

The Influence of Time Perspective on Retention in United States Army Personnel

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Abstract: *Military retention beyond an initial period of military service is essential to sustain a competent and resilient fighting force. The present exploratory study examined how time perspective is related to military retention in U.S. Army veterans of Operation Iraqi Freedom. Time perspective was assessed using the Short Zimbardo Time Perspective Inventory. To measure military retention, respondents were delimited to veterans separated from the military allowing for an accurate measurement of years served. The identification of a positive relationship between past-positive time perspective and retention ($r = .34, p < .05$) expands upon the understanding of psychosocial factors that influence the decision to remain in the military. The potential malleability of time perspective is discussed as a measure to enhance retention of experienced military professionals in the U.S. Army.*

Keywords: Time perspective; military; personnel retention; veteran; combat deployment; psychological; U. S. Army; past-negative; past-positive; present-fatalistic; present-hedonistic; future

Introduction

The United States military is charged with maintaining a fighting force capable of defending the nation and supporting strategic initiatives across the globe. The U.S. Army requires psychologically resilient individuals (Gaddy, Gonzalez, Lathan and Graham, 2017; Seligman and Fowler, 2011; U.S. Army, 2014) capable of enduring repeated exposure to the rigors of isolation, powerlessness, physical danger, ambiguity, boredom, and workload (Bartone, 2006). The protracted deployments to *Operation Iraqi Freedom* (OIF) from 2003 to 2009 required individuals to balance military career decisions with repeated exposure to

deployment related stressors (Vasterling et. al., 2015). Retention of experienced personnel is relevant to military readiness because of the necessity to develop future military leaders and to minimize the associated cost and time requirement to prepare upcoming leadership (Vasterling et. al., 2015).

Soldiers have a variety of personal and professional reasons for continuing service beyond an initial enlistment or commission (Eskreis-Winkler et. al., 2014; Glaser, 2011). Reasons vary from the pursuit of basic human needs to social altruism. Extant research has examined factors that could impact military retention (Bartone et. al., 2008; Eskreis-Winkler et. al., 2014). Predictors such as mental health, personality, gender, exposure to greater combat related stress, social support, and physical injury are well-represented in literature (Lancaster et. al., 2013; Vasterling et. al., 2015). In addition to the aforementioned factors, Knapik, Jones, Huaret, Darakjy and Piskator (2004) noted that certain attitude and motivational variables had a relationship with Air Force attrition rates. The identification of a predictive relationship between attitude and attrition suggests that other individual perceptions could similarly affect retention. One variable that contributes to individual perspectives and attitudes that has yet to be examined in this population is that of time perspective (Zimbardo and Boyd, 2008). The purpose of this exploratory study is to examine if time perspective is related to retention in U.S. Army soldiers with combat deployments to *Operation Iraqi Freedom* (OIF) between 2003 and 2009.

The Role of Time Perception

Time matters to most people because humans are finite (Zimbardo and Boyd, 2008). Time perspective can be defined as the partitioning of personal experiences in time categories (Sword et. al., 2014; Zimbardo and Boyd, 1999). Time perspective is a personal opinion on the continual flow of existence and is bundled into time categories that provide order and meaning to life (Zimbardo and Boyd, 2008). One's cognitive perception of time has a relationship with personal choices such as physical activity (Hall and Fong, 2003), substance abuse (Fieulaine and Martinez, 2010), post-traumatic stress (Sword et. al., 2014), and well-being (Drake et. al., 2008). The understanding of time has an impact on personal choices made in life such as marriage, spending habits, job engagement, and commitment to long-term pursuits.

Humans have the mental capability to "time travel" by remembering the past, experiencing the present, and conjuring new future events (Gruber, Cunningham, Kirkland, and Hay, 2012). The existence of time, whether measured by the clock, or by physiological means, does occur without question. Zimbardo and Boyd (2008) explain that life is all about making decisions and the core component of one's life revolves around actions taken or actions not taken. These daily decisions are influenced by the individual's perception of time. Time perception is a process that allows humans to sort experiences into categories and reflect attitudes, beliefs, and values about time (Zimbardo and Boyd, 2008). Zimbardo and Boyd (2008) identified five different time perspectives; *Past-negative*, *Past-positive*, *Present-fatalistic*, *Present-hedonistic*, *Future*. The majority of the western world falls into one of

these five time perspectives and make life decisions partially based on the relationship with the action or inaction and time (Zimbardo and Boyd, 2008). Out of the five time perspectives, two are relating to past, two in the present, and one directed towards the future. While all people have some view or perspective on the past, present, and future, a blend of time perspectives exists that becomes the primary lens in which we see the world (Zimbardo and Boyd, 2008).

