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Perceived Control and Locus of Control in Active Duty Military Members : a Comparison of Late Enrolees with Early Enrolees

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PERCEIVED CONTROL AND LOCUS OF CONTROL IN ACTIVE DUTY

MILITARY MEMBERS:

A COMPARISON OF LATE ENROLLEES WITH EARLY ENROLLEES

By Lori J. Montgomery

Submitted in Partial Fulfillment of the Requirements of the Degree of

Doctor of Psychology

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DEPARTMENT OF PSYCHOLOGY

Dissertation Approval

This is to certify that the thesis presented to us by ___Lori Montgomery___

on the __9th__ day of __May_____, 20_07_, in partial fulfillment of the

requirements for the degree of Doctor of Psychology, has been examined and is

acceptable in both scholarship and literary quality.

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Acknowledgments

In 2001, I set out on a journey with many unknowns. First, I was unaware of the personal sacrifice both my family and I would undergo. Second, I was unaware of the amount of intellectual, personal, and professional growth that would occur. The process of a doctorate is a whole life experience that requires dedication from the student and all members of his or her family. Fortunately, I had the support of both family and friends.

I would like to recognize my parents, Doug and Lois, for their unwavering encouragement and support. They have once again proven to be my foundation. They have listened to many complaints about school, they have consoled me during those times when I felt like giving up, and they have babysat countless times to allow me to study. I am proud to have them as parents and lucky to have had this kind of support.

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follow in my footsteps with their own education. If not, I will gladly pay for any psychotherapy they require because of this.

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Abstract

This study compared perceived control and locus of control in two groups of reservists with prior active duty military service. Those who served on active duty in the Army, Navy, Air Force, Marines, or Coast Guard were eligible to participate. The subjects were obtained from a Navy and Marine Corps Reserve Center where there are over 600 reservists and 24 units available. These reservists are representative of the Navy and Marine Corps reserve population, with the exception of naval aviation. Research has increased during the past decade regarding military culture and dynamics; however, little is known about the effects of military service on perceived control or locus of control. This study focused on these two aspects of cognitive style among prior active duty members. The hypotheses in summation are that early enrollees (those who entered military service immediately following high school) have lower perceived control and an external locus of control. This study utilized two measures to obtain data, the Spheres of Control-3 (SOC-3) and the Perceived Control Across Domains Scale (PCADS). The study did not reveal significant findings between perceived control or locus of control as it relates to time of entry into military service. However, significant findings were found in this sample between the PCADS and the SOC-3. Strong negative correlations appear to exist between these two measures indicating that as perceived control increases, individuals in this population are likely to have an internal locus of control. It appears that there is some overlap between the constructs of perceived control and locus of control.

Table of Contents

Introduction

The military is a subculture within our society that exists as a unique organization with rules and regulations dissimilar from those in civilian society. Norms, values, culture, and control over members are unique to the military (Gal & Mangelsdorff, 1991; Katz, 1990). These factors may cause complaint among military members, but simultaneously make the military an efficient organization. The military has a mission of discipline, order, and control over manpower, unlike civilian organizations (Gal & Mangelsdorff, 1991). In 1996, active duty personnel, reservists, and military family members accounted for one-third of the United States population (Norwood, Fullerton, & Hagen, 1996). More recently, there were reportedly 1,139,034 active duty military members (Department of Defense, 2004). These numbers highlight the importance of understanding military culture and the impact of active duty military service on an individual's perceived control. A primary question was whether perceived control and locus of control play a role in making the decision to join and remain in the military.

The purpose for unique rules and regulations is the potential for military units to be in dangerous, life-threatening situations. In these situations, it is essential for military unit commanders to navigate their unit and protect the safety of their members. Service members must embrace the art of listening without question, a major area of focus during basic training (boot camp). This study attempted to determine the effect of a controlling environment on perceived

control and locus of control upon those who join the military immediately after

high school (early enrollees). Submission to authority is uncommon in modern

American society and actually discouraged in an academic setting, where critical

thought is encouraged. A brief review of the effect of academia on development

will differentiate between personality characteristics of those who attend college

versus those who join the military immediately following high school.

