materials provided to USSOCOM leadership to announce, invite, and remind SOF personnel to take the survey.

## DRAFT Language for ADM McRaven Email Announcement

Subject: RAND Survey on Opening Combat Positions to Women
As you probably know, USSOCOM is currently reviewing performance and other job standards associated with a number of USSOCOM SOF ground combat positions. This review will help inform my recommendations on the opening of these positions to women.

I am writing to ask you to share your experiences and views on the matter of opening USSOCOM ground combat positions to women by participating in a confidential survey that is being conducted on behalf of USSOCOM by the RAND Corporation. RAND is a highly-respected nonprofit institution that helps improve policy and decision-making through objective research and analysis. The survey will give you the opportunity to make your voice heard on this important issue.

The survey is completely voluntary, and there is no penalty if you choose not to respond, or decide not to complete the survey. No one in your command or any other officials will see your survey results, nor will RAND release any data that could identify you to anyone in your Service, other Department of Defense agencies, or anyone else.

The survey should take less than 10 minutes to complete. By taking a few minutes to share your thoughts and opinions on opening SOF specialties to women, you will have both the opportunity to inform my thinking, and to provide me with your best advice on implementing this policy.

I am attaching RAND's invitation to participate to this email, while the following link will take you directly to a website where you can complete the survey:

URL
I would request that you complete the survey as soon as possible, as the survey will be concluding on [DATE].

Sincerely,
ADM William H. McRaven
Commander, USSOCOM
Attachment: RAND Invitation to Participate in USSOCOM Women In SOF Survey

## DRAFT Language for Initial RAND Invitation

Subject: Invitation to Participate in USSOCOM Women In SOF Survey

We are inviting you to participate in a RAND survey of USSOCOM specialties that may be opened to qualified women. This survey is being conducted by the RAND Corporation, a nonprofit institution that helps improve policy and decisionmaking through objective research and analysis.

As ADM McRaven stated in his email, he is interested in learning your views on this important policy change, so that he can take them into account in making recommendations on opening these positions to women.

The survey is completely voluntary, and there is no penalty if you choose not to respond, or decide not to complete the survey. No one in your command or any other officials will see your survey results, nor will RAND release any data that could identify you to anyone in your Service, other Department of Defense agencies, or anyone else.

The survey is relatively short, and should take less than 10 minutes to complete. We request that you complete the survey as soon as possible, as the survey will be concluding on [DATE]. It can be accessed at the following link:

URL

If you have any questions or comments about this RAND research, please contact the project leaders, Thomas Szayna at 310-393-0411 x7758, szayna@rand.org or Bill Welser at 310-393-0411 x6435, bwelser@rand.org. You may also contact the RAND Human Subjects Protection Committee at 310-393-0411 x6939 or hspcadmin@rand.org.

We greatly appreciate your completing the survey, and look forward to receiving your responses.

Sincerely,

Thomas Szayna and William Welser IV
Principal Investigators
The RAND Corporation

## DRAFT Language for RAND Reminders (2)

Subject: REMINDER: Invitation to Participate in USSOCOM Women In SOF Survey

We are following up on ADM McRaven's earlier communication (attached) requesting that you participate in a survey of USSOCOM specialties that may be opened to qualified women. This survey is being conducted by the RAND Corporation, a nonprofit institution that helps improve policy and decision-making through objective research and analysis.

As ADM McRaven stated in his email, he is interested in learning your views on this important policy change so that he can take them into account in making recommendations on opening these positions to women.

The survey is completely voluntary, and there is no penalty if you choose not to respond, or decide not to complete the survey. No one in your command or any other officials will see your survey results, nor will RAND release any data that could identify you to anyone in your Service, other Department of Defense agencies, or anyone else.

If you have not already completed the survey, we would be grateful if you would please do so as soon as possible, as the survey will be concluding on [DATE]. The survey is relatively short, and should take less than 10 minutes to complete. It can be accessed at the following link:

## URL

If you have any questions or comments about this RAND research, please contact the project leaders, Thomas Szayna at 310-393-0411 x7758, szayna@rand.org or Bill Welser at 310-393-0411 x6435, bwelser@rand.org. You may also contact the RAND Human Subjects Protection Committee at 310-393-0411 x6939 or hspcadmin@rand.org.

We greatly appreciate your completing the survey, and look forward to receiving your responses.

Sincerely,

Thomas Szayna and William Welser IV
Principal Investigators
The RAND Corporation

## DRAFT Language for Final ADM McRaven Email Reminder

Subject: FINAL REMINDER: RAND Survey on Opening Combat Positions to Women

As part of my effort to consult as widely as possible within USSOCOM before making recommendations on the opening of previously closed USSOCOM ground combat positions to women, I am again writing to ask you to share your experiences and views on the matter by participating in a confidential survey. This survey is being conducted on behalf of USSOCOM by the RAND Corporation, a highly-respected nonprofit institution that helps improve policy and decision-making through objective research and analysis.

The survey is completely voluntary, and there is no penalty if you choose not to respond, or decide not to complete the survey. No one in your command or any other officials will see your survey results, nor will RAND release any data that could identify you to anyone in your Service, other Department of Defense agencies, or anyone else.

If you have already completed the RAND survey, you have my thanks. If not, I would request that you complete the survey as soon as possible, as the survey will be concluding on [DATE]. The survey is relatively short, and it should take less than 10 minutes to complete. It can be accessed at the following link:

URL

This survey provides a unique opportunity for you to share your views and inform my thinking, and to provide me with your best advice and recommendations for implementing this policy. I greatly appreciate your contribution to this important effort.

Sincerely,

ADM William H. McRaven
Commander, USSOCOM

Attachment: RAND Invitation to Participate in USSOCOM Women In SOF Survey
(This page is intentionally left blank.)

# Appendix I. Women in SOF Survey Review of Scientific Merit 

This Appendix provides the Memorandum certifying the scientific merit of the Women in SOF survey.

1776 MAIN SIREE I
PO. BOX 2138
SANTA MONICA, CA 904072138

## Memorandum For The Record

Subject: Approval of the Scientific Merit of Proposed "Women In SOF" Survey for United States Special Operations Command (USSOCOM)

From: Lawrence M. Hanser, Ph.D., Senior Behavioral Scientist
Date: January 8, 2014

This memorandum for the record documents my findings from an independent scientific review of the "Women In SOF" survey being developed by a RAND research team led by Thomas Szayna and William Welser IV for the U.S. Special Operations Command.
My review was commissioned by John Winkler, Program Director for the Forces and Resources Policy program in the RAND Corporation's National Security Research Division, and completed in December 2013. I was not, and am not, a member of the research team planning or conducting the actual research.

Based upon technical and other documentation provided to me, discussions with researchers on the study team, and some modifications to the survey protocol and other supporting materials in response to my suggestions, I approve the scientific and analytic soundness of the proposed survey research effort.

In the course of my review, I made several recommendations for improving the study, including: (1) making some wording and other changes to items in the survey instrument to better ensure analytic rigor and clarity; (2) in the analysis of sample size requirements, providing information on the percentages of respondents that would be required to achieve the desired level of statistical precision and confidence; and (3) making some wording changes to the informed consent statement that respondents will encounter when they first reach RAND's web portal. The study team satisfactorily addressed each of these recommendations, leading me to approve the overall scientific merit of the proposed research.

Sincerely,
Lowtanc M Nos
Lawrence M. Hanser, Ph.D.
Senior Behavioral Scientist
RAND Corporation

## Appendix J. Women in SOF Survey Implementation \& Results

This Appendix provides information on the implementation and response rate to the Women in SOF survey.

We collected a total of 7,618 completed surveys for an overall response rate of 50.1 percent. Below we discuss the details of the response flow and the response rate breakdown across the various elements of the survey population: members of four AFSOC Special Tactics Team specialties, Army Rangers and Special Forces, MARSOC operators, and Navy Special Warfare Command Sea-Air-Land (SEAL) platoons and Special Warfare Combatant Craft (SWCC) detachment members.

## Response Flow

As discussed above, RAND provided USSOCOM with language for the email survey invitation and email survey reminders. RAND also provided USSOCOM with guidance regarding the timing of the email survey reminders. Because all email communication to the sample population came from USSOCOM, we cannot be certain of the exact timing that invitations and reminders were sent or received. We can, however, make educated guesses based on the pattern of responses received (see Figure J.1).

Figure J.1. Cumulative Survey Completes By Day


We know that the initial invitations were sent on May 15, and the date that the first web survey hits were recorded. Based on the pattern of responses received, we believe that reminders may have been sent on or around June 14, and again on or around June 24. The last completed surveys were accepted on Wednesday, July 16 for a total of 63 data collection days.

The survey had a slower-than-expected start in receiving responses as a result of a technical problem with RAND's computing system that was detected around 2:30pm Pacific time on May 15 , the day the initial invitations went out. All potential respondents were prevented from accessing the web survey until the issue was resolved, and a "please come back later" banner was posted on the website to encourage respondents to make another attempt to take the survey once the problem was resolved. The technical issue was resolved at approximately 6:00am Pacific time on May 16. We know that there were 136 attempts to access the web survey during the time that the survey was down. We cannot know how many of these attempts were multiple attempts made by the same potential respondent, or how many of these potential respondents actually came back and accessed the site after the technical issue was resolved.

As discussed above, respondents were from nine distinct specialties, but for the purposes of tracking completed surveys, the four AFSOC specialties were collapsed due to their small size, giving us six separate sub-categories. Although the raw numbers are not comparable due to vast differences in population size, we tracked cumulative survey completes by element to look for differences in patterns of completion over time.

As shown in Figure J.2, the response flow starts off generally the same across sub-categories: a slow start due to the technical issue described above and then an increase in completes a few days into the survey period. Responses evened out across sub-categories from approximately May 21 through June 14, with the exception of a noticeable increase in responses from SEALs and MARSOC on May 27. SEALs also showed an increase on May 30 and SWCC members had a slight increase on June 1. We saw increased responses from the three largest sub-categories (Special Forces, SEALs, and Rangers) on approximately June 14 and again on approximately June 25, leading us to suspect that those were dates on which email reminders were sent. The three smaller sub-categories (SWCC, MARSOC, and AFSOC) showed tiny increases around June 14 but no change around June 25. In fact, MARSOC and AFSOC showed minimal increases in survey responses for the last 2-3 weeks of data collection.

Prepublication Copy: This document has not yet been edited or proofread.

Figure J.2. Cumulative Survey Completes by Component by Day


## Response Rates by Population Sub-Category

As mentioned above, the overall response rate was 50.1 percent at the conclusion of data collection. The response rates for the six sub-categories of the survey population are shown below.

Table J.1. Completed Surveys by Element

| Element | Population | Total Completes | Response Rate <br> (Percent) |
| :--- | :---: | :---: | :---: |
|  |  |  |  |
| AFSOC | 706 | 122 | 17.30 |
| Ranger | 2544 | 1828 | 71.90 |
| Special Forces | 7118 | 2881 | 40.50 |
| MARSOC | 815 | 400 | 49.10 |
| SEAL | 3254 | 1853 | 56.90 |
| SWCC | 788 | 534 | 67.78 |
|  |  |  |  |
| TOTAL | $\mathbf{1 5 , 2 5 5}$ |  | $\mathbf{5 0 . 1}$ |
|  |  |  |  |

These response rates are a simple calculation of the total number of respondents in a subcategory divided by the total number of completed surveys received from that sub-category. Although calculation of more intricate response rates is possible for some studies, it is difficult in this case for several reasons. Because the email correspondence was handled by USSOCOM, we cannot track non-contact (undeliverable) cases, which are used to calculate some kinds of response rates. Further, web surveys do not allow for tracking of refusals (respondents who considered participation but actively decided not to) versus non-contacts (respondents who never read the email invitation).

Response rates across SOF elements ranged from a low of 17.3 percent from the four AFSOC categories to a high of 71.9 percent from Rangers. Differences in response rates across the SOF elements could be a result of several factors that may differed by sub-category, including any or all of the following:

- Level of interest in the research topic;
- Level of support/encouragement for participation in the survey from senior command;
- Number of reminder emails received; or
- "Survey fatigue" due to other recent surveys respondents had been asked to complete. ${ }^{18}$

Table J. 2 compares the population and the raw sample on the percentages in a matrix defined by SOF element and rank group; the number in each cell is the percentage of the total. As shown, the sample percentages are very close to the population percentages. In fact, the correlation between the two matrixes is 0.95 .

[^10]Prepublication Copy: This document has not yet been edited or proofread.

Table J.2. Comparison of Population and Sample, by SOF Element and Rank Group (Percent)

| Element | POPULATION PERCENTAGES |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | E1-E4 | E5-E6 | E7-E9 | Officers | Total |
| AFSOC | 1.1 | 2.1 | 0.8 | 0.7 | 4.6 |
| Ranger | 9.2 | 4.9 | 1.4 | 1.3 | 16.7 |
| Special Forces |  | 13.7 | 23.6 | 9.4 | 46.7 |
| MARSOC |  | 3.3 | 1.4 | 0.6 | 5.4 |
| SEAL | 0.5 | 10.0 | 4.7 | 6.2 | 21.4 |
| SWCC | 0.3 | 3.3 | 1.4 | 0.1 | 5.2 |
| Total | 11.1 | 37.3 | 33.4 | 18.3 | 100.0 |
|  | SAMPLE PERCENTAGES |  |  |  |  |
| Element | E1-E4 | E5-E6 | E7-E9 | Officers | Total |
| AFSOC | 0.2 | 0.6 | 0.4 | 0.3 | 1.6 |
| Rangers | 12.0 | 7.3 | 2.2 | 2.5 | 24.0 |
| Special Forces |  | 8.1 | 20.4 | 9.3 | 37.8 |
| Marines |  | 3.0 | 1.5 | 0.8 | 5.3 |
| SEALs | 0.6 | 10.7 | 5.9 | 7.2 | 24.3 |
| SWCC | 0.6 | 4.1 | 2.0 | 0.3 | 7.0 |
| Total | 13.4 | 33.9 | 32.3 | 20.4 | 100.0 |

(This page is intentionally left blank.)

## Appendix K. Charts for Survey Results

This Appendix presents charts detailing the marginal percentages for each of the questions in the survey and the constructed indexes. All results are reweighted by SOF element and rank group.