The past-positive time perspectives suggest positive attitudes towards actual events that occurred or indications of a positive mindset allowing one to persevere (Zimbardo and Boyd, 2008). Some people have a past full of experiences perceived as positive (e.g. exciting, enjoyable) and some people have past experiences perceived as negative (e.g. painful, unenjoyable). How the individual views the experiences are what causes a difference in perception of the present or future. If a child is abused early in life, they may perceive the world as a bad place, think all people are bad, and not expect anything positive to occur. This is an example of past-negative time perspective. With this mindset, it is possible the individual will not believe they can achieve lofty goals and will not set or pursue opportunities. On the other hand, the same child may view the abuse as a crucible and feel they are stronger for making it through the tough times. With this past-positive perception, the individual may believe that no obstacle is too high and continually strive for success.

Present-hedonistic time perspectives suggest the individual has a high propensity for doing things that feel good at the time. Most decisions are made based on the level of pleasure that will be presented following the given choice. On the contrary, present-fatalistic perspectives suggest that individuals make decisions based on the opinion that fate determines the outcome of one's life. Since fate is in control, nothing the individual does will make any real difference in future consequences (Zimbardo and Boyd, 2008).

Future time perspectives suggest an individual is conscientious, consistent, and highly concerned about future implications of their actions (Zimbardo and Boyd, 2008). Those with future time perspectives often set goals and consider specific methods that will facilitate achievement of those goals. While interested in pleasurable events, the costs versus benefit for most actions are weighed before rushing into action.

Military Specific Factors on Personnel Retention

The understanding of different forms of commitment and reasons for turnover in civilian populations are well-studied in scholarly literature (Meyer et al., 2002; Meyer et al., 2012; Meyer and Allen, 1991). The underlying reasons for the specific manifestation of military retention are less clear as the additional hazards inherent to military service compound the complexity of one's decision to continue in service. Military service members are uniquely exposed to significant risk of harm, separation from loved ones, and other stressors less commonly found in the civilian sector (Bartone, 2012). As psychological health is vital for military personnel (Cunha et. al., 2014), multiple psychosocial variables may affect military retention (Lytell and Drasgow, 2009; Olsthoorn, 2014; Vasterling et. al., 2015).

Lytell and Drasgow (2009) expected job satisfaction to be the primary motivation influencing employee turnover but determined that for military organizations, commitment to the organization was more significant than job satisfaction. Honor bestowed on those military service members is weighted more significantly than what is generally found in civilian organizations (Olsthoom, 2014). For instance, a service member may stay with the organization because they feel a loss of honor may come from the departure. The perceived loss of honor may be more concerning than the difficulties of the particular military job (Olsthoom, 2014).

Vasterling et al. (2015) researched enlisted soldiers following a 12-month deployment to Iraq and determined that psychosocial variables including perceived unit support had a relationship with the likelihood that one would not remain in the military. Lancaster et al. (2013) researched predictors of retention longitudinally and included pre-deployment and post-deployment assessments. While a relationship to measures of preparedness, social support, ratings of deployment environment, and post deployment employment status were identified, no mental health variables examined were significant.

In addition to readiness, the approximate financial cost to replace a service member is \$27,000 (Enns, 2012). Extant research on military attrition indicated that psychological attributes are significantly and meaningfully correlated (Cunha, Arkes, Lester and Shen, 2014). The exploration of psychological attributes and long-term readiness directly links the perception of time with meeting the sustained needs of the U.S. Army.

In line to the purpose of this study, a quantitative correlational design was used to examine the theory that a relationship exists between one's time perspective and the length of military service in veterans of the U.S. Army with combat experience during *Operation Iraqi Freedom* (OIF) between 2003 and 2009. The independent variable was the respondent's time perspective and the dependent variable was the respondent's number of years served in the military.

Method

This study included individuals with at least one combat deployment in support of OIF and delimited individuals deployed to other overseas areas. For the purposes of this research, a combat OIF deployment requires a minimum of 90 days in Iraq, with the exception of anyone who was medically evacuated prior to meeting the minimum number of days' requirement. Specific combat location within Iraq, job requirement, exposure to direct combat, or level of combat exposure were not analyzed to protect participants and to not be invasive with our study. This research focused specifically on the role of time perspective on the military retention of OIF veterans. Military retention was measured as a continuous variable with increasing years of service indicating increased retention in the U.S. Army.

