

**Inclusion at Work DEOCS 4.1
Construct Validity Summary**



Inclusion DEOCS 4.1 Construct Validity Summary

Background

In 2011, the Department of Defense (DoD) published the Government-Wide Diversity and Inclusion Strategic Plan that established a government-wide initiative to promote Diversity and Inclusion. While the military is a diverse organization, it is unclear if it is an inclusive organization; therefore, it is necessary to measure the military's climate for inclusion. The Federal Employee Viewpoint Survey (FEVS) has measured Inclusion for civilian members within the federal government; however, there has yet to be an assessment of a climate for inclusion for the military population. The DEOMI Organizational Climate Survey (DEOCS) intends to fulfill that role.

In 2014, Defense Equal Opportunity Management Institute (DEOMI) released DEOCS 4.0 for Department of Defense military and civilian members. DEOMI initiated development of DEOCS 4.1 in May 2016. This effort includes various updates to improve climate factors and individual items on the DEOCS. The following paper details the work conducted to create an Inclusion climate measure for DEOCS 4.1. First, the relevant literature on inclusion will be reviewed. Second, item development and data analyses for Study 1 will be reviewed. Third, item development and data analyses for Study 2 will be reviewed. Finally, aggregation statistics, a conclusion and the final items selected for inclusion on DEOCS 4.1 will be presented.

Literature Review

In the past several years, organizations have been moving toward greater diversity in the workplace. However, there is mixed evidence regarding the impact of diversity on organizational outcomes, where some research has found a positive impact while others have found a negative impact (for a review of the research, see Ferdman & Deane, 2014). This highlights the need for leaders to manage their workforce in ways that will elicit positive outcomes from their diverse workforce. Research has recently illustrated support for diversity leading to positive outcomes (e.g., higher job satisfaction, lower conflict and turnover, better performance) when inclusive organizational environments are fostered (e.g., Mor-Barak & Cherin, 1998; Nishii, 2013; Sabharwal, 2014). Indeed, inclusion is concerned with removing obstacles to ensure the full participation and contribution of employees in the organization (Roberson, 2006). Thus, inclusive organizational environments (or, climates) may be a necessary organizational condition for successful diversity management.

Although previous research on inclusion focuses on the civilian population, it is also important to study inclusion in the military context. The DoD formally recognized the importance of diversity and inclusion in the military by creating the 2011 Diversity and Inclusion Strategic Plan. This plan defines inclusion as “a culture that connects each employee to the organization; encourages collaboration, flexibility, and fairness; and leverages diversity throughout the organization so that all individuals are able to participate and contribute to their

full potential.” The current work utilizes a complementary and more comprehensive definition of inclusion by Ferdman and Deane (2014); they define inclusion at work as involving the ways in which organizations, groups, leaders, and members allow everyone (diverse in identities, cultures, and ways of thinking and acting) to “participate, contribute, have a voice, and feel that they are connected and belong, all without losing individual uniqueness or having to give up valuable identities or aspects of themselves” (p. 12). We drew from this definition and corresponding literature to create an inclusion scale to fit the military context.

Reviewing the literature on diversity and inclusion yielded several important models of inclusion (see Shore et al., 2011; Nishii, 2013; Ferdman & Deane, 2014). After examining these, the Shore et al. (2011) model was selected, based on its comprehensiveness (Jansen et al., 2014). Specifically, this model suggests that inclusion is composed of uniqueness and belongingness, where *uniqueness* refers to the perception that individuals are allowed/encouraged to maintain a distinctive and differentiated sense of self (e.g., personal values, beliefs, background, and/or culture) and *belongingness* refers to the perception that individuals form and maintain strong, stable, and positive relationships with their workgroup. Many established models of inclusion incorporate these dimensions as key components of an inclusive work environment (e.g., Ferdman & Deane, 2014; Mor Borak, 2008; Nishii, 2013; Shore et al. 2011). In the military context, these constructs will maintain comparable importance to an inclusive environment. In particular, a sense of belonging is fundamental to the esprit de corps and unit cohesion, which is necessary for mission effectiveness.

Additionally, uniqueness, although a new construct for service members, reflects the importance of being part of the group while maintaining fundamental attributes related to the self. In this setting, it means allowing members to leverage their personal differences to enhance mission effectiveness, while still holding military service values close. Therefore, based on these constructs’ comprehensiveness, ubiquity in the literature, and suitability for the military context, these dimensions were chosen for further examination of a model for inclusion within the military context.