Figure K.1. Q4. Importance of Establishing Common Performance Requirements


Figure K.2. Q5. Importance of Establishing Common Standards of Conduct


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.3. Q6. How Important Is... Providing Education and Training on How to Work with SOF Women?


Figure K.4. Q7. How Important Is... Leaders Consistently Engaging Personnel During the Integration of Women into SOF?


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.5. Q8 How important is... selecting SOF men who are better suited to working in a mixed gender environment?


Figure K.6. Q9 How much have you... paid attention to news and other information about opening SOF specialties to women?


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.7. Q10 How much have you... thought about the issue of opening SOF specialties to women?


Figure K.8. Q11. How many U.S. military women have you worked with in a combat environment?


Figure K.9. Q12. Please rate the quality of your working experience with U.S. military women in a combat environment.


Figure K.10. Q13. The extent to which your unit members work together to accomplish the mission.


Prepublication Copy: This document has not yet been edited or proofread.
Figure K.11. Q14. The extent to which your unit members are like a family.


Figure K.12. Q15. The level of trust among members in your unit.


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.13. Q16. Your level of trust for members in your unit.


Figure K.14. Q17. My unit is united in trying to accomplish its missions.


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.15. Q18. Most members of my unit socialize when off-duty.


Figure K.16. Q19. I can go to unit leaders for help if I have a problem or concern regarding conflicts between members of my unit.


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.17. Q20. Do you favor or oppose the following? Opening your specialty to women.


Figure K.18. Q21. Do your favor or oppose the following? Opening your unit to women.


Figure K.19. Q22. How worried or not are you that the physical job standards of your specialty will be reduced during the opening of SOF specialties to women?


Figure K.20. Q23. Women will have the physical strength and stamina to be effective in my specialty.


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.21. Q24. Women will have the mental toughness to be effective in my specialty.


Figure K.22. Q25. Women will be capable of handling the demands of my specialty.


Figure K.23. Q26. If women are assigned to your unit... how do you think the order and discipline in your unit will be affected?


Figure K.24. Q27. If women are assigned to your unit... how often do you expect these women will be treated unfairly in your unit?


Figure K.25. Q28. If women are assigned to your unit... The extent to which your unit members will work together to accomplish the mission.


Figure K.26. Q29. If women are assigned to your unit... The extent to which your unit members will be like a family.


Figure K.27. Q30. If women are assigned to your unit... The level of trust among members in your unit.


Figure K.28. Q31. If women are assigned to your unit... Your level of trust for members in your unit.


Figure K.29. Q32. If women are assigned to your unit... Your level of trust for women in your unit.


Figure K.30. Q33. If women are assigned to your unit... Men and women in my unit will be united in trying to accomplish mission.


Figure K.31. Q34. If women are assigned to your unit... Most men and women in my unit will socialize when off-duty.


Figure K.32. Q35. If women are assigned to your unit... I will be able to go to unit leaders for help if I have a problem or concern regarding women members of my unit.


Figure K.33. Q36. If women are assigned to your unit... If they pull their share of the load, men will accept them as equals.


Figure K.34. Q37. If women are assigned to your unit... it will improve my unit's ability to conduct sensitive, low-profile operations (e.g. unconventional warfare).


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.35. Q38. If women are assigned to your unit... it will improve my unit's ability to communicate with segments of foreign populations.


Figure K.36. Q41. Rank Grouping


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.37. Q43. Marital Status


Figure K.38. Q44. Education


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.39. Q45. Race


Figure K.40. Q46. Ethnicity


Prepublication Copy: This document has not yet been edited or proofread.
Figure K.41. SOF Element


Figure K.42. Capabilities Index


Figure K.43. Importance Index


Figure K.44. Task Cohesion Difference Index (Unit Climate with Women - Current Unit Climate)


Figure K.45. Social Cohesion Difference Index (Unit Climate with Women - Current Unit Climate)


Figure K.46. Trust Difference Index
(Unit Climate with Women - Current Unit Climate)


Prepublication Copy: This document has not yet been edited or proofread.

Figure K.47. Leadership Difference Index (Leaders in Units with Women - Current Leaders)


Figure K.48. Extreme Response Index

(This page is intentionally left blank.)

## Appendix L. Women in SOF Survey: Descriptive Statistics

This Appendix reports descriptive statistics for each of the questions in our survey.

Table L.1. Basic Descriptive Statistics for Survey Questions

|  |  |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Question | Mean | Median | Mode | Min | Max |
|  |  |  |  |  |  |
| Q4. Importance: same performance requirements | 4.82 | 5 | 5 | 1 |  |
| Q5. Importance: same standards of conduct | 4.86 | 5 | 5 | 1 | 5 |
| Q6. Importance: education and training | 3.03 | 3 | 5 | 1 | 5 |
| Q7. Importance: leaders consistently engaging | 3.33 | 4 | 5 | 1 | 5 |
| Q8. Importance: selecting SOF men for mixed gender | 2.21 | 1 | 1 | 1 | 5 |
| Q9. How much paid attention to news/information | 3.54 | 4 | 3 | 1 | 5 |
| Q10. How much thought about issue | 3.80 | 4 | 5 | 1 | 5 |
| Q11. Quantity of working experience w/ U.S. military women | 2.77 | 3 | 3 | 0 | 5 |
| Q12. Quality of working experience w/ U.S. military women | 2.06 | 2 | 1 | 0 | 5 |
| Q13. Current unit: Extent unit members work together | 4.84 | 5 | 5 | 1 | 5 |
| Q14. Current unit: Extent unit members are like a family | 4.64 | 5 | 5 | 1 | 5 |
| Q15. Current unit: Level of trust among unit members | 4.74 | 5 | 5 | 1 | 5 |
| Q16. Current unit: Level of trust for unit members | 4.73 | 5 | 5 | 1 | 5 |
| Q17. Current unit: Unit united in accomplishing missions | 4.87 | 5 | 5 | 1 | 5 |
| Q18. Current unit: Most unit members socialize when off-duty | 4.49 | 5 | 5 | 1 | 5 |
| Q19. Current unit: Can go to unit leaders to resolve conflicts | 4.59 | 5 | 5 | 1 | 5 |
| Q20. Favor/oppose opening specialty to women | 1.48 | 1 | 1 | 1 | 5 |
| Q21. Favor/oppose opening unit to women | 1.91 | 1 | 1 | 1 | 5 |
| Q22. Worry performance standards will be lowered | 4.52 | 5 | 5 | 1 | 5 |
| Q23. Women will have physical strength/stamina | 1.67 | 1 | 1 | 1 | 5 |
| Q24. Women will have mental toughness | 2.18 | 2 | 1 | 1 | 5 |
| Q25. Women will be capable of job demands | 1.71 | 1 | 1 | 1 | 5 |
| Q26. Expectation: order and discipline | 1.97 | 2 | 1 | 1 | 5 |
| Q27. Expectation: how often treated unfairly | 2.89 | 3 | 3 | 1 | 5 |
| Q28. Expectation: extent unit members work together | 3.58 | 4 | 5 | 1 | 5 |
| Q29. Expectation: extent unit members like a family | 3.04 | 3 | 3 | 1 | 5 |
| Q30. Expectation: level trust among unit members | 3.04 | 3 | 3 | 1 | 5 |
| Q31. Expectation: level of trust for unit members | 3.21 | 3 | 4 | 1 | 5 |
| Q32. Expectation: level of trust for women in unit | 2.45 | 2 | 1 | 1 | 5 |
| Q33. Expectation: men and women will be united | 3.21 | 3 | 4 | 1 | 5 |
| Q34. Expectation: men and women will socialize | 3.02 | 3 | 4 | 1 | 5 |
| Q35. Expectation: will be able to go to unit leaders | 3.11 | 3 | 5 | 1 | 5 |
| Q36. Expectation: if pull share of load will be accepted | 2.93 | 3 | 4 | 1 | 5 |
| Q37. Expectation: will improve sensitive, low-profile ops | 2.77 | 3 | 1 | 1 | 5 |
| Q38. Expectation: will improve communication w/ foreign | 2.97 | 3 | 4 | 1 | 5 |
| Q40. Service Years | 11.15 | 10 | 6 | 0 | 52 |
| Q42. Age | 31.79 | 30 | 29 | 18 | 75 |
| Q44. Education | 4.63 | 5 | 6 | 1 | 9 |
|  |  |  |  |  | 5 |

[^11](This page is intentionally left blank.)

# Appendix M. Content Analysis of Responses to Open-Ended Questions 

## Word Cloud Analysis of Content in Open-Ended Questions

We analyzed responses to the four open-ended questions from a number of different perspectives, including qualitative content analysis, automated linguistic analysis, and automated concordance analysis. Each of these approaches relied upon counting words, concepts, and themes in the open-ended responses. To provide an overview of the content included in the four open-ended questions, we provide a word-cloud visualization. A word cloud is an image composed of words used in a particular text, in which the size of each word indicates its frequency or importance: ${ }^{19}$ word clouds are useful for conveying, in the form of a simple visualization, quantitative information about word usage in a text.

Figure M. 1 presents a word cloud of the most frequently used terms in responses to the four open-ended questions in the survey, after stripping out articles (e.g., "the") and other highfrequency, low-meaning words. In the figure, the size of the term connotes its frequency. ${ }^{20}$

[^12]Figure M. 1 Word Cloud From Automated Concordance Analysis of Open-Ended Responses


The entries in the word cloud echo many of the key findings of the automated linguistic analyses and the automated content analyses, but do so in a more intuitive and compact form. As the figure shows, "women" was the most frequently mentioned word in responses to our four open-ended questions ( 29,647 mentions in total, including both "woman" and "women"). Rounding out the top 10 meaningful terms were "will" ( 16,982 mentions), "not" ( 16,717 mentions), "I" (15,770 mentions), "SOF" (12,104 mentions), "would" (10,336 mentions), "they" ( 9,848 mentions), "standard" or "standards" ( 12,285 mentions), "we" ( 9,142 mentions), and "men" ( 7,370 mentions). ${ }^{21}$

[^13]Most interesting, perhaps, is a cluster of terms used by respondents that relate to women's capabilities (e.g., "able," "physical"), the importance of standards (e.g., "standards," "standard") the basis for these standards ("combat," "mission"), requirements for meeting these standards (e.g., "training"), and references to possible changes ("change"). Although we only had two closed-ended questions that asked specifically about standards, the word cloud shows that this was in fact one of the most significant themes in responses to the open-ended questions, a fact that could well have been missed, absent the effort to calculate frequencies and portray them in the word cloud.

It also may be inferred from the word cloud, for example, that: the recurring use of the word "I" connotes that respondents were speaking from a personal perspective, rather than a general point of view; the use of the terms "will" and "would" reflected efforts by respondents to project future outcomes or consequences of opening specialties, and using more confident language than, e.g., "could" or "might"; the heavy use of the term "not"-and "no" and "don't" as wellconnotes heavy negation and opposition.

Other elements of the word cloud in Figure 5.3 also speak to the policy issue of women in SOF (e.g., "women" and "woman," "female" and "females," "men" and "male," "SOF," "special" and "operations," and "specialties"), references to SOF teams (e.g., "team" and "teams," "unit" and "units"), personal viewpoints (e.g., "I," "my," "you"), insider-outsider language (e.g., "we," "they," and "them," "our," and "community"), expectations (e.g., "will" and "would"), explanations of reasoning ("because"), desirable and undesirable actions (e.g., "should" and "don't"), negative or cautionary views ("not," "no," and "concern").

When combined with the other survey and focus group data, and the automated text analyses and qualitative content analyses, the overall (word) picture that is painted reinforces the impression of a collective view that is, at best, decidedly cautionary, and at worst, oppositional.

## Approach to Content Analysis of Responses to Open-Ended Questions

This section describes in detail how we coded the responses to open-ended questions on the survey.

## Coding of Question 1

What do you think might be the greatest benefit of opening SOF specialties to women?

## Categories

## i. None/No Benefits

Responses coded into this category expressed that there would be no benefits to opening SOF specialties to women. Responses may have listed additional concerns, but a response had to include a statement such as "None", "There are no benefits", or something similar to be included here.

## ii. Increased Cultural Access

A response was coded into this category if it described benefits for incorporating women due to the ability to of women to work with other women in foreign cultures, especially in cultures where public interaction between men and women is looked down on. In contrast to the HUMINT \& Intelligence category (description below), "Cultural Access" includes all instances of increased situational cultural access, including non-intelligence and non-clandestine missions. Many responses may have been double coded with HUMINT/Intelligence and Clandestine.

Example of included response:
"Men and women act and behave differently. There could be opportunities where a woman is more effective than a man at dealing with host nation or partner nation personnel, or even enemy personnel. Specifically, women may be more effective at dealing with other women or young children, especially since some cultures do not look favorably upon men speaking to women that are not their family members."

Explanation: The respondent notes that the ability to deal with women and young children could be enhanced by allowing women in SOF.

## iii. HUMINT/Intelligence and Clandestine

Responses binned in this category expressed that utilizing women in the collection of intelligence (especially in HUMINT) or other clandestine activities would be beneficial, and in many cases, this was seen as highly beneficial or explicitly supported. Types of responses binned into this category include those which stated that:

- females can access certain parts of culture that males can't, especially in societies where female/male interaction in public is frowned upon, and this access would be beneficial in collecting intelligence (note: responses that described the ability of women to access parts of culture were coded in Cultural Access in all cases -
only if this access was specifically said to be beneficial to intelligence collection was it coded here);
- SOF males traveling alone do not blend into public well, while incorporating women and men as teams, under the cover of a couple, would be significantly more effective;
- females are less threatening than men; and
- females can be seen as "natural collectors".

Example of included response:
> "There are operational circumstances where gender can make a difference, both ways. When using a woman can offend someone you are dealing with and you would choose not to use a woman to deal with an individual, or when by using a woman to deal with a situation her gender will play in your favor. While conducting counter intelligence interviews with muslims, we found we were often able to obtain more information and receive more truthful information when utilizing a female interpreter. Also having a female on an objective to deal with females can be very advantageous. Further, in dealing with source operations, depending on the target, using a female can obtain results that would not be possible with a male."

Example of included response:
"Access and placement into denied areas under cover."