We made the following hypothesis and asked the following research question:

R1: Do any of the five time perspectives (past- negative, past-positive, present-hedonistic, present-fatalistic, future) have a relationship with military retention?

H₀: No time perspective (past-negative, past-positive, present-hedonistic, present-fatalistic, future) will have a significant relationship with military retention. $r = 0$

H₁: At least one time perspective (past- negative, past-positive, present-hedonistic, present-fatalistic, future) will have a statistically significant relationship to military retention. $r > 0$

Sample

A priori power analysis indicated that to achieve a power of .80 with $p < .05$ and a large effect size ($f^2 = .35$) with five predictors, a sample size of 45 would be required (Cohen, 1988). A total of 73 respondents completed some portion of the survey. Of the total number of surveys, 13 were incomplete and were not included in the analysis. A total of 7 were medically retired and were not included in the analysis as the decision to remain in U.S. Army was driven by physical disability. In total, 53 U.S. Army veterans of OIF fully completed the survey.

Respondents were delimited to veterans of the U.S. Army who deployed to Iraq between 2003 and 2009. In addition to the *Short Zimbardo Time Perspective Inventory* (SZTPI-15) instrument, a demographic assessment was administered to identify the rank, time in service, type of military separation, years of service, and gender. These variables were explored to determine if any relationships existed with military retention.

Respondents were solicited via social media platforms including Facebook and Twitter using snowball sampling. Data were collected via an online survey. Respondents were directed to a computer-based survey system to participate in the research and were required to provide online informed consent prior to beginning the survey. Once informed consent was given, the SZTPI-15 and demographic questionnaire were presented. No physical harm occurred as a result of this study, and directions for seeking telephonic psychological help were provided if any part of the survey elicited challenging thoughts or emotions. No concealment of deception was a part of this study. Confidentiality and anonymity was assured as the collection of personally identifying information was not required in this study.

Instrumentation

Time perception was analyzed using the *Short Zimbardo Time Perspective Inventory* (SZTPI-15). The SZTPI-15 is a 15 item questionnaire designed to measure time perspective based on a five-point Likert scale (1=very untrue; 2= untrue; 3=neutral; 4=true; 5=very true). Questions from the survey include “I think about the bad things that have happened to me in the past,” “I enjoy stories about how things used to be in the good old times,” “I make decisions on the spur of the moment” and “I complete projects on time by making steady

progress.” The SZTPI-15 is a brief version of the 56-item *Zimbardo Time Perspective Inventory* (ZTPI). Zhang, Howell and Bowerman (2012) conducted validation of the SZTPI-15 presented acceptable psychometric convergence with the standard ZTPI. The shorter version was selected for this research to minimize survey time requirements on the participant and to reduce the likelihood of inaccurate responding due to loss of attention.

Respondents

The U.S. Army is a hierarchical organization that assigns a rank to persons for specific responsibilities and tasks. Military rank includes enlisted personnel in the ranks of Private, Private First Class, Specialist, Sergeant, Staff Sergeant, Sergeant First Class, Master Sergeant/First Sergeant, Sergeants Major, Command Sergeants Major and commissioned officers in the rank of Second Lieutenant, First Lieutenant, Captain, Major, Lieutenant Colonel, Colonel, Brigadier General, Major General, Lieutenant General, General, and General of the Army. For respondents of this study, the mean rank for participants was sergeant first class. Male gender was self-reported by 50 participants and female gender was self-reported by 3 participants. Gender invariance could not be determined due to the low female response rate.

Table 1: Number of respondents, rank and gender

Respondents Rank	No's of respondents	Gender (F/M)
Private	1	Male-1
Private First Class	1	Male-1
Specialist	11	Male-11
Sergeant	7	Female-2; Male-5
Staff Sergeant	6	Male-6
Sergeant First Class	10	Male-10
Master Sergeant/First Sergeant	8	Female-2; Male 6
Captain	2	Male-2
Major	3	Male-3
Lieutenant Colonel	3	Male-3
Colonel	1	Male-1
N	53	

Analysis

The relationship between time perspective and military retention was analyzed by calculating mean survey scores for each of the five time perspectives measured with the SZTPI-15. The SZTPI-15 results were summed (N=53) and using an Independent Sample T-test for each time perspective, a mean score was computed for those with less than ten years of service vs. those with more than ten years of service in the U.S. Army. Ten years of service was selected as an acceptable time period because the majority of initial employment contracts range from two to six years and can only be broken by the military (Cunha et. al., 2014). At the ten year time period, an individual would have been required to make a retention decision.