Critical thinking, challenging authority, and thinking independently are

valued characteristics in the civilian world, but not necessarily within a military

environment (Katz, 1990). This study examined culture, family dynamics,

occupational information, and cognitive style of military members, specifically

perceived control and locus of control. In addition, this study examined the effects

of unique environmental characteristics on perceived control and locus of control

relative to time of entry into boot camp.

Background

What types of personalities are attracted to the military? Are individuals

with lower perceived control and an external locus of control more likely to be

attracted to a military lifestyle, or does the military foster these traits? According

to Gal & Mangelsdorff (1991), certain personality characteristics attract people to

the military lifestyle. These characteristics include: (a) a high need for

achievement with tangible financial rewards, (b) job and financial security,

(chances of dismissal are low), (c) a high need for conformity (the military's rank structure generally takes away a member's tendency to think independently or originally), and (d) a high need for authoritarianism, i.e., external locus of control.

These traits are not incompatible with civilian occupations; however, the military requires a change in lifestyle and has control over its members outside of an 8-hour workday. Socialization into the military way of life begins upon entry into boot camp (Katz, 1990). It is during this period of time that drill sergeants exercise extreme control over recruits and socialize them into prescribed roles. This authoritarian approach ensures discipline; cooperation is designed to prevent individual aggression (Katz, 1990). The drill sergeant's primary roles are to teach the recruit how to perform as a soldier and model to the recruits what an ideal soldier should be like (Katz, 1990). Drill sergeants teach recruits basic skills such as how to make a bed, brush their teeth, and clean toilets. The drill sergeant begins the process of taking away individual choices and enforcing the military's way of doing things. However, the Army has been moving away from power and coercion somewhat by emphasizing coaching and mentoring and explaining the rationale of the recruit's activities. There is more emphasis on the recruits getting enough sleep and personal time and "punishments" are to be for reinforcement of training only (Katz, 1990). This socialization marks the transition from civilian lifestyle to a military lifestyle. Included is an overview of military lifestyle, changes in the military over the course of several decades, challenges the military

faces today, and how this may or may not affect perceived control and locus of control.

Military Culture

In 1981, Anderson found that the most common reasons for discharge from Army boot camp were lack of motivation, poor attitude, and lack of self discipline. This may be representative of a defective screening process prior to entry into boot camp or a recruit who is ill prepared for the stresses of boot camp. In addition, those who joined the service for self-serving reasons, such as an improvement of lifestyle, were more likely to be discharged than those who joined for duty to their country. Those who were discharged participated less in civilian organizations in their preservice life, perceived less friendship and familial support for their decision to enlist, felt less integrated with others in their platoon, and considered themselves to be less patriotic. They were also more likely to be female, have less education, and have parents with less education. Those who graduated boot camp were more likely to anticipate disappointment from family and friends if they did not graduate. Anderson (1981) also found that successful recruit identification with the military was high prior to entry and not just a result of successful completion. The graduates did not display higher self-efficacy just because they graduated. Recruits currently entering the all-volunteer force already identify with the military and choose to join. Basic training apparently confirmed the preservice notion that the military was the right choice for them. Anderson's study highlights the relationship between personal factors,

social characteristics, and adjustment to military life. Again, multiple factors play into a person being a good match for the military. It is unknown if perceived control or locus of control is one of those factors.

Organizational climate and culture within the military remain ambiguous concepts and areas for more in-depth research (Capps, 2000). Unique rituals and symbols create a climate that is different from civilian life and contribute to increased social control over members (Katz, 1990). The military discourages introspection and verbalization of emotional states and encourages strict obedience to highly specified behavior in a hierarchical fashion, resulting in total control of its members (Katz, 1990). Individual needs are secondary to needs of the military unit. These concepts are emphasized upon entry particularly with regard to drill sergeant personality and style. When Katz (1990) questioned drill sergeants about emotional states, she found their response to be externalized or objectified. The first response was typically silence. Drill sergeants from her sample talked about emotion in the second person and only referred to expression of emotion in the sense of action, such as running when angry or drinking when sad. Their conversations were primarily about work and performance, not about home life or personal issues. The military does not emphasize individuality; emotions and expression of feelings are a detriment to the mission. Capps (2000) believed that this is an area in which more research is needed.