## iv. Attachment/Support Roles

Responses included in this bin describe potential benefits for utilizing women in attachments or support roles. Included responses may have noted current benefits of women in these roles and noted benefits may exist for opening more attachment or support roles to women, generally on a mission by mission basis.

## v. Unique Perspective/Diversity

Respondents coded into this category noted that incorporating women into SOF could bring a unique perspective or improve diversity; additionally, responses may have stated something indicative of this, e.g., that the addition of women "might expand our ability to solve problems," or the addition of women might "get us thinking in a different way."

## vi. Miscellaneous

Responses included in this category either described both unique benefits and statements that were unclear, either in meaning or motivation, to the coder.

## vii. Missing

Responses included in this bin did not give an answer to this question.

## viii. Increased Pool of SOF

Responses included in this category described an increased number of SOF applicants

## ix. Explicit Support/Approval for Women in Specialist Roles

Responses coded here included explicit statements of support/approval for allowing women in specialist roles. An explicit statement of support must have included some kind of statement implying, without any doubt or ambiguity, that the respondent supported the accession of women into SOF specialties.

## x. Explicit Opposition to Women in Specialist Roles

Responses coded here included explicit statements of opposition to allowing women in specialist roles. An explicit statement of opposition must have included some kind of statement implying, without any doubt or ambiguity, that the respondent opposed the accession of women into SOF specialties. These responses may have included statements expressing opposition to specific roles (e.g., a U.S. Army Special Forces operator expressing opposition to including women as a Series-18); statements affirming that the current roles of women in SOF should not be expanded; and/or statements that stated women should "only" be in support roles, not specialties. Responses that expressed negative sentiment were not included.

Example of included response:
"There would be NO benefit to opening SOF specialties to women. I've had combat experience with women on CA [Civil Affairs] Teams and CST's [Cultural Support Teams]. The benefit of women in these roles is minimal, if any. (Especially in Afghanistan). Women SHOULD NOT work in the 11 or 18 series MOS's."

Explanation: The responded states "women SHOULD NOT work in the 11 or 18 series MOS's", which is an ambiguous statement of opposition to women in SOF specialties. This would additionally be coded under None/No Benefits.

Example of excluded response:
> "There will be ZERO benefit. The question should be Do you think there even IS a benefit to opening SOF specialties to women", to which I would answer with an emphatic NO! (Please do not skew future surveys). The introduction of women to the SEAL platoon, will CRITICALLY degrade productivity, platoon morale, mission focus, mission effectiveness, partner force interaction, and platoon camaraderie. Additionally, the introduction of women to the SEAL platoon will endanger the lives and health of the male SEAL operators within that platoon. The atmosphere of a SEAL platoon is that of aggression, and a no-fail attitude capable of achieving any task, which is NOT complemented with the introduction of females to the platoon. The mere presence of a woman would negatively alter the mindset of SEAL operators. The physical inability of a woman would severely hinder the capabilities of the platoon and would endanger the lives of teammates. Most partner forces (esp Arab) won't work with women."

Explanation: Although it appears likely that the respondent opposes the accession of women into SOF specialties, there is no direct statement stating, "this should not happen," or "women should not be in SOF specialties," or anything qualitatively similar. This would be coded under multiple categories, including None/No Benefits.

## xi. Explicit Support/Approval for Women in Unit

Responses coded here included explicit statements of support/approval for allowing women into the respondent's current unit. An explicit statement of support must have included some kind of statement implying, without any doubt or ambiguity, that the respondent supported the accession of women into their core SOF operational unit (including USAF/AFSOC Special Tactics Teams, U.S. Army Special Forces Operational Detachments, U.S. Army Rangers, MARSOC platoons, USN SEAL platoons, and USN SWCC detachments). For example, a few respondents expressed support for women in SOF specialties - and potentially their own womenonly teams - but stated that women should be left out of their team, for example, an Operational Detachment-Alpha (ODA) or SEAL Platoon. These would have been described as statements of opposition to women in unit.

Example of included response: n/a

Example of excluded response:
"They can be great enablers as Female engagement teams, CA, or PSYOPS [psychological operations]. But they have no place in a team room. We all know this but nobody has the balls to say it. We know it's going to ruin team cohesion,
which in turn is going to greatly hinder the accomplishment of the mission. Do you really think an SFODA [Special Forces Operational Detachment - Alpha] is a politically correct environment? We are hunter killers, we are coarse, we bleed, we get blown up, we fight together. And we do the same with our HN [host nation] counterparts. At the end of the day we want to crack a beer and talk, joke about very unpolitically correct things. They are not going to feel part of the team. They will feel alienated, and they will be frustrated, and they will be angry. And before you know it the whole team is falling apart and tabs are getting pulled over a goddamn SHARP [Sexual Harassment/Assault Response and Prevention] investigation. I will get out as soon as my contract is up if women serve in Special Forces. You've spent tens of millions training us, we have a good thing, please don't fuck it up."

Explanation: The respondent notes that women can be "great enablers as Female engagements teams" - or on their own team. The respondent then continues to state, "they have no place in a team room." It is clear from the response that the writer does not feel women should not be placed in Special Forces Operational Detachments.

## xii. Explicit Opposition to Women in Unit

Responses coded here included explicit statements of opposition to allowing women to parts of units. Furthermore, these were not double coded with opposition to Explicit Opposition to Women in Specialist Roles; it is assumed that, since unit members require specialist roles, any opposition to women in SOF specialties implies opposition to women in-unit. An explicit statement of opposition must have included some kind of statement implying, where the respondent goes out of his way to make note using deliberate, unambiguous language, that the respondent opposed the accession of women into the respondent's respective unit, or any similar units. These responses may have included statements expressing opposition to specific units (e.g., a USN SEAL operator expressing opposition to women becoming SEALs, or mentioning "combat related units"); statements affirming that the current roles of women in SOF should not be expanded; and/or statements that stated women should "only" be in support roles, not specialties. Responses that expressed negative sentiment were not included.

Example of included response:
"As a SEAL, there would not be great benefits. Dealing with unit integrity, political views, special treatment, and drama would cripple the platoon. In my opinion, women should be in SOF, but strictly as a support role. They are already forward deployed with platoons in small firebases."

Explanation: The respondent notes that "women should be in SOF", but then continues to deliver an absolute statement, "but strictly as a support role," indicating - through the use of "strictly", that women should not be on teams.

Additional example of included response:
"The only benefit would be the addition of a woman to use in a situation where we may have to interact with women in other cultures such as a MEDCAP [Medical Civil Action Program]. There are also some examples where they can be used for intelligence collection. Other than that I have seen no other time where there would be more of a benefit to have a woman on a detachment. At best they should continue to be attachments to ODAs and not organic members."

Explanation: The respondent presents a situational benefit for the accession of women into SOF, but goes out of his way to note, "at best they should continue to be attachments to ODAs and not organic members," where the statement "not organic members" is taken as a statement of opposition to women as members of an ODA.

Example of excluded response:
"Nothing at all, this is a political joke. Putting a women in a unit that requires toughness not only physically but mentally. A women would weaken the integrity of that unit. I look to the guy to my left and right to watch out for me. I don't need to be babysitting a women on the battle field as a leader. If I get shot what 120 pound women just trying to prove a point that women can do what men can, is going to pick up my almost 300 pound body in gear up and carry me if it comes down to it. The answer is none! it would put way to many people in danger and compromise any mission that needs to be done."

Explanation: While it is clear that the respondent probably opposes the accession of women in SOF specialties, and into the unit, it is never said explicitly. This would have been coded under None/No Benefits.

## Coding of Question 2

What is your greatest concern about opening SOF specialties to women?

## Categories

## xiii. None/No Concerns

Responses included in this category describe no concerns with regards to opening up SOF specialties to women.

## xiv. Physical Abilities

Responses included in this category relayed concerns with regards to the abilities of females to perform certain tasks, whether it be in training or on a mission, due to physical limitations. Respondents whose answers were coded here expressed concerns regarding the ability of women to:

- endure training due to rigorous physical demands;
- carry a larger male or fallen soldier in austere/combat conditions;
- operate certain equipment and/or weapons; and
- endure physically with little or no support on long deployments.


## xv. Standards Will be Lowered

Responses include statements of concern that standards will be lowered, as well as statements from respondents that have no issues with incorporating women as long as standards remain the same. Includes statements pertaining to APFT [Army Physical Fitness Test] standards not being segregated by gender. Responses also include the following: current standards are kept and remain gender-neutral, political pressure to increase the number of women in SOF could cause them to be lowered for either (1) both genders, leading to the accession of additional persons who would have been unqualified before or (2) just women, which returns to the concern of the double standard for females. This category will be coded if any of the following four subcategories are coded:
(1) Standards will be lowered

Responses included in this category stated explicit concerns that standards will be lowered.
(2) Double/Different standards for Men and Women

Responses included in this category expressed concerns that men and women will have different standards (e.g., "different standards", "women will have lower
standards"), regardless of how standards are initially set to allow for the accession of women into SOF specialties (e.g., "even if standards are set at first to be nongendered, the standards will have to be lowered").

## (3) Okay if Standards are Not Lowered

Responses coded here included those that contained statements qualitatively similar to "as long as standards are kept the same, I have no issues with allowing women into SOF".

## xvi. Team Cohesion/Morale

Any responses that mentioned team building, hindering the brotherhood, hurting how effectively we work as a team, etc. were included in this category. Examples of statements include:

- allowing females to enter SFO - no matter the standards - would disrupt chemistry due to differences in how males and females work and live together;
- lower morale, resentment, and distrust of females who entered SFO with lower standards could prevail;
- living in close quarters with a female is much different from a male (staking out for days at a time, changing in front of each other, using the bathroom together), and that these dynamics have a negative impact on team cohesion; and
- if females are admitted to SOF specialties, double standards and favoritism may exist in every day operation, including assignment of duties, requirements in tasks ("carrying their load").


## xvii. Decreased Cultural Access

Responses were coded if there was any indication that the incorporation of females into SOF could hinder operations abroad when working with foreign states, cultures, or actors, especially given the types of locations that SOF works in and the missions associated with those locations. Inclusion responses include:

- Concern that the adoption of women into SOF will hinder the ability of forces to work closely with host nations/partner nations (HN/PN) in nations where women have significantly lower social status.
- Concern that, where SOF operates in small, guerrilla-warfare type units with locals, that local leaders and groups would refuse to assist or work with units that have women in them.


## xviii. Concerns about Order and Discipline

Responses coded included any responses that expressed concern for unit order and discipline. This category will be coded if any of the following four subcategories are coded:
(1) Improper Relationships, Sexual Misconduct, and Fraternization

Responses coded included those that discussed concerns regarding intra-unit sexual misconduct, relationships between unit/team members, fraternization, etc. Furthermore, a response is coded here if it includes a statement of concern that, given long, isolated deployments overseas, relationships can and will develop among team members, which can cause issues with team chemistry and cohesion, especially given the close-knit nature of SOF teams (brotherhoods).
(2) Drama/Distraction/Favoritism

Responses coded here included those that mentioned "drama", "distraction", "disruption", as well as concerns that favoritism would evolve in unit as a result of a female presence. Includes concerns regarding the potential for jealousy/infighting among team males over the affection or potential affection of a female.
(3) Other

Responses coded here include those that included statements expressing any other concerns regarding order and discipline. These may include concerns that discipline may be unfairly levied at women, or that general issues with order and discipline might arise.

## xix. Sexual Harassment/SHARP/Equal Opportunity [EO]

Responses that were coded in this category generally were pervasive, though varied in exact nature. There were many different concerns binned here, which include:

- real sexual harassment;
- perceived sexual harassment and false complaints; and
- SHARP/EO/programmatic and bureaucratic boundaries/requirements (some respondents noted they chose combat to avoid these requirements).


## xx. Spousal/Family Concerns

Responses that were coded in this category included concern that extra-military relationships (spouses, bf/gf, families) would suffer due to incidents of infidelity (women and men in close quarters, overseas, for long periods of time, in combat settings that can be very emotionally taxing, often in very small groups in austere conditions), perceived infidelity, and suspicions from wives/girlfriends.

## xxi. Female Health and Safety

Any responses that expressed concern for the effects of physical and mental health requirements unique to females were included here. Responses binned in this category included concerns regarding:

- hygiene, especially as pertains to uniquely female issues, which could be an issue in austere environments where one does not shower/bathe for weeks at a time;
- pregnancy, time off for pregnancy, childcare, where concern was not with a woman being pregnant, but time spent away from a unit for leave, including concern that unplanned pregnancy could lead to unplanned time off for women, which would significantly hinder preparation; and
- menstrual cycle and associated health concerns (see A), including effects in highstress, austere environments.


## xxii. Politicization of SOF

Responses included here included those that expressed concerns that (i) incorporating women into SOF is simply political, with a real disconnect between policymakers' understanding of how SOF operate and real-world operations, and/or (ii) policymakers will enforce quotas (quotas may be implied if the statement mentions numbers in a trade-off for quality). Inclusion criteria also includes concerns that politicians are meddling with SOF in order to achieve political gain rather than advance the goals and capabilities of both the military in combat and national security.

## xxiii. Missing

Responses included in this bin did not give an answer to this question.

## xxiv. Explicit Support/Approval for Women in Specialist Roles

Responses coded here included explicit statements of support/approval for allowing women in specialist roles. See 1.ix, above.

## xxv. Explicit Opposition to Women in Specialist Roles

Responses coded here included explicit statements of opposition to allowing women in specialist roles. See 1.x, above.

## xxvi. Explicit Support/Approval for Women in Unit

Responses coded here included explicit statements of support/approval for allowing women in unit. See 1.xi, above.
xxvii. Explicit Opposition to Women in Unit

Responses coded here included explicit statements of opposition to allowing women to parts of units. See 1.xii, above.

## Coding of Question 3

During the opening of SOF specialties to women, what action(s) should be taken to address this concern?

## Categories

## xxviii. No Solution

Responses were included here if the respondent noted that there was no way to solve these issues, or if it was explicitly stated that incorporating women into SOF specialties should not be done (in effect, there is no solution).

## xxix. No Ideas How to Address

A response was included here if the respondent didn't know how to address the issues at hand or was unsure of a path of action.