Additionally, research across many other models of inclusion (e.g., Mor-Barak & Cherin, 1998; Nishii, 2013; Ferdman & Dean, 2014; Pelled, Ledford, & Mohrman, 1999; Sabharwal, 2014) suggests that an individual’s inclusion in decision making—referred to here as the opportunity to contribute—is a key dimension of an inclusive climate. *Opportunity to contribute* refers to “the extent to which the diverse perspectives of employees are actively sought and integrated, even if expressed ideas might upset the status quo” (Nishii, 2013, p. 1757); this is expected to positively influence organizational performance (Mor-Barak & Cherin, 2008). Additionally, Nishii (2013) suggests that allowing contributions from group members may also help reduce biases and lead to learning within workgroups. In the military, every level in a chain of command has channels for input towards enhancing the system. Therefore, based on the important outcomes in the literature and the relevance to the military setting, we selected this dimension for further examination of a model of inclusion within the military context.

Finally, an additional dimension that is often incorporated within measures of inclusion is fairness. *Fairness* refers to the extent to which employment-related outcomes and processes for

deciding these outcomes are perceived as equitable (Colquitt, 2001; Nishii, 2013). This dimension is important for inclusion, because equitable practices should reduce perceptions of discrimination, and may help prevent artificial hierarchies (such as in-groups and out-groups) that could hinder beneficial interactions among workgroup members (Mor-Barak et al., 2016; Nishii, 2013). Fairness is a psychological construct that goes beyond organizational settings, applying equally to individuals in either the military or other organizations. No differences are anticipated due to the nature of the current context. Therefore, fairness is also an important aspect of inclusion to examine further within the military context.

Overview of studies

Two studies were conducted to develop and test items within a military context. Due to space constraints on the DEOCS 4.1¹, Study 1 did not examine the fairness dimension of inclusion. Instead, Study 1 provided the researchers with an initial understanding of inclusion within a military context, and the items that best suited the dimensions of uniqueness, belongingness, and opportunity to contribute. Study 2 allowed the researchers to refine the items in order meet the space constraints of the survey while also including the fairness dimension to achieve a more comprehensive coverage of the inclusion content domain. All analyses were first conducted on both military and civilian samples separately, however, no differences between the samples emerged. Therefore, all analyses presented within this paper will utilize data from both military and civilians. The next section will discuss item development for Study 1.

Study 1 Item development

Established items reflecting the dimensions of uniqueness, belongingness, and opportunity to contribute were chosen from the literature (Jansen et al., 2014; Nishii, 2013) and modified by research analysts to fit within the military context. Next, those items were randomized and a q-sort task was performed by additional researchers to sort the items into the three dimensions.

Items that were sorted into their expected categories and that reached 100% agreement among the researchers were chosen to present to a panel of subject matter experts (SMEs) for further review. The SMEs were five military members representing different services and a variety of ranks. These SMEs were asked to review (a) the definition of inclusion and its applicability to the military, (b) the proposed dimensions (uniqueness, belongingness, and opportunity to contribute) and their corresponding definitions, and (c) whether the items reflected their intended dimensions. All SMEs expressed that inclusion and its corresponding definition is applicable within a military environment. Additionally, the SMEs agreed with the importance of the proposed dimensions in a military context. Finally, only items that reached 100% agreement across all SMEs were chosen to test on a military sample. This yielded a total of 15 items that can be found in the table below.

¹ Due to ongoing issues of survey burden in the military, efforts were made to reduce the number of items on the DEOCS as much as possible.

Table 1.
Study 1 Inclusion Items

Uniqueness
1. In this workgroup, I am comfortable being myself.
2. In this workgroup, people's differences are respected.
3. This workgroup encourages me to share about myself.
4. This workgroup allows me to be true to my core values.
5. In this workgroup, I am comfortable discussing my background.
6. This workgroup allows me to be honest about who I am
Belongingness
7. I have good relationships with members of my workgroup.
8. This workgroup makes me feel like I belong.
9. My coworkers treat me as a part of the workgroup.
10. This workgroup treats me as an insider.
Opportunity to Contribute
11. Employees in this workgroup are empowered to make work-related decisions on their own.
12. In this workgroup, people's ideas are judged based on their quality.
13. I am encouraged to offer ideas on how to improve operations.
14. Coworkers allow each other to express their opinions.
15. My input is sought out before making important decisions.

