Response to DACOWITS RFI A4:

Propensity of Women to Serve in the Military

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DACOWITS continues to be interested in the propensity of women to serve in the military. The Committee requests a literature review in the form of a written response from Insight on studies and research associated with the following:

- Reasons why people join groups; visible evidence of being a part of a group; what attributes are commonly associated with success in a group context; the need for visible representation to associate oneself with a group; female athletics and sports teams; etc.

Introduction

DACOWITS' study of the recruitment of women into the Services, including women's propensity to join the military, has included gathering information from several military sources on the Services' efforts to recruit women. To expand its exploration of this issue, the Committee has requested a review of the civilian literature pertaining to the impetus behind group membership, attributes of success in a group context, and successful recruitment efforts for women in stereotypically male-dominated academic programs and male-dominated professions. This report begins with an overview of the wealth of literature available on why people join groups and what contributes to success in a group context, followed by an overview of research on the successfulness of recruitment advertising and marketing campaigns in general. The report concludes with two tables that list marketing and advertisement campaigns that have been used to recruit women into male-dominated groups; Table 1 lists effective strategies, while Table 2 lists ineffective strategies. These tables highlight the target population, indicate the group into which women were being recruited, and describe the strategies used.

Group Membership

The drive we feel to join groups, described in a seminal article by Albert Bandura, stems not only from the need for "belongingness," but also from the wide array of other psychological benefits group membership provides.[1] How we identify ourselves affects our behavior. While some groups to which we belong are innate (race, for example), others are self-selected. The social identity approach posits that part of our understanding of self is determined by the groups with which we identify and that the understanding of self can change over time as we alter our group identification or identify with new groups.[2] Similarly, a loss of group membership is associated with a reduction in the clarity of our self-concept and lowered self-esteem.[3] While this is true for groups with a clearly defined identity (such as the Services), van Veelen, Otten, and Hansen (2012) showed this is not the case for groups with an unclear identity.[4] For groups whose identity is not clearly defined, such as newly formed or newly altered workgroups, the opposite is true—the individuals who compose the group project themselves onto the group.[5] Identification with a specific group fluctuates over time as well, as we are alternately primed and not primed to think about cues such as the values of group.[6] For example, following the September 11, 2001 terrorist attacks, our identity as Americans was likely heightened; though we had identified ourselves as Americans prior to the attacks, our identification with America was heightened as our value for freedom was primed. Specific traits of the individual also determine likelihood of identifying with groups. Specifically, those with a tendency toward deference to one group are more likely to identify with other groups, and individuals high in the personality traits of conscientiousness and agreeableness are more likely to identify with groups.[7]

Much research has shown the role that symbols and material possessions can play in defining our individual identities and in our publicizing various aspects of those identities.[8] Symbols serve as tangible representations of the more abstract nature of groups and group membership; symbols have the effect of "grounding" the group, making it seem more real, as well as unifying the members.[9] Because of this, groups with symbols (e.g., flags, logos) appear more unified and threatening to outsiders; to those who are part of the group, symbols make the group seem more cohesive and more important.[10] Ledgerwood, Liviatan, and Carnevale (2007) extended this finding to group identity; they showed symbols that strongly represent the group can be used to both define the group's identity and publicize the group, particularly among members with strong commitment to the group identity.[11] Similarly, when we are

striving for identification with a group, we place greater emphasis on material symbols of the group and ensure the symbols receive publicity.[12]

A. Psychological Benefits of Group Membership

Many studies have shown the benefits of belonging to groups. Regarding the tangible benefits of joining a group, social cognitive theory places specific emphasis on the capacity for collective action, which motivates us to work jointly toward a common goal that benefits the whole group.[13] In addition, research clearly shows several psychological and physical benefits of group membership. Benefits of group membership can come from simply being able to identify with a certain group of individuals; this identification process provides a source of well-being.[14] We generally join groups we believe share our same interests or beliefs out of a need to belong, feel trust and security, and feel accepted.[15] Having a sense of belonging fosters and validates our identity and provides the feeling of being accepted.[16] On a neurobiological level, group membership is positively related to endorphin levels, which may explain the sense of well-being felt by group members when participating in the group context.[17]

Group membership provides preventative as well as recovery benefits for individuals. It provides a protective factor against developing depression, even among an initially depressed sample.[18] Individuals suffering from various medical conditions (e.g., stroke and brain injuries) can promote their recovery through social group membership.[19] [20] Over time, self-esteem increases with multiple group memberships, which can be explained by our taking pride in group memberships we view as important.[21] Most importantly, those who belong to many groups have been shown to have better psychological well-being, are healthier, and live longer than those who belong to fewer groups.[22] [23] [24] [25]

B. Occupational Identity

One specific type of identity that is of particular benefit to the Committee's examination of propensity to join the Services is occupational identity. Our selection of an occupation places us in a group of others who share the same, or similar, profession. In an early article by Becker and Carper (1956), occupational identity was seen as the interrelationship among four variables: the occupational title and its associated ideology, commitment to the tasks involved in the occupation, commitment to the employing organization, and the significance of the occupational position in society at large.[26] The interplay among the importance we place on each of these factors determines the type of occupation we will seek.[27] A person who is strongly committed to an organization and a particular task, for example, is likely to pursue a very different occupation than a person who places strong importance on how his/her occupation is viewed in society and less importance on adherence to a particular organization or task.