## xxx. Do Not Lower Standards

Responses coded here either stated explicitly, "do not lower standards," or something very similar, or expressed concerns that lowering standards would significantly hurt units/teams and/or operations. Includes concerns that physical and mental standards would be lowered for females entering SOF specialties was prevalent and widespread

## xxxi. Non-Gendered Standards

Responses coded here included those expressing, "women should not have lower standards," or something qualitatively similar, in addition to those that stated that "men and women should have the same standard" or "set the standard for men and women, and do not change it." A common concern coded here is that allowing women to have different standards will breed resentment and disrespect towards these women, since they were not held to the same standard. Responses coded here also included those that discussed special treatment for women (includes total female integration - i.e., make them do exactly what we had to go through - with NO unique treatment. This is a very rare perspective).

## xxxii. Attachment/Support/Other Specialized Roles for Women

Responses included in this category include those that described different deployment options to accommodate the accession of women into SOF without fully incorporating them into teams, primarily noting attachment on a mission-by-mission basis or support roles. Some examples include:

- incorporation of women into teams based on mission-specific needs, but not fully accessed into operational detachments;
- changing how women are assigned to units, where women should be asked for by the unit, not assigned by higher-ranking officers;
- prohibiting women from deploying to certain locations (e.g., the Middle East, South America, Southeast Asia) due to cultural restrictions; and
- restricting female involvement to HUMINT and clandestine intelligence collection.


## xxxiii. Separate Men and Women

Responses coded here expressed support for separating men and women in SOF operations, i.e., giving women their own SOF teams/units, and utilizing them for other missions or as support to current teams.

## xxxiv. Sexual and Relationship Misconduct Regulations

Reponses coded here include those that describe penalties/regulations/codes pertaining to intra-unit relationships and sexual conduct, in addition to taking steps to mitigate the impact on extra-military relationships. Examples of responses include harsh punishment for individuals engaging in intra-unit relationships, regulating close quarters contact between married individuals, adjusting the UCMJ [Uniform Code of Military Justice] for infidelity (the root idea is that it is unavoidable).

## xxxv. Female Health and Safety Regulations

Responses coded in this category include those that mentioned birth-control, pregnancy, female hygiene, sexual assault, or other female health and safety regulations. Some examples of responses include: penalties for being pregnant (the prevailing concern is that pregnant women require extensive amounts of time off, which significantly hurts team/unit chemistry) or disallowing it altogether, contingency plans in place should a female become pregnant, mandating that women are on birth control, providing infrastructure for women on base, providing swift and severe punishment for sexual assault in addition to implementing mitigating steps, etc.

## xxxvi. Education

Responses binned here mentioned that education, whether for unit/team members or leadership, should be a part of the accession of women into SOF groups. The term education can include training (e.g., powerpoints, classes, etc.) and counseling (where the implication is training or classes).
xxxvii. Leadership

A response was coded here if it was the respondent made it clear that leadership needed to be significantly involved, or if recommendations needed to be prioritized based on lower-level ranks (unit commanders, etc.) rather than higher-ranking officials (stars).

## xxxviii. Implementation/Timing/Phasing

Responses included in this bin presented ideas pertinent to implementation, timing, and phasing of the accession of women into SOF specialties. Examples of responses include:

- a trial period;
- slowly incorporating females in steps; and
- integrating females immediately.


## xxxix. Explicit Support/Approval for Women in Specialist Roles

Responses coded here included explicit statements of support/approval for allowing women in specialist roles.

## xI. Explicit Opposition to Women in Specialist Roles

Responses coded here included explicit statements of opposition to allowing women in specialist roles.

## xli. Explicit Support/Approval for Women in Unit

Responses coded here included explicit statements of support/approval for allowing women in unit.

## xlii. Explicit Opposition to Women in Unit

Responses coded here included explicit statements of opposition to allowing women to parts of units.
xliii. Miscellaneous

Responses included in this category were only included if they could not be binned in any other category.

## xliv. Missing

Responses included in this bin did not give an answer to this question.

## Coding of Question 39

Do you have any additional thoughts or suggestions regarding the opening of SOF specialties to women?

## Categories

## xlv. Support for Operational Specialties/Units

Responses binned here expressed support for integrating women into SOF specialties and/or units, where determining support could range from statements such as "I fully support women in SOF" to "I think it's a good idea". In contrast to the Explicit Support for Women in Specialist Roles and Explicit Support for Women in Unit categories that were used for Questions 1 - 3, responses did not have to contain explicit statements of support. Instead, given the open-ended nature of Q39, any sentiments that expressed support, belief that accession of women into SOF specialties was a good idea, that adding women would significantly enhance force, team, or SOF capabilities, or something similar were included. In cases where respondents expressed support solely for women in attachment or support roles, but opposition otherwise, the responses were not binned here, but instead under Non-Team Roles for Women.

Example of included response:
"There are certainly tremendous operational positives to bringing women into the SOF umbrella. The greatest concerns are political weigh-ins causing the SOF community to accommodate women rather than allow them to join the ranks, and the effects towards the home life of current SOF personnel. Both issues will take a substantial amount of analysis regard ways to mitigate negative effects and tremendous communication across the community. Regardless, this integration will happen eventually and we might as well embrace it while we have current solid leadership and incoming solid leadership at the top to facilitate the transition."

Explanation: The respondent expresses concerns regarding the accession of women into SOF specialties, especially that there is the potential for political accommodation and adjustment of SOF to women, not the other way around, but the initial line is considered generally supportive of bringing women into SOF specialties: "There are certainly tremendous operational positives to bringing women into the SOF umbrella."

Additional example of included response:
> "As stated earlier, we have extremely talented women already performing critical roles in NSW [Naval Surface Warfare]. If they can conquer BUD/S [Basic Underwater Demolition / SEAL] (without changing BUD/S) they deserve a Trident, but having women SEALs won't contribute anything to the mission that isn't already being contributed by female enablers. BUD/S should be open to women, but there shouldn't be any requirement to get women through it or have a certain number or percentage of them in the Force."

Explanation: The respondent, while noting concerns and some hesitations, states "If they can conquer BUD/S (without changing BUD/S) they deserve a Trident." That is taken to be a sentiment of support, given the choice of the word "deserve."

## xlvi. Oppose for Operational Specialties/Units

Responses binned here expressed support for integrating women into SOF specialties and/or units, where determining opposition could include statements such as "I oppose women in SOF," "do not do this," or "I think it's a terrible idea". In contrast to the Explicit Opposition to Women in Specialist Roles and Explicit Opposition to Women in Unit categories that were used for Questions $1-3$, responses did not have to contain explicit statements of opposition. Instead, given the open-ended nature of Q39, any sentiments that expressed opposition, belief that accession of women into SOF specialties was a bad idea, that adding women would significantly degrade force, team, or SOF capabilities, or something similar were included.

Example of included response:
"In my personal opinion, this is completely ridiculous. Not that I think that women don't have a place in the military because they do. But they do not belong on a SOF team isolated in a country where they may be the only Americans for months on end. This is nothing more than a political stunt designed to please a minority of our population who have no idea what it really takes to be an operator. If they allow women to join SOF I believe that politicians on top will add different standards for women and topple everything that has set the SOF
community apart from everyone else. We are special and because not everyone can do it, and women do not belong in our ranks and allowing them to join will not only endanger the mission but destroy the spirit de corps not only of our regiment but of all SOF units. This political stunt is horrible idea that will rock the very foundations of the best SOF units in the world."

Explanation: The respondent expresses significant negative sentiment towards the idea of allowing women into SOF, and, when taken collectively, is rationally found to be a statement made from the perspective of opposition.

Additional example of included response:
"Women do not have to attend BUD/S or wear a Trident to be effective in a SOF role or to work with SEALs. I think having women in a SEAL Platoon is a bad fit and will degrade the combat effectiveness of a unit, but I do not think that means women cannot work with SEALs. They do not have to have a Trident to be effective in low visibility operations and I do think that it is beneficial to use them to break up the profile of service members working abroad. I think if women go to BUD/S, it will either break the women physically, or the standards will be significantly lowered, and I do not think either of these end states help the United States."

Explanation: The respondent expresses support for utilizing women for certain aspects of SOF, including a specific reference to low visibility operations, but the general language precludes women from being a SEAL or obtaining a Trident to participate in SOF.

## xlvii. Highly Detrimental Concerns

Responses coded here included concerns that this idea was "crazy" or "insane", and other concerns (e.g., "what is happening with the military", "this is not a social experiment"). These were generally outside the scope of most responses that expressed concerns or opposition to opening SOF specialties to women; these responses generally used strong language or ideas to convey that this allowing women into SOF is an exceptionally bad idea. If an operator threatened to leave or retire due to the opening of SOF specialties to women, the response was included here.

Example of included response:
"No one wants this. DO us a favor and listen to what we are saying for a change. This will destroy SOF units. And it will most definitely create a mass exodus from the community. Can Washington really afford to take that risk so Politicians can brag to the public that they brought gender equality" to SOF? Get the fuck out of here with that noise. Politicians and camera crews don't win wars in the shadows, highly trained, motivated men who are willing to do bad things to
bad people get the job done. Gender equality is not an option when the bullets are flying. Most males in the area of the world I work in would rather back hand a female than listen to her speak. There is a reason we send men to do these jobs."

Explanation: The respondent uses strong, blunt language while simultaneously explaining, "this will destroy SOF units. And it will most definitely create a mass exodus from the community." The statement is highly charged.

Additional example of included response:
"This endeavor is a complete waste of time. Filling out this survey is yet another example of how administrative issues, such as sensitivity or gender training or other surveys, will take away from my training time. I could list hundreds of reasons why women cannot do the job that a Green Beret is required to do, but as I only have 1000 characters, I will choose the one that I think is the most important. A woman cannot physically do what I can do! I weigh 225 pounds, and 280 pounds in full kit, as did most of the members of my ODA. I expect every person on my team to be able to drag any member of my team out of a firefight. A 130 pound female could not do it, I don't care how much time she spends in the gym. Do we expect wounded men to bleed out because a female soldier could not drag him to cover? I understand that this issue is political", but my time is being wasted to appease some beauracrat. If women are given a tab and Green Beret, I will turn mine in!"

Explanation: The respondent notes that "this is a waste of time" and questions, "[d]o we expect wounded men to bleed out because a female soldier could not drag him to cover?" Furthermore, concerns regarding politicization, and the inclusion of "[i]f women are given a tab and Green Beret, I will turn mine in!", indicate that this statement was highly charged, and that the accession of women into SOF specialties would be perceived as highly detrimental to SOF.

## xlviii. General Standards Concerns

Responses coded here expressed concerns that were emphasized previously, (for example, "do not lower standards" or "standards will drop, hurting SOF", etc.), concerns that the country would be unable to handle women coming back in body-bags, implementation benefits are outweighed by cost, physiological differences will hinder team-building and chemistry, and so on and so forth.

## xlix. Team Cohesion, Morale, Effectiveness, and Performance Concerns

Responses coded here expressed concerns that introducing women to SOF specialties or units, or expanding the roles of women in SOF, would lead to team chemistry and/or morale issues. Any responses included here mentioned explicitly "team chemistry", "unit cohesion", "morale", "team cohesion", etc. as suffering or being harmed due to the expansion of roles of women in SOF or accession of females into SOF specialties and/or units.

## I. Concern Regarding the Treatment of Women

Responses coded here included those that expressed concerns that the country would be unable to handle women coming back in body-bags, that women may be punished for entering the unit (whether officially or unofficially), sexual harassment, hazing, etc.

## li. Do Not Lower Standards

Responses coded here explicitly mentioned, "do not lower standards" or "do not change standards". This was mentioned heavily, reinforcing themes from other responses.

## lii. Non-Gendered Standards

Responses coded here mentioned that men and women should have uniform standards, or that women should not have a different standard. This was again common, continuing overarching survey themes.

## liii. Non-Team Roles for Women

Responses coded here included those that stated that women should be in SOF, but not on operational detachments or other tight-knit units. Responses primarily included those that noted, again, that women should be attached on a mission-by-mission basis when called for, women should continue to provide support roles for operational detachments through cultural support teams, medical support, etc., and that women should be utilized in HUMINT and clandestine intelligence collection roles.

## liv. Implementation, Timing, and Phasing

Reponses coded here included any that discussed additional implementation suggestions that did not fit into any previous categories; for example, some may have mentioned something similar to "do not implement quotas" or "make sure that you have regulations in place to deal with sexual misconduct."

## Iv. Survey Concerns/Predetermined Outcome

Respondents coded here expressed concerns that either (1) the survey was biased in favor of allowing women to join SOF specialties through leading questions and/or general tone, or (2) the results of the survey do not matter, and it is inevitable that women will be incorporated into SOF. Mentions of political correctness leading to inevitability were also included here.

## Ivi. None/No additional comments

Responses coded here included "no", "none", "no further/additional comments", etc.

## Ivii. Missing

Responses included in this bin did not give an answer to this question or responded "no" or "none" (where the respondent did not have any additional thoughts).

## Random Sampling of Survey Responses for Coding

Survey responses were randomly selected according to a uniform distribution across stratified classes of ranks. For each SOF unit surveyed, let:

- $\quad i \in U$, where $U=\{1, \ldots, 6\}$, is the set of unit indices ${ }^{22}$;
- each rank group $j \in R$, where $R=\{1,2,3,4\}$, is the set of rank group indices ${ }^{23}$;
- the total number of surveys collected for unit $i$, rank group $j$ be denoted as $t_{i j}$; and
- the number of surveys flagged for unit $i$, rank group $j$ be denoted as $n_{i j}$.

For each survey administered, respondents were administered a unique case identification number (CID) $k, k \in K$, where $K$ is the set of all assigned CIDs. Then let $K^{*} \subseteq K$ be the set of surveys returned, and let $K^{*}{ }_{i j}$ be the ordered set of all CIDs of respondents in unit $i$, rank group $j$ who returned surveys; note that $\left|K^{*}{ }_{i j}\right|=t_{i j}$. To generate random flags, $n_{i j}$ samples (without replacement) were taken from the set $K_{i j}$. Consider the ordered power set $P\left(n_{i j}\right)$ of all unique subsets of $K^{*}{ }_{i j}$ of length $n_{i j}$; then random flags for each unit $i$ and rank group $j$ were generated by randomly selecting $p_{i j} \in P\left(n_{i j}\right)$, where each element $p_{i j}$ has probability $n_{i j}!\left(t_{i j}-n_{i j}\right)!/ t_{i j}!$, or $\operatorname{bin}\left(t_{i j}\right.$, $\left.n_{i j}\right)^{-1}$, where $\operatorname{bin}(t, n)=t!/(n![t-n]!)$ is the binomial coefficient $t$ choose $n$, of being selected.