Results

The results section illustrates the quantitative analysis that were collected from the respondents through SZTPI-15 questionnaires. These data are represented in the tabulation forms representing active years of services, age and end of active services. For this analysis, t-test was applied to examine the research questions to find the acceptance/rejections level of hypothesis formed to meet the purpose of this study.

Descriptive statistics (see Table 2) present the number of active duty years in the U.S. Army and the age at end of service.

Table 2: Descriptive statistics of number of years' active service and age at end of active service (N = 53).

Variable	Minimum	Maximum	Mean	SD
Number of years' active service	2.00	30.00	14.1132	8.03756
Age at end of active service	21.00	52.00	35.5962	8.75653

For each time perspective, a mean score was computed for those with less than ten years of service vs. those with more than ten years of service. The mean PP score for those with less than 10 years of service was 2.997, while the mean PP score for those with more than 10 years of service was 3.360. The mean differences between those with less than 10 years of service and those with more than 10 years of service was significant ($p < .05$), thus rejecting the null hypothesis. None of the remaining 9 hypothesis tests found sufficient evidence to conclude a difference in the mean scores (see Table 3-4).

Table 3: Independent Samples t-test (Less than 10 years of service)

Variable	t	df	Sig. (2-tailed)	Mean difference
Past negative	-1.747	58	0.086	-0.405
Past positive	2.174	58	0.034*	0.363
Present fatalistic	-0.611	58	0.544	-0.127
Present hedonistic	-1.724	58	0.090	-0.367
Future	1.574	58	0.121	0.371

Table 4: Independent Samples t-test (Less than 10 years of service)

Variable	t	df	Sig. (2-tailed)	Mean difference
Past negative	0.363	58	0.718	0.089
Past positive	-1.144	58	0.257	-0.202
Present fatalistic	0.150	58	0.881	0.032
Present hedonistic	1.525	58	0.133	0.336
Future	-0.911	58	0.366	-0.224

In summarizing the results, findings of a significant relationship with one of six time perspectives indicated the perception of past-positive time differed in those respondents who made the decision to remain in military service beyond the ten-year mark. Exploratory studies provide insight for researchers to establish parameters for future studies and to inform researchers on a specific topic. As this was an exploratory study, the study did not hypothesize if any single or multiple perspectives would be identified as having a significant relationship. Further, this exploratory study was not designed to make a conclusion on any specific time perspective or the strength of a certain time perspective. It was hypothesized that at least one of the perspectives would be found to have a relationship and this exploratory data would inform future research.

T-test methodology was selected because the design of the study was to compare the difference between two means from normally distributed populations. Identifying past-positive as the only time perspective with a statistically significant relationship with longevity provides empirical evidence that one's individual style of thinking may serve as a psychological protective factor allowing soldiers to continue service while minimizing counterproductive thoughts regarding continued membership in the armed forces. The specificity of a singular perspective presenting a relationship informs future research on the

importance of past-positive time perspective as a possible protective factor for military longevity.

Discussion and Conclusion

As hypothesized, at least one of the predictor time perspectives (Past-positive) had a statistically significant positive relationship with increased years of military service ($r = .34$, $p < 0.05$). While the relationship between time perspective and military retention has not been exhaustively studied, the findings of a significant positive relationship between past-positive time perspectives with years in service are in line with research on other psychosocial aspects related to retention such as life-satisfaction (Holman et. al., 2016; Holtom et. al., 2014; Zhang and Howell, 2011). If the lens used to view the past is positive, it is conceptually reasonable that future experiences would be equally positive. Individuals leave an organization in a search for change (Griffeth, Hom and Gaertner, 2000). If the past experience is perceived as positive, it is conceivable that one would be less likely to seek change. As the negativity bias refers to one's tendency to notice negative events more than positive events (Soroka and McAdams, 2015), the exaggerated attention on the negative could increase one's intent to separate (Cunningham, 2006). Keough, Zimbardo and Boyd (1999) discussed the importance of balancing time perspectives for optimal functioning. Findings indicated a significant negative relationship with present-hedonistic time perspective. As present-hedonistic time perspectives emphasize a focus on joyful situations in the present moment, a lack of future oriented planning could be directly related to career decision-making. Interestingly, future time perspective did not have a significant relationship with one's years in service. Commitment may require the foundation stone of a past-positive time perspective more than any of the other time perspectives.