C. Success in Group Contexts

The performance of teams and workgroups is strongly affected by the social cohesion of the group.[28] In a study that specifically focused on teams in fire and police departments, group cohesion was found to be significantly related to members' identification with the group.[29] Specific to military groups, cohesion was shown to be strongly related to group performance and job/military satisfaction; cohesion was also related to individual performance, though the effect size was smaller.[30]

Researchers have discovered there are various types of cohesion that affect performance. For example, individual performance in a group setting is mediated by task cohesion (defined as attraction to the

group based on the group's task), particularly in business settings (as compared to sports settings),[31] while individual performance is not mediated by interpersonal cohesion (defined as the member's level of attraction to the group based on relationships with other group members).[32] Similarly, employees perform best in groups whose members have similar desires for reaching concrete decisions.[33] In addition, several personality characteristics present in team members were shown to contribute to team performance, including agreeableness and conscientiousness.[34] [35]

Effectiveness of Marketing and Advertisement

While the need to belong is a strong motivating factor in the desire to obtain group membership, and cohesion is an important component in group and individual performance, voluntary membership in the Services begins with a desire to join the group. One factor that can influence the desire to join the Services is marketing and advertisement efforts. This section presents an overview of how and why marketing and advertising are effective.

Traditional approaches to marketing and advertising focus on knowledge of the product being presented, preference related to favorable attitudes toward the product, and subsequent purchasing behavior or related actions.[36] Advertising campaign effectiveness is based ultimately on the responses individuals have to the advertisement materials. There are many dimensions that can affect this response, including the advertisement characteristics, characteristics of the individual viewing the advertisement, contextual environment of the advertisement, and source.[37] In marketing research, the extent to which an advertisement matches a person's self-concept has been found to affect both preference for the brand being advertised and intent to purchase the brand.[38] Therefore, the same advertisement might have very different effects on different individuals. For example, Khare and Handa (2009) found that advertisements targeting youth will be most effective in influencing brand selection when they most closely match a youthful individual's personality and self-image.[39]

A. Characteristics of Effective Marketing Targeting Female Recruitment

Men and women do not respond the same way to marketing, and marketing campaigns designed for men are not as effective at reaching women. Research has examined differences in advertisements aimed at men and those aimed at women, including what factors make such ads successful or unsuccessful[40] Women differ from men in their attitudes, perceptions, and communication styles—all factors that are important in designing effective advertising campaigns.[41] In addition, the match between the advertisement and the self-concept is important, including gender role; therefore, it is expected that advertisements targeting women would appeal to the female gender role by being more personal and emphasizing women's altruistic nature.[42] Similarly, marketing tactics that included individualization were found to be more effective for women than men among American participants.[43] According to Mollet and Weir (2005), "To effectively portray women, advertisers should consider that the gender of the model be congruent with the audience's perception of the product, the role setting of the woman should fit the environment and product benefits, more modern portrayals are more effective than conventional portrayals, and to depict the woman in a believable manner."[44]

B. Effectiveness of Marketing Targeting Military Recruitment

Early research on the effectiveness of military advertisements showed that military ads had a significant positive effect on short-term enlistment behaviors.[45] These effects extended six months after the advertisements aired. In contrast, a survey of veterans done in 2013 showed that military ads were the least likely to influence their decision to join the Services; more than 80 percent of men and women veterans in the survey indicated they were "only a little or not influenced" by military recruitment ads.[46] Similarly, a 2007 study that examined the effectiveness of recruitment commercials for the Navy found the commercials "enhanced beliefs toward the Navy," but did not affect interest in the Navy.[47] Likewise, another study, which examined the effectiveness of military recruitment advertisements in encouraging

college women to join the Services, found that exposure to the advertisements did not significantly influence the desire to join the military.[48]

Even when the ads were shown to be effective, it was noted that brand-focused advertisements for the Army had detrimental effects on other branches of the military, making the advertisements less cost efficient than previously thought; the conclusion drawn from this research was that the focus of the advertisements should be on global military recruitment rather than branch-specific recruitment.[49] [50] This strategy was recommended in 2003 by the Committee on the Youth Population and Military Recruitment, under contract with the National Academy of Sciences and the Marine Corps.[51]