[^14]After stratifying case identification numbers by unit and by rank group, CIDs were sampled randomly using Wolfram Mathematica 8.0 and the RandomSample[] function. An algorithm demonstrating an equivalent sampling routine is shown below. Recall that $K^{*}{ }_{i j}$ is the ordered set of all case ids of respondents in unit $i$, rank group $j$ who returned surveys. For the purposes of demonstrating the algorithm below, let $K_{i j}=\left\{k_{1}, k_{2}, \ldots, k_{n i j}\right\}$, where the elements k are assumed to be dependent on $i$ and $j$.

Figure M.1. Sampling Algorithm

```
For }i\inU,j\inR
    s=1;
    While (s \leqn nij)
        m= \lceil((tij-s+1)rand[])];
        C}=\mp@subsup{k}{m}{\prime}
        K*}\mp@subsup{}{ij}{}=\mp@subsup{K}{}{*}\mp@subsup{}{ij}{}{{\mp@subsup{k}{m}{}}
        s=s+1;
    End
    Ciij}={\mp@subsup{C}{s}{}:1\leqs\leq\mp@subsup{n}{ij}{}}
```


## End

Where:

- $m=\left\lceil\left(\left(t_{i j}-s+1\right) \operatorname{rand}[]\right)\right\rceil$ is a randomly generated integer, $1 \leq m \leq t_{i j}-s+1$, which is used to select a random flag $k \in K^{*}{ }_{i j}$ and rand []$\in[0,1]$ is assumed to be a pseudo-random real number;
- $F_{s}=k_{m}$ is the $s^{\text {th }}$ randomly selected case id, $1 \leq s \leq n_{i j}$;
- $K^{*}{ }_{i j}=K^{*}{ }_{i j} \backslash\left\{k_{m}\right\}$ resets the value of $K^{*}{ }_{i j}$ at each iteration $s$ by eliminating the previously assigned CID $k_{m}$ from the set - i.e., sampling without replacement; and
- $C_{i j}=\left\{C_{s}: 1 \leq s \leq n_{i j}\right\}$ is the non-ordered set of $n_{i j}$ randomly sampled CIDs for unit $i$, rank group $j$.

The algorithm randomly samples case identification numbers uniformly. To verify that this algorithm randomly samples without replacement in accordance with probabilities described above, note that at each iteration $s$, and for each unit $i$ and rank group $j$, the probability $\mathrm{P}\left[C_{s}=k_{m}\right]$ $=\mathrm{P}(\mathrm{m})=\left(t_{i j}-s+1\right)^{-1}$, and thus $\mathrm{P}\left[C_{s}=k_{m}\right]=p_{i j}(\mathrm{~s})=\left(t_{i j}-s+1\right)^{-1}$ depends only on $s$. Then the
probability of obtaining the non-ordered set $C_{i j}$ is equivalent to $\mathrm{P}\left[C_{s}=k_{m}\right]=p_{i j}(1) p_{i j}(2) \ldots$ $p_{i j}\left(n_{i j}\right)\left(t_{i j}-n_{i j}\right)$ !, where $\left(t_{i j}-n_{i j}\right)$ ! is the number of possible permutations of the multiplicative components, i.e., the number of ways to generate ordered sets whose elements are all equivalent to the non-ordered set $C_{i j}$. Notice that this then implies $\mathrm{P}\left[C_{s}=k_{m}\right]=\left(t_{i j}\right)^{-1} \ldots\left(t_{i j}-n_{i j}+1\right)^{-1}\left(t_{i j}-n_{i j}\right)!$ $=\operatorname{bin}\left(t_{i j}, n_{i j}\right)^{-1}$. Shown below in Table M. 1 are the total number of surveys received, each having a unique case identification number, and the number of survey respondent case identification numbers that were randomly sampled.

Table M.1. Number of surveys received of surveys randomly sampled from those received, by unit and rank group.

| Service | UNIT (i) | Rank Group (j) | Total Responses Received ( $t_{i j}$ ) | Surveys Used for 10\% Sample ( $\boldsymbol{n}_{i j}$ ) |
| :---: | :---: | :---: | :---: | :---: |
| Air Force | Special Tactics team or detachment | Officers (W1-W5; O1-O10) | 22 | 15 |
|  |  | Enlisted (E-1 to E-4) | 19 | 14 |
|  |  | NCO (E-5 to E-6) | 47 | 14 |
|  |  | Sr. NCO (E-7 to E-9) | 33 | 14 |
| Army | Ranger element | Officers (W1-W5; O1-O10) | 185 | 29 |
|  |  | Enlisted (E-1 to E-4) | 916 | 28 |
|  |  | NCO (E-5 to E-6) | 553 | 29 |
|  |  | Sr. NCO (E-7 to E-9) | 168 | 28 |
|  | Special Forces Operational Detachment | Officers (W1-W5; O1-O10) | 691 | 96 |
|  |  | Enlisted (E-1 to E-4) | 7 | 7 |
|  |  | NCO (E-5 to E-6) | 618 | 85 |
|  |  | Sr. NCO (E-7 to E-9) | 1554 | 181 |
| Marines | MARSOC platoon | Officers (W1-W5; O1-O10) | 59 | 12 |
|  |  | Enlisted (E-1 to E-4) | 7 | 7 |
|  |  | NCO (E-5 to E-6) | 228 | 11 |
|  |  | Sr. NCO (E-7 to E-9) | 111 | 11 |
| Navy | SEAL platoon | Officers (W1-W5; O1-O10) | 537 | 41 |
|  |  | Enlisted (E-1 to E-4) | 42 | 41 |
|  |  | NCO (E-5 to E-6) | 818 | 40 |
|  |  | Sr. NCO (E-7 to E-9) | 446 | 41 |
|  | SWCC detachment | Officers (W1-W5; O1-O10) | 19 | 10 |
|  |  | Enlisted (E-1 to E-4) | 46 | 10 |
|  |  | NCO (E-5 to E-6) | 315 | 10 |
|  |  | Sr. NCO (E-7 to E-9) | 150 | 9 |
| Grand Total |  |  | 7591 | 783 |

## Methodology

All responses were brought into and parsed in Microsoft Excel, which was used to bin specific responses to each question into major categories. Randomly sampled case identification numbers were flagged externally and then imported into Microsoft Excel. The identification and selection of survey response categories were made based on a combination of input from the research team and inductive reasoning. Initial coding, performed to measure inter-rater reliability (IRR), was performed on 160 responses selected randomly from U.S. Army Special Forces responses (in accordance with stratification of classes described above). The 160 responses included amounted to $20.43 \%$ of the total sample of the population, where the total sample was comprised of 783 responses, or approximately $10.31 \%$ of the 7,591 responses received.

The research team met three times to discuss and reach consensus on major themes and subsequent categories, to identify and modify applicable exclusion and inclusion criteria for categories, and to discuss IRR measurements. The simple Kappa coefficient was used to measure IRR for each category, and all Kappa scores were calculated in SAS. A research assistant and PhD fellow trained in qualitative methods subsequently coded each randomly selected response with a specific theme or code and developed a codebook that summarized thematic categories, exclusion/inclusion criteria, and key exemplars. Once a consensus was reached and the Kappa scores hit the minimum benchmark of $40 \%$ on the $20 \%$ of the sample, each coder independently coded their respective share of remaining responses from the total sample.
(This page is intentionally left blank.)

# Appendix N. Automated Linguistic Analysis of Responses to Open-Ended Questions: DocuScope 

## Overview of Method

This Appendix reports the results of a software analysis of answers to the open-ended questions in the survey, using the DocuScope corpus analysis tool suite. Corpus analysis is an empirical approach to language analysis, using software to investigate and describe large collections of real world language use, which have been collected according to specific criteria (Bowker and Pearson, 2002). For this study, the corpora were SOF element responses to all questions, allowing us to analyze the responses of Rangers as a whole, MARSOC as a whole, and so on.

## Summary of Findings

We found that all of the SOF elements:

- Had as their highest loading of features social connectedness language, followed by insistence language. This points to a strong cultural emphasis on cohesion among SOF members, and a strong commitment to their recommendations and responses in the survey.
- Expressed a negative stance, both through the use of negative emotional language, but also particularly through the absence of positive emotional language.
- Objected strongly, using oppositional argument language and if/then reasoning to talk about the outcome of adding women to SOF, and used intensifier words to strengthen their arguments.
- Stressed social goods and values, both for how those values and goods are at risk, as well as potential benefits, from having women in SOF.
- Dramatically stressed social connectedness, likely reflecting a strong identification with their cultural in-group.
- Correlations between elements more striking than differences, with correlations around 0.96 .

The following sections show these findings in more detail. To make these sections more useful to readers, we will first give a brief overview of the software used in the analysis.

## Findings

## Software: DocuScope

DocuScope is a corpus analysis software suite that can identify sociocultural dimensions of language: e.g. attitudes, values, relationships, emotions, and argument styles. This allowed us to capture what we might call the stance of SOF members expressed in their responses. The software has been found valid and accurate across a wide range of text analytic tasks and problems. In linguistic forensics, semantic features from DocuScope were combined with most-frequent-word counts for valid and highly accurate (between 70\%-90\%) authorship identification of unattributed Ronald Reagan speeches (Airoldi et al., 2006, 2007). DocuScope has also demonstrated validity in automatic text classification tasks, including English of different eras, as far back as Elizabethan texts (Collins, 2003; Hope and Witmore, 2010). DocuScope's underlying linguistic taxonomy has been validated in cross-cultural English as a second language (ESL) instruction, allowing rural Chinese students to perform US English genres without US cultural experience or prior English genre instruction (Hu, Kaufer, and Ishizaki, 2011). In sentiment analysis, the semantic features from DocuScope were combined with n-grams to produce valid and highly accurate predictions of consumer sentiment in online unstructured texts, with a $92 \%$ accuracy rate while increasing parsimony in the number of features needed for analysis by an order of magnitude (Bai, 2011).

Of the language features DocuScope measures, we found twelve features from five language categories that were relevant to the study. They are detailed below in Table N.1, ranked from highest to lowest mean frequency. The sub-sections that follow describe the frequency of each of these features in the language of respondents, by SOF element. All charts show the mean frequency of each language features, relative to a baseline corpus of general English. ${ }^{24}$

## Relationships

This language category covers social dimensions of relationship talk, and is spread across three types of features: building relationships language (e.g. "thank you," appreciate," "promise to"), social connectedness language ("we have," "our," "work with"), and weakening relationships language ("rape," "complaints," "discredit"). See Figure N.1.

[^15]Table N.1. Relevant Language Features

| Category | Language Features | Sample Strings |
| :---: | :---: | :---: |
| Relationships | Building Relationships | "Thank you," "promise to," "appreciate" |
|  | Social Connectedness | "We have," "our," "work with" |
|  | Weakening Relationships | "Rape," "complaints," "discredit" |
| Personal Perspectives | Intensity | "Very," "strongly," "flat out" |
|  | Insistence | "We should," "we must," "I recommend" |
| Reasoning | Case/Effect | "Due to," "because," "so that" |
|  | If/Then | "If," "can be," "would be" |
|  | Objections | "No," "none," "but" |
| Values | Social Values \& Goods | "High standards," "standards," "cohesiveness" |
|  | Social Vice \& Ills | "Degrading," "sexual assault," "incompetence" |
| Emotion | Negative Emotion | "Hate to," "endanger," "will suffer" |
|  | Positive Emotion | "Easier," "would prefer to," "rapport" |

Figure N. 1 shows that by far the strongest defining linguistic feature of SOF members is their use of social connectedness language: this was the highest scoring language feature. SOF members used relatively little language indexing building up or weakening relationships. Rather, language indexing current membership, and a status of being connected with those in their ingroup, was pervasive. This likely reflects a strong cultural emphasis on cohesion across all SOF elements. For building relationships, SWCCs had the highest mean difference from the baseline corpus, and Special Tactic the lowest. For social connectedness, Special tactics had the highest, and Rangers the least. For weakening relationships language, Special Tactics had the strongest negative, while Rangers had a small positive mean difference.

Figure N.1. Building \& Maintaining Relationships Language


NOTE: The zero-line on each chart is the normalized frequency of the feature within the FROWN, a commonly used general-use corpus of 1990s U.S. English.

## Personal Perspective

This language category includes language that reflects a commitment to ideas and course of action. From this category we included the insistence feature (often modals like "must" and "should"), and intensity language (e.g. "very," "strongly," "flat out"). See Figure N.2.

SOF members used high levels of insistence language (the second highest scoring feature) and intensifiers to strengthen their claims and add urgency. High levels of insistence and intensity indicate an epistemic stance of certainty in their position. For insistence, Rangers had the highest mean difference from the corpus, SEALs the lowest; for intensity Rangers and SEALs had the highest, and MARSOC the lowest.

Figure N.2. Insistence \& Intensity Language


NOTE: The zero-line on each chart is the normalized frequency of the feature within the FROWN, a commonly used general-use corpus of 1990s U.S. English.

## Reasoning

This category includes reasoning strategies: language that links cause to effect (e.g. "due to," "because," "so that"), if/then language ("if," "can be," "would be"), and objections that index opposition ("no," "none," "but"). See Figure N.3.

As shown in the figure, SOF element members used very little language demonstrating causality. Instead they strongly emphasized contingent if/then reasoning to project outcomes of putting women in SOF. This if/then reasoning was combined with objections. The relatively high rate of these kinds of reasoning tactics constitutes an argument strategy: a way to oppose a potential course of action. For cause and effect reasoning, Special Tactics had the highest mean difference from the baseline corpus, and MARSOC the lowest. For if/then reasoning, Rangers had the highest mean difference, and Special Tactics had the lowest. For objections, Rangers had the highest levels, and SWCCs the lowest.