The next section contains information on the data analysis performed on the 15 items chosen for Study 1. It consists of the sample description, item descriptive statistics, bivariate correlations, and reliability analysis.

Study 1 Data Analysis

Sample Description

This section contains the demographic characteristics of the Study 1 sample ($n = 3,854$), collected from 8 August 2016 through 11 August 2016. The Branch of Service variable is displayed according to the survey administrator's selection. All remaining variables are displayed according to the individual respondents' selections. The personnel classifications of this sample are as follows: 43% Army ($n = 1,645$), 30% Navy ($n = 1,157$), 13% Marine Corps ($n = 505$), 8% Air Force ($n = 320$), 1% Coast Guard ($n = 22$), and 4% National Guard ($n = 163$). The majority of respondents within this sample are male ($n = 2,946$; 76%). For further information regarding the composition of the sample, refer to Table 2.

Table 2.
Sample Demographics of Inclusion Study 1

Branch of Service	<i>n</i>	%
Army	1,645	43%
Navy	1,157	30%
Marine Corps	505	13%
Air Force	320	8%
Coast Guard	22	1%

	<i>n</i>	%
National Guard	163	4%
Component		
Active Duty	2,300	92%
Reserve	208	8%
Employment Type		
Military	2,679	72%
Civilian	1,067	28%
Gender		
Male	2,946	76%
Female	908	24%
Seniority		
Junior Enlisted (E1 – E3)	670	25%
Non-Commissioned Officer (E4 – E6)	1,362	51%
Senior Non-Commissioned Officer (E7 – E9)	277	10%
Junior Officer (O1 – O3)	229	9%
Senior Officer (O4 and above)	141	5%

Item Descriptive Statistics and Reliability

This section displays descriptive statistics for the 15 Inclusion items. All items were measured on a seven-point scale from *strongly disagree* to *strongly agree*. All items had a range between 1 and 7. Reliability analyses were conducted using Cronbach's Alpha. The reliability coefficients for all scales were adequate, with $\alpha = .94$, $\alpha = .93$, and $\alpha = .90$ for Uniqueness, Belongingness, and Opportunity to Contribute, respectively. For more information on the items, descriptive statistics, correlations, or the reliability, refer to Tables 3 through 5.

Table 3.
Descriptive Statistics of Study 1 Inclusion Items

Item	Mean	SD	Skewness	Kurtosis
Uniqueness				
1. In this workgroup, I am comfortable being myself.	5.26	1.69	-0.99	0.16
2. In this workgroup, people's differences are respected.	5.21	1.66	-1.01	0.17
3. This workgroup encourages me to share about myself.	4.89	1.70	-0.67	-0.44
4. This workgroup allows me to be true to my core values.	5.28	1.62	-1.00	0.24
5. In this workgroup, I am comfortable discussing my background.	5.17	1.69	-0.93	0.00
6. This workgroup allows me to be honest about who I am	5.27	1.62	-1.03	0.33
Belongingness				
7. I have good relationships with members of my workgroup.	5.43	1.52	-1.18	0.91
8. This workgroup makes me feel like I belong.	5.11	1.70	-0.89	-0.06
9. My coworkers treat me as a part of the workgroup.	5.42	1.54	-1.18	0.86
10. This workgroup treats me as an insider.	5.02	1.66	-0.77	-0.15
Opportunity to Contribute				
11. Employees in this workgroup are empowered to make work-related decisions on their own.	4.98	1.71	-0.83	-0.19
12. In this workgroup, people's ideas are judged based on their quality.	4.87	1.69	-0.70	-0.34
13. I am encouraged to offer ideas on how to improve operations.	5.05	1.76	-0.86	-0.21
14. Coworkers allow each other to express their opinions.	5.25	1.61	-1.06	0.39
15. My input is sought out before making important decisions.	4.50	1.85	-0.48	-0.83

Note: $n = 3,854$. The Std. Error for Skewness is .04 and Kurtosis is .08.