The primary goals of basic military training (boot camp) are to develop loyalty, self-discipline, physical fitness, self-confidence, pride in service, and

military values in new trainees (Carbone, 2001). Carbone looked at pressures

faced by Air Force Military Training Instructors (MTIs). His research indicated

that MTIs who volunteer for the position may be motivated by prestige, desire to

teach, and special pay. MTIs must meet established standards for selection. These

include excellent performance evaluations, an acceptable disciplinary record,

good physical fitness, and psychological health, which are determined by the

psychology staff of the Behavior Analysis Service at Lackland Air Force Base,

Texas. The psychological screening is accomplished through a structured

interview and a mental health records review. All applicants complete the

Minnesota Multiphasic Personality Inventory-2 and the Shipley Institute of Living

Scale. This screening process was adopted in a somewhat arbitrary manner in the

early 1980s, as a response to a cluster of serious mental health-related incidents

among MTI's, including two suicides and the murder of a spouse. MTIs enter the

career field for 4 years; 10% do not complete their tour of duty and are removed

because of failure to meet standards in MTI School, poor duty performance,

misconduct, stress-related adjustment difficulties, and medical problems. This rate

is not high, but significant given that the MTIs were considered to be excellent

performers prior to being selected as an MTI. MTIs work long hours and are

under considerable pressure. They indicate that stress causes somatic conditions,

family problems, and burnout. This high-pressure position exemplifies the amount

of effort placed on recruits to learn a new culture and way of life. MTIs were

responsible for teaching the recruit to place the team and the mission before the individual. This training process seemed to be connected to altering an individual's sense of control as external control is the theme of recruit training (Carbone, 2001).

Drill sergeants in the Army are socialized into Army culture for a minimum of 6 years, where each soldier performs several military roles prior to selection as a drill sergeant. Those roles include: trainee, military specialist, and squad or platoon leader. These soldiers are in a continuous socialization process from the moment they enter boot camp until they retire (Katz, 1990). Language, goals, technology, and organization in the military are different from American civilian culture. Soldiers must be socialized into a role in which individuality is suppressed, again opposite from civilian culture. Rank is extremely important. To enable soldiers to face the risk of death or injury, military organizations have adopted this rigid style. The ability to follow orders and act in a highly disciplined and coordinated manner is necessary in the event of war. Aggressive behavior toward individuals is punishable and discouraged in the military. Restraint, discipline, and cooperation are valued. Aggression is curtailed because of the technology of the military. Guns, grenades, and so forth have the potential for serious injury and require skill and discipline to operate, not uncontrolled aggression. Furthermore, the military values group cohesiveness and does not condone an individual acting out, as it negatively impacts the group (Katz, 1990).

Increased morale is a function of and a result of success in wartime (Gal &

Mangelsdorff, 1991). Morale equals cohesion and "esprit de corps." Esprit is

defined as pride and devotion to the reputation of the formal organization, not just

the unit they are assigned to, again a necessity when in combat. The numbers and

weapons in war do not affect the outcome as much as the morale of the group

does. Military members learn to pull together for a common purpose that could be

life threatening. This is the basis for unique rules and norms and the requirement

to act in accordance with the team and not to question authority. In the 1980s the

Army made an effort to increase group cohesion. They created a Unit Manning

System, whereby whole units of soldiers were moved together as opposed to

transferring individuals. The theory behind this change was to increase the

soldier's bonds and commitment to each other. Interdependence among others is

expected for success (Gal & Mangelsdorff, 1991). Dependence implies a lack of

perceived control and an external locus of control.

Soldiers need goals and specific role definition (seeing oneself as a valued

member) in order to have positive morale. They need a reason to have self-

confidence. The military utilizes extensive training to increase morale through

skill building. Skills encourage the soldier to work dutifully to get the job done

and to have confidence in his or her personal contribution to the mission (Gal &

Mangelsdorff, 1991). In addition to increasing skill, shared experiences bring

units together. The more time people are together, the more they create

commonalities and a shared knowledge of the history of the group. Often, military

members are assigned duty in unpleasant conditions and places. This in and of

itself will result in cohesion; however, unit leaders must keep in mind the needs of

their soldiers relative to Maslow's Hierarchy of Needs (1943). Soldiers are

provided with basic needs that correspond to the base of Maslow's triangle (food,

shelter, sleep). They also need other areas of Maslow's theory to be successful,

such as a sense of belonging because serving in remote areas may result in feeling

cut off from friends and family. Soldiers also have to feel confident in their

mission and their ability to complete it successfully (self-esteem and self-

actualization).