Time perspective therapy (TPT) focuses on one's perceptions of their past, present, and future (Sword et. al., 2014). TPT is designed to improve one's ability to believe in themselves and have the ability to progress in life as opposed to placing undue focus on the past (Sword et. al., 2014). Clinicians leverage TPT by 1) identifying the individual time perspective profile based on each sub-category, 2) conveying awareness of the time perspective theory, 3) facilitate awareness of one's bias to a given time perspective, 4) reinforce the use of the equal and opposite time perspective to balance non-productive bias, and 5) work to reconstruct past perceptions by more fluidly moving between time perceived. Clinicians and researchers have leveraged time perspective in a number of health care settings to include suicide (Van Beek et. al., 2009), post-traumatic stress (Sword et al., 2013), and weight management (Hall et. al., 2012).

If TPT can modify one's perception of time to alter past negative time perspectives as a therapy for post-traumatic stress, the potential exists for time perspective to be malleable enough to adjust prior to exposure. Numerous researchers have examined the value of future and past positive time biases and identified the protective ability of one's time perspective to reduce psychopathology (Van Beek, Kerkhof and Beekman, 2011; Zimbardo, Sword and Sword, 2012). Targeted training could be administered to individuals with non-balanced time

perspectives in a preventive role separate from clinical care. Modification of a soldier's time perspective from a negative orientation to a positive orientation would more closely align to those individuals with military longevity.

In conclusion, the U.S. Army is charged with supporting American interests across the globe. Meeting this charge is exceptionally difficult and places both physical and psychological burdens on the soldiers. As a core requirement to retain experienced soldiers capable of performing these explicitly challenging tasks, every effort must be made to develop individuals to remain committed to continued military service. Leveraging the malleability of time perspective towards a past-positive perspective, psychological training for soldiers could enhance long-term commitment and support the ability of the U.S. Army to meet the demands of an ever-changing and conflict ridden world. Causality could not be determined as numerous other variables exist that weigh on one's decision to remain in the military. These exploratory findings may help to achieve a better understanding of military retention in the U.S. Army and emphasize the value of time perspective as a predictor of retaining military professionals.

Limitations

As a study limitation, we used snowball sampling to measure time perspective of U.S. Army personnel with combat experience multiple years after deployment. This time separation was required to accurately measure total years in service and after the corresponding decision by the soldier to remain in the U.S. Army. This design does present a potential for recall bias due to the varied amounts of time since the deployment. In addition, the possibility exists that one's time perspective could be different at the time of survey submission than at the time of discharge from military service. It is also likely that variables other than time perspective weighed on the decision to reenlist. This study only included U.S. Army veterans with combat experience in OIF. As a result, findings may not generalize to other services, different combat locations, or international military organizations. While gender was analyzed as a part of this study, the low rate of return for female respondents limits the ability to generalize findings.

Practical Implications

Damasio (1996) noted an individual's ability to construct possible future states, process affective consequences, and imagine repercussions may underlie self-regulation. This concept of self-regulation is highly applicable to understanding how different perspectives on time affect decision-making (Vohs et. al., 2014). If individuals can be selected, trained, and supported in a manner that facilitates self-regulation, then managerial overhead, time spent enforcing rules, and personal motivation techniques can be reduced (Vohs et. al., 2014).

The identification of significance between past-positive time perspectives vs. years in service ($p < .05$) could guide formal training regimens designed to modify time perspectives. Sword and colleagues (2008) noted that time perspective therapy has the ability to modify the

perspective of time to minimize post-traumatic stress. If time perspective can be modified as an intervention, the ability for time perspective modification could be leveraged in a preventive role. The training could be provided to individuals with less-than-optimal time perceptions in an effort to modify thoughts on the prospect of continued service and commitment. This modification in thinking could result in greater career retention of combat-experienced personnel.

Recommendations for future research

The gender limitations of the population analyzed in the present study did not allow for the determination of gender invariance. Future research should explore the predictive ability of one's time perspective on military commitment in female members of the U.S. Army. Lancaster and colleagues (2013) noted differences between genders with respect to predictors of the desire to reenlist in the military. This difference could be replicated in the predictive ability of past-positive time perspective and military commitment.

Future research is needed in the area of time perspective malleability. While extant research on the adaptability of time perspective exists (Sword et. al., 2014; Zimbardo, Sword and Sword, 2012), further examination is needed in larger populations. Specifically, the exploration of time perspective modification in individuals prior to the development of psychopathology could indicate the productivity to leveraging time perspective as a preventative measure.

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