Figure N.3. Reasoning Types Language


NOTE: The zero-line on each chart is the normalized frequency of the feature within the FROWN, a commonly used general-use corpus of 1990s U.S. English.

## Values

This category covers values and moral standards, to include public goods, but also ills. In general English language use, goods include words and phrases such as "education," or "equal treatment under our/the law," while ills are things like "injustice" and "corruption."

Figure N. 4 shows how SOF members used values language to highlight both good and bad potential outcomes from women in SOF. Members used high levels of social goods language in two distinct ways: to highlight existing positive values they express as being at risk (e.g. "high standards," "standards," "cohesiveness"), but also to discuss possible benefits (e.g. "access," "insight"). On the other hand, members used language indexing social vice and ills (e.g. "degrading," "sexual assault," "incompetence") to articulate potential negative outcomes that may happen if women are added to SOF.

We note here the centrality of "standards" in the responses on both goods and ills. Examples of social goods includes words and strings such as "standard/s," "meet/met the standards" "uphold the same standards," "higher/highest standard/s," "up to standard," and "standard/s
for. ${ }^{125}$ Examples of social ills language includes "lower/ed standards, and "degrade/d standards." For social values and goods, Rangers had the highest mean when compared to the baseline corpus, and SWCCs the lowest; for social vice and ills, Special Tactics had the highest, and Special Forces the lowest.

Figure N.4. Social Goods \& Ills Language


NOTE: The zero-line on each chart is the normalized frequency of the feature within the FROWN, a commonly used general-use corpus of 1990s U.S. English.

## Emotion

This language category includes positive (e.g. "easier," "would prefer to," "rapport") and negative (e.g. "hate to," "endanger," "will suffer") affect words and phrases. See Figure N.5.

As shown in the figure, SOF members across elements expressed an overall negative affect in their responses. This is not so much visible in their direct use of negative emotion language, as through the conspicuous absence of positive emotion language. When read in context, feature-rich examples of SOF responses show a stance of displeasure and unhappiness. For positive emotion, Rangers had the strongest negative mean difference as compared to the

[^16]baseline corpus, and SEALs the smallest negative mean difference; for negative emotion, Special Tactics had the highest mean difference, and Special Forces the lowest.

Figure N.5. Positive and Negative Emotion Language


NOTE: The zero-line on each chart is the normalized frequency of the feature within the FROWN, a commonly used general-use corpus of 1990s U.S. English.

## Conclusion

Our analysis shows that SOF members, regardless of element, are remarkably similar in their responses to the open-ended questions in the survey. They are more alike than unlike when analyzed by SOF element, with very high correlations in the language they used (approximately 0.96 ). Within that similarity, two language features stand out as the highest in mean frequency when compared to a baseline corpus of general English: social connectedness, and insistence. Social connectedness language reflects and helps create a culture of military cohesion ${ }^{26}$, and the abundance of this language feature in the survey responses likely points to a strong cultural emphasis on cohesion among SOF members. Insistence language points to a strong commitment to members' recommendations and responses in the survey. Our analysis also points to members'

[^17]greatest concerns: a loss or degradation of standards, and their objection to this as a possible outcome of a proposed policy change. However, alongside this concern over losing a public good, is the acknowledgement of a potential gain in social goods: access and insight from having women in SOF.
(This page is intentionally left blank.)

# Appendix O. Automated Linguistic Analysis of Responses to Open-Ended Questions: LIWC 

## Overview of Method

This Appendix reports the results of applying the Linguistic Inquiry and Word Count (LIWC) ${ }^{27}$ software to four survey questions that allowed for open-ended text responses. The LIWC dictionary contains a large number of categories of words and it is used to produce measurements of the proportion of words in a given text corpus that are found from each category. For this study, the corpora were SOF element responses to all questions, allowing us to analyze the responses of Rangers as a whole, MARSOC as a whole, and so on.

## Summary of Findings

We found that all of the SOF elements:

- Emphasize achievement and professionalism in their responses
- Express high levels of negations, low levels of agreement words
- Raise challenges to actions under consideration and project future outcomes as the result
- Use language suggesting anger, negative emotions, anxiety, and sadness
- Shared similarities that were more notable than differences; median correlation between elements was 0.96 .

The following sections explain these findings in more detail. To make those detailed sections more useful to readers, we will first give a brief overview of the software used in the analysis.

## Findings

Software: LIWC
LIWC is a program that can count words in a corpus that correspond to a taxonomy of categories: e.g. positive and negative emotion, discrepancy, anger, sadness, anxiety. These counts give us a way to quickly scan text for the presence or absence of certain categories of language use. Differences in frequency of category word use from baseline usage in a general corpus can highlight import features of the corpus being analyzed. Previous RAND research (Elson et al., 2012) reviewed scholarly applications of LIWC to studies of language patterns after

[^18]traumatic events (Gortner and Pennebaker, 2003; Stone and Pennebaker, 2002), an investigation of how men and women communicate differently (Newman, Groom, et al., 2008), and application for the detection of deception (Newman, Pennebaker, et al., 2003; Hancock et al., 2008;).

Of the categories of words that LIWC counts, we identified fifteen that were most relevant to the study. They are detailed below in Table O.1:

Table O.1. Relevant Word Categories

| Category | Example Words from Documentation ${ }^{\text {a }}$ | Example Words Found in Corpus |
| :---: | :---: | :---: |
| Occupation | jobs, majors, Xerox | team, work, job, leadership, success, qualified, professional |
| Achievement | earn, hero, win | team, work, ability, performance, capability, effectiveness, leadership, failure |
| Assent | agree, ok, yes | absolutely, yes, agree, ok |
| Negations | no, not, never | no, don't, not, cannot, none, without, never, negative, shouldn't, aren't, wouldn't, couldn't |
| Positive Emotions | love, nice, sweet | benefit, support, good, trust, respect strength, value, advantage, opportunities |
| Discrepancy | should, would, could | would, should, could, if, need, want, must, lack, liability, mistake, impossible |
| Future tense | will, gonna | should, will, may, must, would, might, won't, shouldn't, wouldn't, they'll |
| Causal | because, effect, hence | make, because, change, force, allow, effect, affect, experiment |
| Certainty | always, never | all, certain, must, every, fact, never, sure, always, completely, absolutely, real, proven, necessary, truly, inevitable, obvious |
| Anger | hate, killed, annoyed | harassment, fight, battle, war, destroy, assault, enemy, dangerous, dominated, jealousy, resentment, aggression |
| Negative emotions | hurt, ugly, nasty | lower, problems, risk, harassment, distraction, difficult, degrade, stress, pressure, fear, emotional, loss, fail, weaker, liability, killed, jealousy |
| Anxiety | worried, fearful, nervous | risk, distraction, stress, pressure, fear, emotional, doubt, tension, strain, afraid, uncomfortable |
| Sexual | horny, love, incest | sexual, sex, sexist, pregnancy, rape, naked |
| Sadness | crying, grief, sad | lower, lose, fail, hurt, suffer, damage, devastating |
| Social | mate, talk, they, child | they, we, men, women, female, culture, brotherhood |

[^19]Table O .2 shows the category to finding grouping.

Table O.2. Categories Grouped by Finding

| Finding | LIWC Category | $\begin{aligned} & \text { Presence(+) } \\ & \text { or Absence (-) } \end{aligned}$ |
| :---: | :---: | :---: |
| Emphasize achievement and professionalism in their responses | Occupation | + |
|  | Achievement | + |
| Express high levels of negations, low levels of agreement words | Assent | - |
|  | Negations | + |
|  | Positive Emotions (*) | + |
| Use language suggesting anger, negative emotions, anxiety, and sadness | Anger | + |
|  | Negative Emotions | + |
|  | Sadness | + |
|  | Social | + |
|  | Sexual | + |
|  | Anxiety | + |
| Raise challenges to actions under consideration and project future outcomes as the result | Discrepancy | + |
|  | Future Tense Verbs | + |
|  | Causal | + |
|  | Certainty | + |

NOTE: * = Negations occurred frequently with positive emotions. For example: the phrase "no benefit."
The following figures show the frequency of different LIWC word categories relative to the baseline corpus for all of the above categories. Each set of figures is followed by a description that gives greater context to the measured word frequencies based on a limited sampling of responses to the four open ended questions. The first figure shows the frequency of all fifteen categories of words across all questions and SOF elements. In other words, a single corpus was made of text responses to all four questions from all six elements. The subsequent figures show values for categories grouped together by relevance to a particular finding. All charts show the frequency of each language feature as a delta from a baseline mean of general English. ${ }^{28}$

[^20]
## Overview: All questions / All elements

Figure O. 1 provides an overview of the prevalence of the LIWC categories of greatest relevance. The overview measurements reflect the frequency of different LIWC word categories found in a corpus that includes all elements and all questions. Given the high correlations across elements, the measurements from the combined corpus provide a good overview and a point of departure for further exploration.

Figure O.1. Overview of presence of relevant LIWC categories in corpus


NOTE: The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries.

As shown, each bar represents the difference between the measurement of the word category in the SOF corpus and the measurement of the category in the LIWC baseline corpus, normalized by the value of the baseline. For example: the use of "Achievement" words is nearly twice as high in the SOF corpus as it is in the baseline. Similarly, "Assent" words are almost entirely absent from the SOF corpus. There was little variation across elements or questions for these measurements. A few notable exceptions discussed in further detail below include:

- Higher "negations" and "positive emotions" in question one (potential benefits). This corresponds to phrases such as "no benefit."
- Higher "anxiety," "anger," "sadness," "negative emotion," "social" and "sexual" words in question two (concerns).
- Higher "certainty" words in question three (implementation actions).
- Higher "sexual" words from Special Tactics, Rangers, and SWCCs.

Finding: Emphasizing achievement and professionalism in their responses. (Achievement and Occupation Words)

Figure O. 2 shows the use of "Achievement" and "Occupation" words across different SOF elements. Example "Achievement" words include "earn," "hero," "win," "team," "work," "ability," "performance," "capability," "effectiveness," "leadership" and "failure." "Occupation" words, referring to work related concepts, include "team," "work," "job," "leadership," "success," "qualified," and "professional." LIWC allows for individual words to be assigned to multiple categories, hence the overlap in several of the terms in these two related categories.

Figure O.2. Achievement and Occupation Words


NOTE: The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries.

All SOF members used "Achievement" and "Occupation" words at a frequency that exceeded that found in the LIWC baseline corpus. For example: "best" or "elite" were used in
reference to how SOF members view their community (e.g. "best of the best," "most elite units / warriors / fighting force"). Observed phrase prefixes to these words reflected concerns that policy changes could "ruin," "neuter," "diminish," "compromise," or "weaken" this standard. "Team," a word that belongs to both categories, had many uses including the expression of concern over dynamics and cohesion. Heavy use of "political," an "Occupation" word, reflected concerns over political correctness, pressures, and agendas. "Requirements," another "Occupation" word, was commonly used to express concerns regarding physical, mental, mission and operational standards that might be compromised. "Ability," an "achievement" word, was simultaneously used to question the ability of women to perform, meet standards, or physically contribute, as well as to highlight the ability of women to interact with other women, gain access, and build rapport in certain environments.

Finding: Express high levels of negations, low levels of agreement words. (Assent, Negations and Positive Emotions Words)

Figure O. 3 shows the use of "Assent," "Negations," and "Positive Emotion" words across different SOF elements.

Figure O.3. Assent, Negations, Positive Emotions


NOTE: The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries.

Example "Assent" words include "absolutely," "yes," "agree," and "ok." "Negation" words include "no," "don't," "not," "cannot," "none," "without," "never," "negative," "shouldn't," "aren't," "wouldn't" and "couldn't." "Positive Emotion" words include "benefit," "support," "good," "trust," "respect strength," "value," "advantage" and "opportunities."

These three categories all contribute to a perception of negative sentiment in different ways. For "Assent" it is the absence of words that indicates lack of support. "Positive Emotion" is also generally less prevalent in the survey responses than in the baseline corpus, but when it is present in greater concentration it is accompanied by "Negations" which modify the positive polarity of the emotion expressed. Figure O .4 shows the same categories across questions.

Figure O.4. Assent, Negations, Positive Emotions - by Question


NOTE: The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries.
"Assent" words were markedly absent across all elements and questions. Looking across elements, high levels of "Negations" are seen throughout as is a lower than normal level of "Positive Emotion." When viewed by question, we do see high levels of "Positive Emotion" found in question one, but these words are often coupled with "Negations" that change the polarity of the emotion (e.g. "no benefit(s) to having/opening/allowing" or "do not see any benefit").

Finding: Raise challenges to actions under consideration and project future outcomes as the result. (Discrepancy, Causal, Future Tense Verbs, and Certainty Words)

Figure O. 5 shows the use of "Discrepancy," "Causal," "Future Tense Verbs," and "Certainty" words across different SOF elements. Example "Discrepancy" words include "would," "should," "could," "if," "need," "want," "must," "lack," "liability," "mistake," and "impossible." "Causal" words include "make," "because," "change," "force," "allow," "effect," "affect" and "experiment." "Future Tense Verbs" include "should," "will," "may," "must," "would," "might," "won't," "shouldn't," "wouldn't," and "they'll." "Certainty" words include "all," "certain," "must," "every," "fact," "never," "sure," "always," "completely," "absolutely," "real," "proven," "necessary," "truly," "inevitable," and "obvious."

Figure O.5. Discrepancy, Causal, Future Tense Verbs, Certainty Words


NOTE: The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries.

Figure O. 6 shows the same categories across questions. A high level of "Future Tense Verbs," "Discrepancy," and "Causal" language were also found across all elements and across all questions. "Certainty" language was most present in responses to question three.

Figure O.6. Discrepancy, Causal, Future Tense Verbs, Certainty Words - by Question


NOTE: The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries.