Military Families

For most people, daily activities typically involve work and family

responsibilities (Parker, 1998). Due to increasing family demands and the higher

percentage of working mothers, workers are experiencing higher levels of stress

and lower performance; this is true in military organizations, as well. More

women than ever are holding active duty military jobs (Parker, 1998; Norwood,

Fullerton, & Hagen, 1996). More civilian organizations are becoming "family

friendly," in that time off is afforded for sick children and on-site child care is

increasingly available. The military is no exception in needing to adjust to the

family demands of its members. Family support positively impacts organizational

commitment even if an employee does not need it. Social Information Processing Theory states that organizational attitudes are formed in part by observing the experience of others (Parker, 1998; Norwood et al., 1996).

Military culture demands the commitment of a service member regardless of personal cost and implicitly requires an equal amount of commitment from the family of the member (Drummet, Coleman, & Cable, 2003). However, families constitute a major contextual factor when people leave organizations, the military included (Lee & Maurer, 1999; Parker, 1998). If the military does not continue to acknowledge how family variables contribute to a service member's desire to enlist or reenlist, the military will have serious problems with attrition. Researchers do not agree upon which family characteristics are most relevant to quitting and the processes by which they operate on quitting. From a sociological perspective on family structure, having a spouse, having an employed spouse, and an increasing number of children at home were identified as potentially meaningful antecedents in the decision to leave military service. Family characteristics can control members' behaviors by exerting social pressures and prompting allocation decisions on the time and energy available between work and family.

Traditionally, military members and their families were expected to adapt to norms and values of the military; however, high demands on the family have sometimes been met with intolerance and dissatisfaction by military families (Drummet et al., 2003; Norwood et al., 1996). Historically the

military and the family have been identified as greedy institutions (those that seek exclusive, undivided loyalty from members). The military could afford this attitude as it used to include mostly single men. However, the advent of the all-volunteer force has changed this thinking to include many more families. In fact, it is widely believed that service members' career advancement can be affected by the behavior of their family members (Drummet et al., 2003; Norwood et al., 1996). The best predictor of retention is satisfaction with the military lifestyle; however, children with behavioral problems, lack of social support, long distance relationships, and reintegrating the military member back into the family after deployment are all issues that are common among service members. Furthermore, young families are more susceptible to problems stemming from unaccompanied tours of duty and overseas assignments (Parker, 1998). Harris (2003) states that variables that military leadership has control over should be addressed (moves, deployment issues, standard of living). The military has responded to these problems by creating Family Life Educators (FLEs) that are trained to assist with these issues. FLEs are trained to prevent problems rather than limiting themselves to crisis response. Until recently, the needs of families have gone relatively unrecognized, despite the fact that military families endure circumstances that are unique. A lack of control over several domains further encourages the development of external locus of control.

Research indicates that a service member's personal life affects his or her

desire to reenlist and ability to carry out the military's mission (Harris, 2003;

Norwood et al., 1996). Specifically, happiness of the member's spouse is strongly

correlated with the member's reenlistment decision (Harris, 2003; Parker, 1998;

Norwood et al., 1996). In a study by Parker (1998), findings indicated that spousal

support of the reenlistment decision for male Army soldiers played a larger role

than it did for female soldiers. However, the female sample was smaller and had a

higher frequency of being married to active duty members. Parker (1998) also

found that, regardless of gender, those soldiers with a high family orientation

were more likely to consider their families' opinions when deciding to reenlist.

This is important because soldiers who are highly family oriented are less likely

to reenlist. This sends a message to military leaders that increased perception of

support for family matters is of the utmost importance in attempting to retain high

performers. According to Parker (1998), 36% of females in the Army are

unmarried at age 22, compared to 67% of their civilian counterparts. Likewise,

63% of males in the Army are unmarried at age 22, compared to 80% of their

civilian peers.