Table 4.
Bivariate Correlations of Study 1 Inclusion Items

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. RQ1	1														
2. RQ2	.74**	1													
3. RQ3	.68**	.73**	1												
4. RQ4	.70**	.74**	.74**	1											
5. RQ5	.67**	.70**	.77**	.76**	1										
6. RQ6	.71**	.73**	.76**	.81**	.84**	1									
7. RQ7	.66**	.69**	.70**	.72**	.73**	.76**	1								
8. RQ8	.68**	.72**	.76**	.76**	.75**	.78**	.81**	1							
9. RQ9	.67**	.70**	.69**	.72**	.73**	.74**	.81**	.83**	1						
10. RQ10	.56**	.59**	.62**	.63**	.63**	.65**	.68**	.73**	.74**	1					
11. RQ11	.56**	.62**	.62**	.63**	.62**	.62**	.60**	.66**	.62**	.58**	1				
12. RQ12	.48**	.53**	.49**	.52**	.50**	.52**	.51**	.55**	.54**	.52**	.60**	1			
13. RQ13	.61**	.67**	.68**	.66**	.66**	.66**	.65**	.71**	.68**	.60**	.70**	.58**	1		
14. RQ14	.66**	.71**	.70**	.71**	.72**	.73**	.74**	.76**	.77**	.64**	.65**	.56**	.74**	1	
15. RQ15	.53**	.58**	.64**	.59**	.60**	.60**	.57**	.66**	.60**	.56**	.64**	.53**	.74**	.65**	1

Note: RQ stands for research question. To see the full questions refer to table 1 above.

Table 5.
Reliability Analysis of Study 1 Inclusion Items

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Uniqueness				
In this workgroup, I am comfortable being myself.	25.82	55.42	0.78	0.94
In this workgroup, people's differences are respected.	25.87	54.98	0.82	0.94
This workgroup encourages me to share my values and beliefs.	26.19	54.32	0.83	0.93
This workgroup allows me to be true to my core values.	25.80	54.97	0.85	0.93
In this workgroup, I am comfortable discussing my background.	25.91	54.01	0.84	0.93
This workgroup allows me to be honest about who I am.	25.81	54.31	0.87	0.93
Belongingness				
I feel excluded by my co-workers.	15.54	20.20	0.83	0.91
These days I feel like I belong.	15.86	18.40	0.87	0.89
This workgroup gives me the feeling that I fit in.	15.55	19.66	0.87	0.89
This workgroup treats me as an insider.	15.96	19.88	0.76	0.93
Opportunity to Contribute				
Employees in this workgroup are empowered to make work-related decisions on their own.	19.67	34.54	0.76	0.87
In this workgroup, people's ideas are judged based on their quality, and not based on who expresses them.	19.78	36.72	0.65	0.90
I am encouraged to offer ideas on how to improve operations.	19.60	33.03	0.82	0.86
Coworkers encourage each other to express their opinions.	19.40	35.53	0.76	0.87
My input is sought out before making important decisions.	20.15	33.40	0.75	0.87

Note: Uniqueness $\alpha = .94$; Belonging $\alpha = .93$; Opportunity to Contribute $\alpha = .90$.

Study 1 Conclusions

After running the bivariate correlations and reliability analysis on the 15 Inclusion items, six items (two from each dimension) were selected. However, after re-examining these items with research analyst team members, it was determined that the scale was not sufficiently tapping the proposed definition of inclusion without the fairness dimension. The next section will review the process for revising and testing items in Study 2.

Study 2 Item development

As previously mentioned, the fairness dimension was considered necessary to appropriately represent the content domain of inclusion. To include this dimension while remaining within the space constraints of the survey, items measuring the dimensions of uniqueness and belongingness were revised to measure both dimensions within single items. Research supports combining dimensions rather than focusing on the specific variance of each dimension if (a) the items adequately cover the content domain and (b) the goal of all the items is to understand an overarching factor (Judge, Bono, & Thoresen, 2003). Therefore, new items for a combined

uniqueness and belongingness dimension were written. Additionally, fairness items were chosen from the literature and modified to fit the military context (Nishii, 2013; Colquitt, 2001). Finally, Study 1 results indicated that all items for the opportunity to contribute dimension were psychometrically adequate for a scale; therefore, SMEs selected two items that would be most relatable to the field to include in Study 2. The new and revised items were then presented to a panel of SMEs to ensure they were still applicable to a military context. All SMEs felt the items would be applicable within a military context and efforts moved forward to test these items on a military population.