The words "should" and "would" belong both to the "Discrepancy" and "Future Tense Verbs" categories. "Would" and "should" were commonly used to project future outcomes (e.g. "this would," "it would"), suggest possible courses of action (e.g. "they should," "we should," "I would recommend," "I would suggest," "I would rather"), and draw redlines around particular areas of concerns (e.g. "standards should not be lowered," "women/they should not be allowed," "should be able to meet/perform/work/do the same").
"Will," a "Future Tense Verb", was used to express particular concerns about responses affecting both men and women (e.g. "Men will be men/instinctively compromise themselves/act differently," "Women will not be able to/never be accepted"), as well as the concern that "standards will be lowered."
"Change" is an example of "Causal" word and its use also corresponds heavily to expression of concern regarding how the new policy will "change the dynamics/standards/culture" currently in place.
"Must" is an example of a "Certainty" word (which is also a "future tense" and "discrepancy" word) used heavily in question three, again to address the issue of standards (e.g. "standards must be the same for," "must be held to the same standards.").

Finding: Use language suggesting anger, negative emotions, anxiety, and sadness (Anger, Anxiety, Negative Emotion, Sadness, Sexual, and Social Words)

Figure O. 7 shows the use of "Anger," "Anxiety," "Negative Emotion," "Sadness," "Sexual," and "Social" words across different SOF elements. Example "Anger" words include "harassment," "fight," "battle," "war," "destroy," "assault," "enemy," "dangerous," "dominated," "jealousy," "resentment" and "aggression." "Anxiety" words include "risk," "distraction," "stress," "pressure," "fear," "emotional," "doubt," "tension," "strain," "afraid" and "uncomfortable." "Negative Emotion" words include "lower," "problems," "risk," "harassment," "distraction," "difficult," "degrade," "stress," "pressure," "fear," "emotional," "loss," "fail," "weaker," "liability," "killed," and "jealousy." "Sadness" words include "lower," "lose," "fail," "hurt," "suffer," "damage" and "devastating." "Sexual" words include "sexual," "sex," "sexist," "pregnancy," "rape" and "naked." "Social" words include "they," "we," "men," "women," "female," "culture" and "brotherhood."

Figure O.7. Anger, Anxiety, Negative Emotion, Sadness, Sexual, Social Words


NOTE: The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries.

Figure O .8 shows the same categories across questions.

Figure O.8. Anger, Anxiety, Negative Emotion, Sadness, Sexual, Social Words - By Question


NOTE The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries.

Several categories of words captured the main categories of complaints that SOF members expressed. Levels of "Sadness," "Social Words," "Negative Emotions," "Anxiety," "Sexual" and "Anger" words were similar with a few exceptions across SOF elements. However, when viewed by question, high levels of all of these words were observed in responses to question two, which asked respondents what their greatest concern was regarding the opening of SOF specialties. The most commonly observed "Sadness" words included several variants of lowering, losing, failing, and ruining. These words commonly referred to lower standards, failure to meet or maintain standards, and ruining team dynamics/cohesion/integrity.
"Negative emotions" words such as "problems," "risk," "harassment," and "distraction" corresponded to concerns about issues that might arise within teams, risks to the mission, sexual harassment, and distractions that the policy change might cause. Words in the "Sexual" category included "sex," "pregnancy," and "rape." Example "Anxiety" words included "stress," "emotional" and "worry." "Stress" commonly referred not only to stress on the unit, but also to stress to marriages and families. "Emotional" words commonly referred to perceived differences between men and women. "Worry" applied to the full range of concerns expressed elsewhere (e.g. "I worry," "worry that/about"). "Jealousy," an example of an "Anger" word, referred both to team members competing for the attention of women, as well as the potential jealousy of
spouses. "Brotherhood" and "community" were commonly used "Social" words, often preceded by concerns about breaking, tearing, damage, or disruption.

## Conclusions

Our analysis shows that SOF members, regardless of element, are remarkably similar in their responses to the open-ended questions in the survey. They are more alike than unlike when analyzed by SOF element, with very high correlations in the language they used (approximately 0.96). Within that similarity, several patterns in the word frequencies of several LIWC categories stand out: concerns about professionalism, expressions of negativity and expressions of disagreement, and enumeration of several stressors and concerns. The dominant theme in these patterns is a negative stance towards the opening of SOF specialties to women grounded in concerns such as the lowering of standards, political motivations, and stressors that are likely to emerge within units and at home. Despite this observed opposition, some potential benefits are mentioned such as the ability of women to interact with other women, gain access, and build rapport in certain environments.

# Appendix P. Women in SOF Focus Group Oral Consent Form 

This Appendix presents the consent form distributed to all participants of Women in SOF focus group sessions.

## Assessing the Implications of the Opening of SOF Specialties and Units to Women

Hello, we are researchers with RAND, an independent, non-profit, federally funded policy research organization that serves the Office of the Secretary of Defense, the Joint Staff, the Combatant Commands, the Army, the Air Force, the Navy, the Marine Corps, and the defense Intelligence Community.

USSOCOM has asked RAND to conduct research examining the implications of the decision by the Secretary of Defense to open up SOF specialties and tactical-level units to women. This research aims to assess the implications of the potential integration of women into SOF on unit cohesion, readiness, and performance.

We have completed initial research on the factors that play a role in a unit's effectiveness. At this time, we want to hear from you about your experiences and insights into issues associated with the opening up of SOF specialties and tactical-level units to women. This focus group session should last about 60 minutes.

Your participation is voluntary and you can decline to answer any of the questions. Whether you choose to participate or not in this discussion, RAND will not be reporting your participation to any military office. You may leave now if you choose not to participate in this discussion.

There are no "right" or "wrong" answers. We are strictly interested in learning about your experiences and observations. We will be taking notes today, but we will not record any names in our notes and we will not show our notes to anyone outside of RAND. Our notes will only help us to identify general patterns of comments and inform our analysis for USSOCOM leaders to develop and implement policies and programs. Any quotations or other specific focus group data used in the final report will be identified only by generic descriptors. No one will be identified by name; the only identification will be: rank and service affiliation.

Finally, we ask that each of you commit to keeping today's discussion confidential by not revealing the names of other participants or their comments to anyone. What each of you says should remain in this room. Although we are asking everyone else in the focus group to keep your answers confidential, we cannot guarantee they will do so. Questions about personal experiences may be asked. If these are disclosed, they could cause embarrassment or distress. Therefore, please be careful not to say anything that you would not want another participant to repeat outside of this group.

Please keep this information sheet. If you have any questions or comments about this RAND research, you can contact the project leaders, Thomas Szayna at 310-393-0411 x7758, szayna@rand.org or Bill Welser at 310-393-0411 x6435, bwelser@rand.org. You may also contact the RAND Human Subjects Protection Committee at (310) 393-0411x6939 or hspcadmin@rand.org

## Appendix Q. Women in SOF Focus Group Questions for Service Members in Closed Positions

This Appendix presents the questions used to organize each of the Women in SOF focus group sessions.

## [Instructions: Collect the Following Basic Demographic Information]:

- Component
- Occupational specialty
- Current pay grade
- How many years in service? Of these, how many in SOF?


## A. Questions Regarding Expectations Regarding the Potential Impacts of Integration <br> [Instructions] We would like to start by asking you about your expectations regarding the potential impact of the integration of women into SOF.

- 1. What will be the impact of integrating women into your specialty?
- < Probes, if needed $>$ :
- < What positive impacts do you think it will have? >
- < What negative impacts do you think it will have? >
- 2. How do you think the integration of women into your unit/team will impact:
a. Unit cohesion or trust among unit/team members?
b. Your individual morale and unit/team morale?
c. Your individual ability and your unit/team's ability to perform the mission?
d. Your unit/team's readiness?
- 3. Do you have any concerns about the impact of integrating women into your unit/team?
- < Probes, if needed >
- < Interpersonal issues >
- < Ability to form a cohesive team >
- < Women's ability to meet physical job requirements for SOF specialties
$>$
- < Concerns about sexual harassment or sexual assault >
- 4. If women are allowed to serve in SOF, do you think the military will find it easier or more difficult to recruit good personnel than they do now? Why?
- 5. If women are allowed to serve in SOF, do you think the military will find it easier or more difficult to retain good personnel than they do now? Please explain.
- < Probes, if needed >
- < Will this influence your intention to stay in the military? >


## B. Questions Regarding Implementation

[Instructions] The next questions focus on your advice regarding the implementation of the potential integration of women into SOF.

- 1. During integration of women into your specialty, what action(s) should be taken to address the concerns you have?
- < Probes, if needed >
- < What action(s) should be taken to address potential impacts on unit/team trust and morale? >
- < What action(s) should be taken to address potential impacts on unit/team cohesion? >
- < What action(s) should be taken to address potential impacts on unit/team performance? >
- < What action(s) should be taken to address potential impacts on unit/team readiness? >
- 2. What other advice would you give to leaders if the decision is made to integrate women into SOF units/teams?
- 3. Are there specific actions that commanders can take to minimize any potential adverse impacts that integration might have on their units/teams?


## References

Airoldi, E.M., A.G. Anderson, S.E. Fienberg, and K.K. Skinner, "Who wrote Ronald Reagan's radio addresses?" Bayesian Analysis, Vol. 2, 2006, pp. 289-320.
---, "Whose ideas? Whose words? Authorship of the Ronald Reagan radio addresses," Political Science \& Politics, Vol. 40, 2007, pp. 501-506.

Bai, X., "Predicting Consumer Sentiments from Online Text," Decision Support Systems, Vol. 50, 2011, pp. 732-742.

Berger, Joseph, Robert Z. Norman, James W. Balkwell, and Roy F. Smith, "Status Inconsistency in Task Situations: A Test of Four Status Processing Principles." American Sociological Review Vol. 57, 1992, pp. 843-855.

Berger, Joseph, and Murray Webster, Jr., "Expectations, Status, and Behavior," in Peter J. Burke, ed., Contemporary Social Psychological Theories, Stanford, Calif.: Stanford University Press, 2006, pp. 268-300.

Bowker, L., and J. Pearson, Working with Specialized Language: a Practical Guide to Using Corpora, London: Routledge, 2002.

Collins, J., Variations in Written English, dissertation, Carnegie Mellon University, 2003, Pittsburgh, PA, Defense Technical Information Center, 20030822 182. As of July 1, 2013: http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA416543

Correll, Shelley J. "Gender and the Career Choice Process: The Role of Biased SelfAssessments," American Journal of Sociology, Vol. 106, 2001, pp. 1691-1730.

Cortina, Jose M., "What is Coefficient Alpha? An Examination of Theory and Applications," Journal of Applied Psychology, Vol. 78, 1993, pp. 98-104.

Craig, C. Samuel, and John M. McCann, "Item Nonresponse in Mail Surveys: Extent and Correlates," Journal of Marketing Research, Vol. 15, No. 2, May, 1978, pp. 285-289.

Daniel, W.W., Biostatistics: A Foundation for Analysis in the Health Sciences, New York: John Wiley \& Sons, 1999.

Defense Manpower Data Center, "2012 Workplace and Gender Relations Survey of Active Duty Members, Tabulations of Responses," U.S. Department of Defense, 2013. As of March 24, 2015:
http://www.dod.mil/pubs/foi/Personnel_and_Personnel_Readiness/Personnel/WGRA1201_T abVolume.pdf
---, Active Duty Master File, September 2013.
Deutskens, Elisabeth, Ko De Ruyter, Martin Wetzles, and Paul Oosterveld., "Response Rate and Response Quality of Internet-Based Surveys: An Experimental Study," Marketing Letters, No. 15, 2004, pp. 21-36.

Dillman, Don A., Jolene D. Smyth, and Leah Melani Christian, Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method, Hoboken, N.J.: John Wiley \& Sons, 2009.

DMDC—See Defense Manpower Data Center
Ender, Morten G., American Soldiers in Iraq: McSoldiers or Innovative Professionals?, New York: Routledge, 2013.

Fan, Weimiao, and Zheng Yan, "Factors Affecting Response Rates of the Web Survey: A Systematic Review," Computers in Human Behavior, Vol. 26, No. 2, 2010, pp. 132-139.

Gortner, Eva-Maria, and James W. Pennebaker, "The Archival Anatomy of a Disaster: Media Coverage and Community-Wide Health Effects of the Texas A\&M Bonfire Tragedy," Journal of Social and Clinical Psychology, Vol. 22, 2003, pp. 580-603.

Greenleaf, Eric A., "Measuring Extreme Response Style," Public Opinion Quarterly, Vol. 56, 1992, pp. 328-351.

Groves, Robert M., Robert B. Cialdini, and Mick P. Couper, "Understanding the Decision to Participate in a Survey," Public Opinion Quarterly, Vol. 56, 1992, pp. 475-495

Gunn, Holly, "Web-Based Surveys: Changing the Survey Process," First Monday, Vol. 7, No. 12, December 2002. As of October 20, 2013: http://firstmonday.org/ojs/index.php/fm/article/viewArticle/1014/935

Hancock, Jeffrey T., Lauren E. Curry, Saurabh Goorha, and Michael Woodworth, "On Lying and Being Lied to: A Linguistic Analysis of Deception in Computer-Mediated Communication," Discourse Processes, Vol. 45, No. 1, 2008, pp. 1-23.

Harrell, Margaret C., and Laura L. Miller, New Opportunities for Military Women Effects Upon Readiness, Cohesion, and Morale, Santa Monica, Calif.: RAND Corporation, MR-896-OSD, 1997. As of August 8, 2014: http://www.rand.org/pubs/monograph_reports/MR896.html

Heberlein, Thomas A., and Robert Baumgartner, "Factors Affecting Response Rates to Mailed Questionnaires: A Quantitative Analysis of the Published Literature," American Sociological Review, Vol. 43, No. 4, August 1978, pp. 447-462

Hope, J. and M. Witmore, "The Hundredth Psalm to the Tune of 'Green Sleeves': Digital Approaches to Shakespeare's Language of Genre,' Shakespeare Quarterly, Vol. 61, 2010.

Hu, Yongmei, David Kaufer, and Suguru Ishizaki, "Genre and Instinct," in Yang Cai, ed., Computing with Instinct, Springer Berlin Heidelberg, 2011, pp. 58-81.

Jacobs, T.O., and Michael G. Sanders, "Principles for Building the Profession: The SOF Experience," in Don. M Snider and Lloyd J. Matthews, The Future of the Army Profession. $2^{\text {nd }}$ ed. McGraw Hill, 2005, pp 441-462.

Kaplowitz, Michael D., Timothy D. Hadlock, and Ralph Levine, "A Comparison of Web and Mail Survey Response Rates," Public Opinion Quarterly, Vol. 68, 2004, pp. 94-101.