The composition of the military has changed over the years. There are

now more women, more dual-career couples, more married service members, and

more service members with children (Rotter & Boveja, 1999). Given the changes

within the military culture, several programs have been developed to offer support

to service members and those trained to work with service members and their

families (Rotter & Boveja, 1999). Currently, the military is attempting to build

family support within units by providing support groups for families and

education about paperwork for deployment (i.e., wills, dependent status, and life

insurance). Some service members find it more difficult to separate from family

and reportedly tend to externalize the frustration into anger and misbehavior.

Resentment of deployment may result in not following orders or feeling hopeless

if there are problems at home (Rotter & Boveja, 1999). The military has created

an in-processing station to report to following deployment, prior to going home.

The purpose of an in-processing station is to provide the service member with an

opportunity to report health issues that may have occurred during deployment and

counseling to educate them about the stress of a reunion and the factors involved.

Some soldiers use faith, others talk things out, and others throw

themselves into work when they experience difficulty during deployment or

reintegrating into their family following deployment (Rotter & Boveja, 1999).

Norwood et al. (1996) identified stages of deployment to assist counselors with

interventions at each point in the process. The stages are: anticipation, separation

and reunion. In the anticipation stage, the member experiences stressors of

financial arrangements, home repairs, and so forth in preparation for deployment.

Feelings may include denial, fear, anger, resentment, and hurt. In the separation

stage, the service member may be feeling a sense of abandonment, loss,

emptiness, pain, and disorganization. They may have reactions of crying, loss of

sleep, and loss of appetite. After the initial upset recedes, the member typically

adjusts and establishes a routine and communication with family and has an

opportunity for self-growth. The member may be experiencing feelings of hope,

confidence, calmness, loneliness, or less anger. Finally, the reunion stage entails

readjustment back into the family unit. It is typically accompanied by a

honeymoon period (1 day until the first argument) and feeling uncomfortable.

During this stage, there is also role confusion, and satisfaction. The member is

focused on renegotiating relationships, redefining roles, and settling in. The Navy

has increasingly become aware of psychological effects of deployment on the

family and has developed a deployment guide with these stages defined, along

with helpful hints on how to deal with the separation (Norwood et al., 1996).

Military families did not exist in substantial numbers until the 20th

century. Prior to that time, women carried out a supportive role only, such as

nursing, and cleaning and mending clothes. Army regulations used to specifically

prohibit married men from enlisting. As late as the 20th century, enlisted men

were required to gain their commander's permission to marry. The most profound

changes have come about since World War II. The Korean War prompted the

initiation of studies about the impact families have on the military member. The

shift after the Vietnam War in the 1970s to an all-volunteer force recognized the

connection of the family's satisfaction with military life and the member making

the military a career (Norwood et al., 1996). Today's military members are more

likely to be married and are better educated than their counterparts in the 1960s

and 1970's. Specific changes since Vietnam are (a) all volunteer force, (b) more

military women, (c) more dual-career military couples, (d) more married service

members, (e) more service members with children, (f) more military wives

working outside the home, (g) higher educational level, and (h) wider range of

occupational specialties for women. A recent change is that of the "military

husband," civilian men with active duty wives, a population that has not been

very well studied. (Ursano & Norwood, 1996). A change brought on by the

Persian Gulf War was "real time" news coverage. Seeing the horrors of war added

new elements of stress for military families and Americans in general.

Since 1980, each branch of the service has attempted to address the need

for support services and programs for members and families (Bowen & Scheirer,

1986). Family service/support centers, mental health services, chaplains,

emergency services, child care, and recreational services have been made

available to military personnel. There has been a growing body of research on the

effects of military service on mental health, as well as the effects on children and

families. The military is no longer just single men; today, more than half of the military is comprised of military members with families. Civilian wives are more often employed, and having a wife in the military is also much more common. This changing structure in the military has required expanded support programs and increased awareness of mental health issues. Family separations and stress are a serious component among military members and severely affect the family structure in our society. Retention is a big concern when families are subjected to stress and the member opts for his or her family instead of a military lifestyle. Spousal support has been found to be one of the most important predictors of retention and reenlistment. The effects of family problems on the military member include poorer productivity, decreased attention, disciplinary infractions, increased medical problems, and refusals to accept overseas assignments. Commanding officers must now ensure that support and assistance are available for members and families. The response to this crisis has been a disorganized approach and reactive as opposed to proactive. The military has to look at providing effective services, not just more services (Bowen & Scheirer, 1986).