Study 2 Data Analysis

This section contains information on the data analysis performed on the 10 items chosen for Study two. It consists of the sample description, item descriptive statistics, bivariate correlations, reliability analysis, exploratory factor analysis, and aggregation statistics.

Sample Description

This section contains the demographic characteristics of the Study 2 sample ($n = 6,570$), collected from 23 August 2016 through 30 August 2016. The Branch of Service variable is displayed according to the survey administrator’s selection. All remaining variables are displayed according to the individual respondents’ selections. The personnel classifications of this sample are as follows: 41% Army ($n = 2,693$), 31% Navy ($n = 2,028$), 14% Marine Corps ($n = 914$), 6% Air Force ($n = 403$), 1% Coast Guard ($n = 58$), and 3% National Guard ($n = 198$). The majority of respondents within this sample are male ($n = 5,061$; 77%). For further information regarding the composition of the sample, refer to Table 6.

Table 6.
Sample Demographics of Inclusion Study 2

	<i>n</i>	%
Branch of Service		
Army	2,693	41%
Navy	2,028	31%
Marine Corps	914	14%
Air Force	403	6%
Coast Guard	58	1%
National Guard	198	3%
Component		
Active Duty	4,080	90%
Reserve	452	10%
Employment Type		
Military	4,767	74%
Civilian	1,649	26%
Gender		
Male	5,061	77%
Female	1,509	23%
Seniority		
Junior Enlisted (E1 – E3)	1,151	24%

	<i>n</i>	%
Non-Commissioned Officer (E4 – E6)	2,333	49%
Senior Non-Commissioned Officer (E7 – E9)	530	11%
Junior Officer (O1 – O3)	460	10%
Senior Officer (O4 and above)	293	6%

Item Descriptive Statistics and Reliability

This section displays descriptive statistics for the 10 Inclusion items. All items were measured on a seven-point scale from *strongly disagree* to *strongly agree*. All items had a range between 1 and 7. Reliability analyses were conducted using Cronbach's Alpha. The reliability coefficients for all scales were adequate, with $\alpha = .77$, $\alpha = .81$, and $\alpha = .92$ for Uniqueness & Belongingness, Opportunity to Contribute, and Fairness, respectively. For more information on the items, descriptive statistics, or the reliability, refer to Table 7 and Table 8.

Table 7.
Descriptive Statistics of Study 2 Inclusion Items

Item	Mean	SD	Skewness	Kurtosis
Uniqueness & Belongingness				
1. Coworkers are treated as valued members of the team without losing their unique identities.	5.06	1.79	-0.85	-0.28
2. I feel excluded by my workgroup because I am different.	5.42	1.70	-0.93	-0.18
3. My workgroup is accepting of individuals with diverse backgrounds	5.61	1.53	-1.31	1.18
4. In my workgroup, I have to pretend to be like everyone else to feel like I belong	5.23	1.77	-0.79	-0.49
Opportunity to Contribute				
5. Within this workgroup, I am encouraged to offer ideas on how to improve operations.	5.07	1.81	-0.84	-0.36
6. Employees in this workgroup are empowered to make work-related decisions on their own	4.91	1.78	-0.74	-0.45
Fairness				
7. Outcomes (e.g., training opportunities, awards, and recognition) are fairly distributed among members of my workgroup	4.71	1.90	-0.60	-0.81
8. The decision-making processes that impact my workgroup are fair	4.87	1.77	-0.68	-0.54
9. The process for determining who gets developmental opportunities in my workgroup is fair	4.86	1.78	-0.70	-0.50
10. Awards in my workgroup depend on how well employees perform their jobs.	4.75	1.88	-0.62	-0.72

Note: $n = 6,570$. The Std. Error for Skewness is .03 and Kurtosis is .06.