Advertisement content shown to increase positive attitudes toward and intentions for enlistment in the military includes portrayals of enlistment leading to valued consequences or outcomes for individuals.[52] To achieve this effect, however, there seems to be a specific range of saturation for these advertisements that will enhance overall effectiveness. Individuals must experience a minimum critical level of exposure to the ad before it will begin to increase propensity for enlistment; however, too much exposure will begin to decrease propensity for enlistment.[53] This is consistent with an inverted U-shaped relationship consistently found in previous research on the effect of increased message exposure on attitude. A certain degree of exposure to a moderately complex commercial will increase the strength of the viewer's attitude; however, with additional exposure, the strength of the individual's attitude declines.[54] Up until the viewer can fully comprehend the message of the ad, it is effective in increasing the strength of the attitude toward the product; any exposure past the point of comprehension diminishes the attitude because individuals become inattentive to the message.[55]

Choice of Academic Major and Career Field and Strategies for Recruiting Women Into Male-Dominated Fields

Prior to examining strategies that have proven effective or ineffective in drawing women toward male-dominated academic programs and career fields, it is helpful to briefly review the literature on why women tend toward stereotypically female-dominated academic programs and career fields.

A. Women's Choice of Academic Programs and Career Fields

Mastekassa and Smeby (2008)[56] reviewed the various theories put forward to describe the difference in gender distribution across academic majors, which ultimately leads to an uneven gender distribution across career fields. This section presents an overview of those theories. It is important to note similarities among theories and to recognize that each of these theories have proven accurate in certain settings. Thus, it is possible academic field and career field choice are influenced by factors addressed in a combination of these theories.

One of the more widely held theories is that male and female children are raised to hold different values, which often steers women toward careers in nurturing fields like education and nursing. A second theory proposes that women navigate toward careers that will allow them to more easily maintain an adequate work-life balance. A third theory suggests that it is social factors to which men and women are exposed throughout their lifetimes that lead them down different career paths. Unlike for the first theory, it is not believed that exposure to social factors leads to an internalization of certain gender-stereotypical values.[57] A fourth theory purports that parental expectations for children's future careers affects the motivation those children have to pursue those academic fields.[58]

When surveying a group of college students, researchers found women enrolled in male-dominated academic programs were more likely to have chosen that program at an older age than those enrolled in female-dominated or gender-balanced academic programs. Despite this, there was no difference in their belief that they had selected the right academic field. Women reported having received more family encouragement compared with men to choose the program they chose, but receiving familial encouragement did not differ among those in male-dominated versus female-dominated or gender-balanced fields.[59]

B. Effective and Ineffective Strategies for Recruiting Women Into Male-Dominated Groups

Table 1 provides information on several effective strategies that have been used to recruit women into male-dominated academic programs and male-dominated career fields, while Table 2 provides information on ineffective strategies for recruiting women into these groups. The information includes the target population, the group into which women were being recruited, an overview of the recruitment technique used, the effectiveness of the technique, and the citation for the evidence of effectiveness (or ineffectiveness) of the technique. Recruitment for stereotypically male academic programs was selected for its similarity to military recruitment in terms of the target population; both

primarily recruit recent high school graduate and/or college-age women. The male-dominant career fields were selected for comparison with the Services due to the similar nature of their job tasks.

Table 1. Effective Strategies for Recruiting Women to Male-Dominated Fields

Program/Recruitment Technique	Target Population	Recruitment Goal	Overview
Parental/Peer support[60 61 62 63 64]	<18	STEM programs	Women's decisions to go into mathematics or science courses are based on their early interest in science, which is often related to parental support. Science, technology, engineering, and mathematics (STEM) students developed a sense of identity as scientists during childhood. Science identity development predicted STEM persistence. Family encouragement for chosen careers provides a positive buffer for women. The parent socialization model suggests that expectations parents have of their children's future careers influence children's motivation to pursue these fields. Women are more likely than men are to look to family members and peers for assistance in selecting an academic field; men tend to make that choice more independently.
Female role models/Academic experts[65 66 67 68]	High school/college	STEM programs	Role models were decisive in determining women's entry into a STEM major. Contact with a same-sex STEM expert in academic environments enhanced women's self-concept in STEM, positive attitudes toward STEM, and motivation to pursue STEM careers. Exposure to female STEM experts promoted positive implicit attitudes on and stronger implicit identification with STEM, greater self-efficacy in STEM, and more effort on STEM tests. Benefits of seeing same-sex experts are driven by greater subjective identification and connectedness with these individuals, which in turn predicts enhanced self-efficacy, domain identification, and commitment to pursue STEM careers. Women's own self-concepts benefit from contact with female experts, even though negative stereotypes about their gender and STEM remain active. Absence of female role models affected how women engineers appraised their social identity; lack of supportive female role models heightens the threat of women leaving gender-imbalanced work environments. Efforts to reduce discrimination, provide positive female role models, and establish social support in traditionally male academic settings has a meaningful effect on women's willingness to pursue and persist in these environments. In fields where there are more women, there are more female role models, and this in turn helps to recruit more women.
All-girl workshops[69]	High school	Engineering field	All-girl workshops designed to introduce girls to the engineering field through interaction with women engineers and fun, hands-on activities are effective in increasing the number of women pursing degrees in engineering.
Placing advertisements in venues	Post-college	STEM careers	Placing advertisements for STEM jobs in venues that target women increased the