Personality Factors

Gunderson and Houranie (2003) found that personality disorders are a leading cause of premature discharge from naval service. Individuals with personality disorders have difficulty adjusting to military life, have limited coping

skills, and may be unable to respond to leadership, counseling, and therapeutic

measures available in a military setting. Because of the confined space in the

Navy, as well as the need for personal reliability, cooperation, and team effort,

those with personality disorders are often an unsuccessful match for military

service. Personality disordered individuals are often hospitalized for evaluation.

Gunderson and Houranie, (2003) examined records of men and women with

personality disorders and compared them with a control group that did not

manifest personality disorder symptoms. The sample size was large: N = 20,709.

More than half of the personnel were judged to have had the condition prior to

entering the service, likely because personality disorders are not transient in

nature. Often, those with personality disorders were younger, served a much

shorter time, and achieved lower pay grades than controls. Those with personality

disorders also received more demotions than controls, and they were more likely

to have unauthorized absences and desertions. The groups did not differ on

marital status. Far more persons with personality disorders failed to complete

obligated service than controls, and a much larger proportion were not

recommended for reenlistment at time of discharge. Women were more likely to

have a personality disorder diagnosis. Gunderson and Houranie (2003)

demonstrated the incompatibility of a personality disorder diagnosis with

successful completion of obligated service. According to the researchers, this was

an initially healthy population that in the course of military service manifested

serious mental disorder, which resulted in removal from the worksite and

termination of military careers for most. Their study found a fluctuation in rates

across time; it is unknown to what extent the 1984-1989 increase reflected an

actual increase in incidence or instead a change in admission policies or

diagnostic practices. Anecdotal reports from staff psychiatrists indicated that this

admission pattern may reflect the relative difficulty in obtaining service

discharges or separations for these individuals. The large proportion of cases

designated as existing prior to entering the service strongly suggests that an

intensive screening aimed at identifying a history of psychopathology in

applicants for enlistment would be worthwhile to reduce attrition (Gunderson &

Houranie, 2003).

According to Fiedler, Oltmanns, and Turkheimer (2004), several types of

personality disorders are related to work performance and the ability to conform

to the requirements of the military. People with maladaptive personality traits

presumably encounter difficulty in a career that requires both interpersonal

cooperation and autonomy. The prototype military member is expected to exert

whatever effort is needed to get the job done, volunteer as needed, work well with

others, obey orders, meticulously follow rules, and support military objectives.

The hallmarks of personality disorders are often opposite from these traits. In

contrast, some features of obsessive compulsive personality disorder (OCPD) may

have characteristics that align with military ideals, such as devotion to work,

conscientiousness, attention to detail, and perfectionism. The structure of military

life might be a benefit to the underlying anxiety and intolerance of uncertainty

that is often experienced by an individual with mild OCPD. A narcissistic

personality style may also be congruent with a military lifestyle, given the

ambition and competition typically associated with this personality style (Fiedler,

Oltmanns, & Turkheimer, 2004). On the other hand, the excessive interpersonal

sensitivity of those with avoidant and dependent personality disorders are likely

incompatible with jobs requiring clear communication and self-sufficiency under

stress. Traits such as those found in antisocial and schizotypal personality

disorders are also incompatible with a work environment that emphasizes

performance and obedience. Traits and features associated with personality

disorders tend to have a negative impact on adjustment to the military (Fiedler,

Oltmanns, & Turkheimer, 2004). Data from their study indicated that features of

personality disorders lead to adjustment problems within the military. Recruits

who experience high levels of dysphoria and are poorly motivated to adjust during

basic training are clearly at risk for early separation from the military.