Table 8.
Bivariate Correlations of Study 2 Inclusion Items

Variable	1	2	3	4	5	6	7	8	9	10
1. RQ1	1									
2. RQ2	.41**	1								
3. RQ3	.56**	.44**	1							
4. RQ4	.34**	.64**	.36**	1						
5. RQ5	.56**	.43**	.54**	.38**	1					
6. RQ6	.50**	.33**	.47**	.28**	.69**	1				
7. RQ7	.51**	.35**	.46**	.30**	.63**	.61**	1			
8. RQ8	.56**	.39**	.52**	.35**	.70**	.68**	.76**	1		
9. RQ9	.55**	.39**	.52**	.35**	.66**	.62**	.78**	.79**	1	
10. RQ10	.49**	.34**	.45**	.29**	.59**	.54**	.69**	.67**	.70**	1

Note: RQ stands for research question. To see the full questions refer to table 7 above.

Table 9.
Reliability Analysis of Study 2 Inclusion Items

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Uniqueness & Belongingness				
Coworkers are treated as valued members of the team without losing their unique identities.	16.25	16.49	0.53	0.74
I feel excluded by my workgroup because I am different.	15.90	15.84	0.64	0.68
My workgroup is accepting of individuals with diverse backgrounds	15.70	17.74	0.57	0.72
In my workgroup, I have to pretend to be like everyone else to feel like I belong	16.08	16.26	0.56	0.72
Opportunity to Contribute				
Within this workgroup, I am encouraged to offer ideas on how to improve operations.	4.91	3.15	0.69	-
Employees in this workgroup are empowered to make work-related decisions on their own	5.07	3.28	0.69	-
Fairness				
Outcomes (e.g., training opportunities, awards, and recognition) are fairly distributed among members of my workgroup	14.49	24.01	0.82	0.88
The decision-making processes that impact my workgroup are fair	14.32	25.30	0.82	0.89
The process for determining who gets developmental opportunities in my workgroup is fair	14.33	24.82	0.84	0.88
Awards in my workgroup depend on how well employees perform their jobs.	14.44	25.26	0.75	0.91

Note: Uniqueness & Belongingness $\alpha = .77$; Opportunity to Contribute $\alpha = .81$; Fairness $\alpha = .92$. There are no Cronbach's Alpha if Item Deleted for the Opportunity to Contribute dimension because there are only two items in the scale.

Exploratory Factor Analysis

Exploratory factor analysis (EFA) is a tool for consolidating the number of measured variables into a fewer number of factors (Tabachnick & Fidell, 1996). Prior to analyses, the data was tested for normality using the Kolmogorov-Smirnov statistic; the test was significant, indicating non-normality.

Fabrigar, Wegener, MacCallum, and Strahan (1999) suggest utilizing principal factor methods if data violates the assumption of normality. Costello and Osborne (2005) recommend utilizing oblique rotation (which assumes correlations among factors) over orthogonal rotation (which does not recognize the correlation between factors) because it more accurately depicts the relationship between variables. Based on these recommendations, EFA was conducted using principal axis factoring with an oblique rotation, specifically direct oblimin rotation.

To examine the factorability of the items, the correlations among items were analyzed. All correlations were statistically significant ($p < .01$), suggesting adequate factorability (Tabachnick & Fidell, 1996). Additionally, The Bartlett Test of Sphericity (BTS) and the Kaiser Meyer-Olim (KMO) measures were examined to assess the fit between the data and the factor. The BTS hypothesizes that the correlation matrix is an identity matrix. The BTS was significant ($X^2(15) = 20,346.39; p < .01$), therefore allowing us to reject the null hypothesis that the correlation matrix is an identity and to conclude that the factor analysis is an appropriate method to utilize for this data (George & Mallery, 2006). The KMO measure of sampling adequacy was also employed to compare the sum of the squared correlation coefficients and the squared partial correlation coefficients. The obtained statistic was .88. This indicates a very good fit and suggests that a factor analysis is an appropriate statistical method to utilize for analyzing this data.

The principle components analysis yielded a one factor solution accounting for 56% of the variance, suggesting that the theoretical definition of Inclusion as a single construct is correct. Each item exhibited strong primary loadings on the factor (see Costello & Osborne, 2005, for recommended factor loading strengths).² Refer to Table 10 for more information.

Table 10.
Factor Loadings from exploratory factor analysis 23 August – 30 August

Items	Factor 1
Coworkers are treated as valued members of the team without losing their unique identities	0.67
I feel excluded by my workgroup because I am different	0.48
Within this workgroup, I am encouraged to offer ideas on how to improve operations	0.83
Employees in this workgroup are empowered to make work-related decisions on their own	0.78
Outcomes (e.g., training opportunities, awards, and recognition) are fairly distributed among members of my workgroup	0.79
The decision-making processes that impact my workgroup are fair	0.87

² Due to the single factor solution, the solution could not be rotated.