Kiernan, Nancy Ellen, Michaela Kiernan, Mary Ann Olyer, and Carolyn Gilles, "Is a Web Survey as Effective as a Mail Survey? A Field Experiment Among Computer Users," American Journal of Evaluation, Vol. 26, 2005, 245-252.

Klein, Lisa, "Increasing Survey Response Rates," University of Wisconsin Survey Center, University of Wisconsin-Madison, briefing, n.d.

Kwak, Nojin, and Barry Radler, "A Comparison Between Mail and Web Surveys: Response Pattern, Respondent Profile, and Data Quality," Journal of Official Statistics, Vol. 18, 2002, pp. 27-273.

Lewis J. D., and A. Weigert, "Trust as a Social Reality," Social Forces, Vol. 63, No. 4, 1985, pp. 967-985.

Lucas, Jeffrey W., "Status Pprocesses and the Iinstitutionalization of Women as Leaders." American Sociological Review, Vol. 68, 2003, pp. 464-480.

MacCoun, Robert J., "What is Known about Unit Cohesion and Military Performance" in Bernard D. Rostker et al.'s Sexual Orientation and U.S. Military Personnel Policy, Options and Assessment, Santa Monica, Calif.: RAND Corporation, W74V8H-06-C-0002m, 1993, pp. 283-331. As of August 8, 2014:
http://www.rand.org/pubs/monographs/MG1056.html
MacCoun, Robert J., Elizabeth Kier, and Aaron Belkin, "Does Social Cohesion Determine Motivation in Combat? An Old Question with an Old Answer," Armed Forces \& Society, Vol. 32, 2006, pp. 646-654.

Marcellino, William M, "Talk Like A Marine: USMC Linguistic Acculturation And CivilMilitary Argument," Discourse Studies, Vol. 16, no. 3, 2014, pp. 384-404.

Marcus, Bernd, Michael Bosnjak, Steffen Lindner, Stanislav Pilischenko, and Astrid Schutz, "Compensating for Low Topic Interest and Long Surveys: A Field Experiment on Nonresponse in Web Surveys," Social Science Computing Review, Vol. 25, No. 3, Fall 2007, pp. 372-383.

Messer, Benjamin L., Michelle L. Edwards, and Don A. Dillman, Determinants of Item Nonresponse to Web and Mail Respondents in Three Address-Based Mixed-mode Surveys of the General Public, Pullman, Wash.: Social \& Economic Sciences Research Center, Washington State University, Technical report 12-001, January 2012.

Miller, Laura L., Bernard D. Rostker, Rachel M. Burns, Dionne Barnes-Proby, Sandraluz LaraCinisomo, and Terry R. West, A New Approach for Assessing the Needs of Service Members and their Families, Santa Monica, Calif.: RAND Corporation, MG-1124-OSD, 2011. As of March 20, 2015: http://www.rand.org/pubs/monographs/MG1124.html.

National Defense Research Institute, Sexual Orientation and U.S. Military Personnel Policy: An Update of RAND's 1993 Study, Santa Monica, Calif.: RAND Corporation, MG-1056OSD2010. As of March 23, 2015: http://www.rand.org/pubs/monographs/MG1056.html

Newell, Carol E., Paul Rosenfeld, Rorie N. Harris, and Regina L. Hindelang, "Reasons for Nonresponse on U.S. Navy Surveys: A Closer Look," Military Psychology, No. 16, 2004, pp. 265-276.

Newman, Matthew L., Carla J. Groom, Lori D. Handelman, and James W. Pennebaker, "Gender Differences in Language Use: An Analysis of 14,000 Text Samples," Discourse Processes, Vol. 45, 2008, pp. 211-236.

Newman, Matthew L., James W. Pennebaker, Diane S. Berry, and Jane M. Richards, "Lying Words: Predicting Deception from Linguistic Styles," Personality and Social Psychology Bulletin, Vol. 29, No. 5, 2003, pp. 665-675.

Parrish, Michael R., A Meta-Analysis of Questionnaire Response Rates in Military Samples, thesis, Wright-Patterson Air Force Base, Ohio: Air Force Institute of Technology, March 2007.

Pettigrew, Thomas F., "Intergroup Contact Theory." Annual Review of Psychology, Vol. 49, 1998, pp. 65-85.

Porter, Stephen R., "Raising Response Rates: What Works?" New Directions for Institutional Research, No. 121, Spring 2004, pp. 5-20.

Posard, Marek N., Marc Hultquist, and David R. Segal. "Adjusting the Duty Day Schedule to Improve Health and Family Life in Garrison." Journal of Human Behavior in the Social Environment, Vol. 23, 2013, pp. 789-799.

Puleston, Jon, "How to Calculate the Length of a Survey," July 3, 2012. As of October 22, 2013: http://question-science.blogspot.com/2012/07/how-to-calculate-length-of-survey.html

Rostker, Bernard D., Scott A. Harris, James P. Kahan, Erik J. Frinking, C. Neil Fulcher, Lawrence M. Hanser, Paul Koegel et al., Sexual Orientation and US Military Personnel Policy, Santa Monica, Calif.: RAND Corporation, MR-323-OSD, 1993.

Sacks, Donna, "Survey Response Rates," January 28, 2010. As of April 29, 2015: http://www.surveygizmo.com/survey-blog/survey-response-rates/

Segal, Mady Wechsler and Chris Bourg, "Professional Leadership and Diversity in the Army," in Don Snider and Gayle L. Watkins, eds., The Future of the Army Profession, New York: McGraw-Hill, 2002, pp. 505-520.

Shelton, Henry H., "Special Operations Forces: Key Role in Preventive Defense," Defense Issues, Vol. 12, No. 12, 1997, pp. 55-57.

Siebold, Guy L., "The Misconceived Construct of Task Cohesion." Armed Forces \& Society, Vol. 33, 2013, pp. 286-295.

Stone, Lori D., and James W. Pennebaker, "Trauma in Real Time: Talking and Avoiding Online Conversations About the Death of Princess Diana," Basic and Applied Social Psychology, Vol. 24, No. 3, 2002, pp. 173-183.

Tomaskovic-Devey, Donald, Jeffrey Leiter, and Shealy Thompson, "Item Nonresponse in Organizational Surveys," Sociological Methodology, Vol. 25, 1995, pp. 77-110.

Tourangeau, Roger, and Thomas J. Plewes, eds., Nonresponse in Social Science Surveys: A Research Agenda, Washington, D.C.: National Academies Press, 2013

Umbach, Paul D., "Web Surveys: Best Practices," New Directions for Institutional Research, No. 121, Spring 2004, pp. 23-38.

USSOCOM, "U.S. Special Operations Command Implementation Plan for Elimination of Direct Combat Assignment Rule," memorandum, March 22, 2013.

Versta Research, "How to Estimate the Length of a Survey," December 2011. As of October 21, 2013: http://www.verstaresearch.com/newsletters/how-to-estimate-the-length-of-asurvey.html

Walker, Henry A., and Mary L. Fennell, "Gender Differences in Role Different and Organizational Task Performance," Annual Review of Sociology, Vol. 12, 1986, pp. 255-275.

Wygant, Steve, Danny Olsen, Vaughn Call, and Joseph Curtin, "Comparative Analyses of Parallel Paper, Phone, and Web Surveys: Some Effects of Reminder, Incentive, and Mode," paper presented at the annual conference of the American Association for Public Opinion Research, Miami Beach, Fla., May 2005. As of October 20, 2013: http://jwolf-ra.wdfiles.com/local--files/mode-effects/PDFofPPTCompAnalysis2005.pdf.


[^0]:    ${ }^{1}$ Relevant past RAND survey work includes: National Defense Research Institute, Rostker et al., 1993; Harrell and Miller, 1997; and National Defense Research Institute, 2010. Other surveys we reviewed were conducted by a wide range of organizations and institutions, including CBS News, TRADOC Analysis Center (TRAC), Defense Equal Opportunity Management Institute, Pew Research Center, the VA National Center for PTSD, the National Opinion Research Center at the University of Chicago, the American National Election Studies project of the University of Michigan and Stanford University, and Quinnipac University.

[^1]:    ${ }^{4}$ By agreement with our sponsor, the topic of potential impacts on morale was removed from our survey to allow for a shortening of the survey instrument without diminishing its scientific integrity.

[^2]:    5 "Level 1" positions were closed by unit (USSOCOM, 2013). A more recent estimate of individuals in USSOCOM Level 2 positions from the Defense Manpower Data Center's (DMDC) Active Duty Master File is 16,658 personnel. Where appropriate, we present ranges that include both sources.
    ${ }^{6}$ Primary Service Occupation Codes provide the next level of detail below the Military Occupational Specialties/Air Force Specialty Codes (MOS/AFSC) listed in Figure C.1.
    ${ }^{7}$ The Statistical Appendix describes the formula we used to calculate estimated sample sizes.

[^3]:    ${ }^{8}$ As a practical matter, even with a 100 percent sample, likely response rates below 50 percent will significantly reduce the statistical precision of estimates in each of the cells in the Primary Service Occupation Code by Grade matrix, requiring some level of aggregation. Of the 323 cells of this matrix that are currently populated, 241 would require fully 100 percent response rates to achieve the desired level of statistical precision in each cell, while each of the remaining cells would require a response rate of greater than 50 percent. While a 100 percent sample or census will provide the best prospect for acquiring the desired detailed data, even in this case, some aggregation of results will clearly be necessary.

[^4]:    ${ }^{9}$ See also Craig and McCann, 1978.
    ${ }^{10}$ One survey methodology website estimates that respondents can answer five closed-ended questions or two openended questions in one minute. See Sacks, 2010. A survey research firm estimates that respondents can answer eight simple closed-ended questions in a minute. See Versta Research, 2011.
    ${ }^{11}$ One assumption may be that response quality significantly decreases as survey length increases. However, some research has challenged this assumption. For example, Deutskens et al. (2004) found that "the length of the questionnaire [does] not have a negative effect on the quality of responses" (p. 33).

[^5]:    ${ }^{12}$ In terms of data quality, web-based surveys appear to have comparable or higher data quality than mailed paperbased surveys. For more information see: Kwak and Radler, 2002.
    ${ }^{13}$ See for example, Heberlein and Baumgartner, 1978; Groves, Cialdini, and Couper, 1992; and Tourangeau and Plewes, 2013. Some research suggests that the effect of high topic salience may more than offset that of survey length. See Marcus et al., 2007.

[^6]:    ${ }^{14}$ See Klein, n.d.; Messer, Edwards, and Dillman, 2012.

[^7]:    ${ }^{15}$ The study team re-coded these answer choices so that -2 represented "Strongly Oppose," -1 represented "Somewhat Oppose", 0 represented "Neither Oppose Nor Favor," +1 represented "Somewhat Favor," and +2 represented "Strongly Favor."

[^8]:    ${ }^{16}$ The formula for calculating this coefficient is: $\alpha=\mathrm{N} * \mathrm{C} / \mathrm{v}+(\mathrm{N}-1) * \mathrm{c}$, where $\alpha$ represents the Cronbach's alpha coefficient of reliability, N is the number of items, C is the average inter-item covariance among the items in this index, and $v$ is the average variance for this index.

[^9]:    ${ }^{17}$ For a more detailed discussion of this debate, see chapter four in the main report.

[^10]:    ${ }^{18}$ We understand, for example, that AFSOC had conducted a survey on the topic of opening SOF positions to women just prior to our survey.

[^11]:    NOTE: All estimates are based upon weighted sample data. Median values except as otherwise noted.

[^12]:    19 "Word cloud," Oxford Dictionaries, available at [http://www.oxforddictionaries.com/us/definition/american_english/word-cloud](http://www.oxforddictionaries.com/us/definition/american_english/word-cloud), as of November 2014.
    ${ }^{20}$ The figure portrays the top terms out of the 100 most frequent terms, after eliminating high-frequency articles (e.g., "a," "an," "the"), prepositions (e.g., "on," "in," and "with"), and other words that had no substantive interpretation. A total of 42 terms met these criteria, and are included in the chart.

[^13]:    ${ }^{21}$ We report raw counts rather than percentages of total terms used because substantive words are very rare in typical discourse, and are greatly exceeded by non-substantive terms, so they typically comprise only a very small percentage of total words used. Open-ended responses included a total of 1,350,034 words, meaning that, whereas the word "the" occurred 69,288 times ( 5.1 percent of the total), and the word "to" occurred 50,881 times (3.8 percent) as a percentage of total words, the word "women" comprised only 1.95 percent of total words, while the word "men" comprised only 0.55 percent.

[^14]:    ${ }^{22}$ Each i corresponds to one of the units; i.e., $i=1$ corresponds to Air Force Special Tactics team or detachment, $i=$ 2 to Army Ranger element, etc.
    ${ }^{23}$ Similarly, each j corresponds to a rank group; $\mathrm{j}=1$ corresponds to Officers (W1-W5; O1-O10), j=2 to Enlisted (E-1 to E-4), etc.

[^15]:    ${ }^{24}$ The zero-line on each chart is the normalized frequency of the feature within the Freiburg-Brown corpus of American English (FROWN), a commonly used general-use corpus of 1990s U.S. English. The calculation used was the word frequency of the feature in the baseline corpus subtracted from the frequency of the feature in the SOF element's response, then divided by the frequency in the baseline corpus. For example: (Social Connectedness Language FROWN - Social Connectedness Language MARSOC)/ Social Connectedness Language FROWN.

[^16]:    ${ }^{25}$ While not coded by the software, we note that "Army/Navy/SEAL/Ranger standard/s" was used in the same sense of a social good.

[^17]:    ${ }^{26}$ See for example Marcellino (2014) for a discussion of the role of social connectedness language norms in building a culture of cohesion among novice US Marine officers.

[^18]:    ${ }^{27}$ http://www.liwc.net

[^19]:    ${ }^{\text {a }}$ Example words are shown in http://www.liwc.net/descriptiontable1.php.

[^20]:    ${ }^{28}$ The zero-line on each chart is the frequency of the category within the corpus of text that LIWC publishes as a baseline of comparison for its dictionaries: " 2800 randomly selected texts from each of science articles, blogs, novels and talking." http://www.liwc.net/comparedicts.php