Program/Recruitment Technique	Target Population	Recruitment Goal	Overview
that target women[70 71]			number of women who applied for the positions. The greater the percentage of female applicants, the more likely a woman would be hired for the position; though only 15 percent of the applicants were women, more than one-third of the positions resulted in job offers to women. These advertisements created specifically for women should be circulated where women will most likely see them.
Help develop women in the field[72]	Career women	Computing industry	To encourage women to stay in the computing industry, employers can provide equal opportunities for employees to demonstrate technical abilities, examine task assignments for patterns that subtly disadvantage women, promote sponsorship for junior women, and ensure that performance evaluations are results-based to avoid unconscious biases.
Promote a sense of fairness and safety in the working environment[73]	College/ Post-college	Computing industry	Working in environments where one perceives fair treatment can promote women's experience of belonging and engagement in similar environments in the future. Efforts to reduce discrimination, provide positive female role models, and establish social support in traditionally male academic settings has a meaningful effect on women's willingness to pursue and persist in these environments.
Availability of strong social networks[74]	Not specified	Male-dominated professions	Supportive social networks are important elements to success in an identity threatening environment. Strong perceptions of the availability of social support provided a buffer to the experience of social identity threat.
Appealing to women's endorsement of communal goals[75]	Not specified	STEM fields	Women generally endorse and highly value communal goals, which are consequently negatively related to interest in STEM, because STEM fields are perceived as impeding communal goals. The authors propose that organizational recruitment efforts should focus on both promoting STEM fields to women by highlighting the ways in which they include communal goal pursuits as well as offering and rewarding communal pursuits.
Higher recruiting budgets[76]	18+	Police	Higher recruiting budgets bring in more female and minority applications and also produce more women hires.

Program/Recruitment Technique	Target Population	Recruitment Goal	Overview
Emphasize altruistic/helping aspect of the work[77 78 79 80]	18+	Police/military	Tailoring a recruitment strategy that highlights the helping component draws female applicants, but not at the exclusion of male applicants. Regardless of race and gender, individuals entered policing because of the helping aspect of the work, or for practical reasons (benefits and security). Departments should emphasize the altruistic, helping aspect of police work. In advertisements targeted towards women and when interacting with female prospects, emphasize benefits that have been proven especially important to women. Women tend to be more attracted to those ads that show them as personal, cooperative, and altruistic. Since the evidence is unclear as to how to portray women, the best solution seems to be to show them as realistically as possible. This portrayal will also most accurately depict an Army career.

Table 2. Ineffective Strategies for Recruiting Women to Male-Dominated Fields

Program/recruitment technique	Target Population	Recruitment Goal	Overview
Interventions targeting girls'/women's self-efficacy/self-concept[81 82 83]	<18	STEM fields	Interventions targeting girls' self-efficacy in science have succeeded in increasing self-efficacy but have not improved interest in a science career. Math self-concept is considered an important predictor of the pursuit of STEM fields; however, its salience in predicting major choice has fluctuated over time. For women, the salience of math self-concept has grown in the prediction of selecting majors in math/statistics, but has weakened over time in explaining women's decision to major in the remaining four STEM fields.
Presence of women in the field[84 85]	High school/ Post-college	Engineering programs	Having a higher percentage of women faculty did not affect the percentage of women applicants. Women engineers' sense of belonging at and interest in attending a professional conference were not influenced by the number of women portrayed at the conference.
Diversity in search committees[86]	Post-college	STEM fields	Diverse search committees did not have a significant effect on the percentage of women who applied for the positions.
Advertising content stressing high-level responsibility to women/minorities[87 88 89]	18+	Police	Advertising content stressed helping tasks, uniforms, and high-level responsibility to women and minorities. Advertising an overly positive and exciting image of policing could be counterproductive by increasing later disenchantment.

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