Aggregation Statistics of Final Inclusion Items

This section will describe analysis to determine whether it is appropriate to aggregate this construct with DEOCS data. Surveys, including climate surveys, often measure a construct by obtaining multiple ratings from individuals and aggregating that data to the group-level. The construct of interest is then able to be interpreted at the group-level; this allows for interpretation of the results to shift from saying that Person A and Person B differ on a specific construct to being able to say that Organization A and Organization B differ on a specific construct. The interpretation of the same construct differs at the individual-level versus at the group-level. For instance, displaying a climate factor mean across all individuals within the DoD provides a snapshot of a larger DoD climate, and can provide insight into demographic subgroup differences. Alternatively, these individuals could be considered dependent data points, as they are all observations within units. Therefore, aggregating individuals into unit level means provides insight into the favorability of the unit climates across the DoD.

Some researchers believe the assessment of agreement is a prerequisite for arguing that a higher-level construct can be operationalized from individual-level data; other researchers believe that the variance of within-group agreement is of theoretical importance and should be studied (see Burke, Borucki & Kaufman, 2002). For exploratory purposes, the aggregation statistics for the Inclusion Climate scale were examined.

Additional unit-level analyses will be conducted after the survey is released. With a more robust dataset, different levels of analysis (e.g., based on sub-UICs or ‘breakouts’/departments) will be explored.³ The remainder of this section will discuss the aggregation statistics for the Inclusion Climate scale by providing (1) Sample Description, (2) Within-Group Agreement statistics, and (3) Between-Group Agreement Statistics.

Sample Description

This section contains the demographic characteristics of sample 2. These individuals come from 78 units containing 16 or more individuals ($n = 2,128$). The variables are displayed according to the survey administrator’s selections. The personnel classifications of this sample are as follows: 32% Army ($n = 674$), 35% Navy ($n = 737$), 25% Marine Corps ($n = 525$), and 3% Air Force ($n = 57$). The majority of respondents within this sample are male ($n = 1,622$; 76%).

³ There are two important caveats specific to the DEOCS methodology and this particular data collection: (1) The DEOCS typically remains open for 21 to 30 days – this data collection is representative of individuals who completed the research blocks of the DEOCS between 23 August 2016 and 30 August 2016; therefore, the sample reflects partial units/organizations. (2) Respondents are aggregated to the unit-level through a grouping variable that can identify who belongs to which unit. These units vary in size. For example, Commanders in the Air Force requesting the DEOCS may oversee a single Squadron, Group, or Wing. Therefore, a unit may comprise multiple commands. Due to these limitations, the fidelity of the aggregation statistics presented in the current paper may attenuate aggregation statistics (Ehrhart, Schneider, & Macey, 2014).

Within-Group Agreement

The within-group agreement for the Inclusion scale was explored. Within-group agreement indices help determine if the construct that is supposed to be shared at the group-level actually demonstrates agreement among respondents within the same group. Several within-group agreement indices were explored, including: r_{wg} , AD_M , $ICC(1)$, $ICC(2)$.

The r_{wg} compares the observed within-group variances to an expected variance from random responding. This is a consensus measure or index of agreement within-group(s). LeBreton and Senter (2008) suggest interpreting r_{wg} on a continuum of agreement, with values between .00 and .30 indicating a *lack of agreement*, .31 to .50 as *weak agreement*, .51 to .70 as *moderate agreement*, .71 to .90 as *strong agreement*, and .91 to 1.00 as *very strong agreement*. The averaged $r_{wg(j)}$ results for *Inclusion* was .31, suggesting weak agreement.

The mean average deviation (AD_M) can be interpreted such that 0 indicates complete agreement. Using the seven point response scale, an upper limit cut-off of 1.2 was utilized to determine within-group agreement (Burke & Dunlap, 2002). Thus, scores that fall under an AD_M value of 1.2 represent satisfactory group agreement. The AD_M indices for the *Inclusion* scale suggest weak within-group agreement, falling slightly above the 1.2 cut-off ($AD_{M(J)} = 1.42$).

Intraclass correlations were conducted to determine the amount of variance that can be explained by the unit (LeBreton & Senter, 2008). The $ICC(1)$ explains the total variance that can be explained by group membership. Specifically, an $ICC(1)$ of .10 can be interpreted as 10% of the variability in individual's responses is explained by group membership (Bliese, 2000). Additionally, $ICC(1)$ can be interpreted similarly to effect size, with a value of .01 considered a "small" effect, a value of .10 considered a "medium" effect, and a value of .25 considered a "large" effect (LeBreton & Senter, 2008). A medium effect was found for the *Inclusion* scale, suggesting that 10% of an individual's responses can be attributed to unit membership.

$ICC(2)$ is an estimate of the reliability of the group means. Thus, an $ICC(2)$ indicates whether groups can be reliably differentiated based on the group mean. Although there are no strict standards of acceptability for $ICC(2)$ values, Glick (1985) recommended an $ICC(2)$ cutoff of .60. The $ICC(2)$ score fell above the cut-off ($ICC(2) = .82$).

The within-group agreement statistics show initial moderate support for aggregation. We believe that future data samples that include a larger number of completed units will provide stronger evidence to support within-group agreement for aggregation.

Between-Group Differentiation

The between-group differentiation for the Inclusion Climate scales were explored. Between-group analyses help determine if the groups that are expected to differ actually differ. A one-way analysis of variance (ANOVA) was performed to determine if minimal evidence exists for differences across groups.

The discriminant power was assessed for the Inclusion Climate scale to determine if differences across groups exist. The discriminant power was assessed with the one-way Analysis of Variance (ANOVA) procedure. Hays (1981) suggests that an F ratio > 1.00 provides the minimal evidence for differences across groups. Within the current sample, the F ratio for Inclusion across units was greater than one, $F(77, 569) = 4.14, p < .01$, suggesting differences across groups.

Taken together, the aggregation statistics and the one-way ANOVA provide initial support for aggregating this data to the unit level. Aggregation statistics will be further explored once we have data for complete units.

Conclusion

The revised inclusion factor will now be titled Inclusion at Work and is defined as involving the ways in which organizations, groups, leaders, and members allow everyone (diverse in identities, cultures, and ways of thinking and acting) to “participate, contribute, have a voice, and feel that they are connected and belong, all without losing individual uniqueness or having to give up valuable identities or aspects of themselves” (Ferdman & Deane, 2014, p.12). The results from the previous analyses support a six-item factor for Inclusion. These items are considered to be one factor and can be aggregated to examine Inclusion at the unit level. The final six items selected are presented in Table 11 and Table 12. Future analyses will be conducted to establish correlations with theoretically related items and to establish convergent and discriminant validity.

Table 11.
Descriptive Statistics of Final Inclusion Items

Item	Mean	SD	Skewness	Kurtosis
Coworkers are treated as valued members of the team without losing their unique identities	5.06	1.79	-.85	-.28
I feel excluded by my workgroup because I am different	5.42	1.70	-.93	-.18
Within this workgroup, I am encouraged to offer ideas on how to improve operations	5.07	1.81	-.84	-.36
Employees in this workgroup are empowered to make work-related decisions on their own	4.91	1.78	-.74	-.45
Outcomes (e.g., training opportunities, awards, and recognition) are fairly distributed among members of my workgroup	4.71	1.90	-.60	-.81
The decision-making processes that impact my workgroup are fair	4.87	1.77	-.68	-.54

Note: $n = 6,570$. The Std. Error for Skewness is .03 and Kurtosis is .06.

Table 12.
Reliability Analysis of Final Inclusion Items

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Coworkers are treated as valued members of the team without losing their unique identities	24.97	51.98	0.63	0.86
I feel excluded by my workgroup because I am different	24.61	56.89	0.46	0.89
Within this workgroup, I am encouraged to offer ideas on how to improve operations*	24.96	48.79	0.77	0.84
Employees in this workgroup are empowered to make work-related decisions on their own*	25.12	50.40	0.71	0.85
Outcomes (e.g., training opportunities, awards, and recognition) are fairly distributed among members of my workgroup	25.32	48.60	0.73	0.85
The decision-making processes that impact my workgroup are fair	25.16	48.66	0.80	0.83

Note: Inclusion at work $\alpha = .88$

* These items were modified to provide additional clarity regarding the respondent's workgroup in the final survey.

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