Emotionally distressed workers exhibit decreased productivity, increased

turnover, higher absenteeism, more accidents, lower morale, and greater

interpersonal conflict (Pflanz, 2002). Dramatic events in military history have

proven to be clear precipitants of psychological stressors; however, according to

Pflanz (2002), stressors related to routine military life may also increase job

stress. Very little research exists regarding the impact of the stress of routine

military work on the mental health of military personnel. It seems to be assumed

that military stress is directly related to deployments, combat, and threat of bodily

harm (Pflanz, 2002). The periodic changes in station, overseas transfers, lack of

control over duty assignments, etcetera are more mundane aspects of military

culture that foster work stress. Stressful life events are significantly correlated

with psychiatric symptoms in deployed military personnel. Pflanz found that work

stress may be a significant occupational hazard within the military. Routine

military work can sometimes be detrimental to mental health. Few studies have

addressed the routine stressors in the military. Military stressors are unique

compared to civilian jobs because of frequent life changes, the potential for

deployment, the possibility that the member could be harmed or killed on duty,

geographic isolation from extended family, relatively low pay, young age, and a

high incidence of young children in the home (Sanchez, Bray, Vincus, & Bann,

2004). It is possible that work stress causes emotional problems or that

individuals who suffer from emotional problems are more likely to perceive

themselves as suffering from work stress. According to Pflanz (2002), it is most

likely a combination of both. A significant number of emotionally distressed

military personnel are not receiving benefits of mental health care and are

continuing to work in sensitive positions that could be detrimental to the mission

of the military. Work climate influences health status, job satisfaction, and stress.

Individuals working in positions with low autonomy and little control over work appear to suffer higher rates of mental illness. Working long hours is significantly correlated with poorer physical and psychological health. The military's emphasis on discipline, obeying orders, respecting rank and hierarchy, and working diligently without complaint until the mission is complete may not be entirely healthy. Furthermore, conflict tends to be resolved in favor of the supervisor, which results in the unlikelihood that personnel would complain (Pflanz, 2002).

Military service is not a risk factor per se for poorer self-appraised mental health later in life, nor does military service seem to confer protection from late life deficits in terms of mental health (O'Donnell, 2000). Mental health is largely a function of an individual's health and socioeconomic status (SES). In fact, a study looking at the importance of behavioral characteristics, as perceived by Navy enlisted personnel serving in isolated areas, found that emotional stability was the most important behavior endorsed by Navy personnel. The subjects in this study consistently endorsed personality-oriented behaviors as opposed to task-oriented behaviors (Doll & Gunderson, 1970). It has been hypothesized that individuals with dependent personality traits and depression would join the military to support their primary needs. According to Salmon and Gerber's study, (1999), there is an inverse relationship between dependency and depression and a relationship between years in service and depression. The authors also found that art therapy assessment is an intervention which can identify those members prone

to depression and self-destructive episodes. The conclusions from this study

should be looked at with caution, however, due to the extremely small sample size

of 18. The researchers hypothesized that individuals join the military for

conscious and unconscious reasons, possibly looking to gratify dependency needs

by joining an authoritarian organization. The literature does indicate that

excessive dependence, either as a state or trait, is closely related to depression

(Birtchnell, 1984). Salmon and Gerber (1999) postulated that the military fosters

dependency as it discourages independent thought and may lead to depression. It

has also been found that groups provide a sense of acceptance and also a source of

identity. Groups provide a sense of belonging and of universality by leading to the

feeling of "safety in numbers" (Werboff, 1982).

In 1997, Ellis found that depression among members of the military is

very common and that life in the military can cause stress that leads to depression.

In the military, asking for help was once considered to be a sign of weakness and

it was easier to ignore the problem (Ellis, 1997). While the military has improved

in this area, with the advent of multiple human service programs, a stigma does

continue to exist within the military culture (Bowen & Scheirer, 1986).

Mental Health in the Military

The Minnesota Multiphasic Personality Inventory (MMPI) is the most

widely used psychodiagnostic instrument with active duty military populations

(Menefee, 1996). The MMPI does not predict behavior. While it was validated in and is still mostly used with clinical populations, it may also suggest personality style and emotional status at the time the individual completed the questionnaire (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1991). However, the norms of the original MMPI were vastly different than the profile of typical military members, calling into question the external validity of the MMPI with this population. With the MMPI-2, the restandardized norms seem to be more applicable with military members, as the military groups investigated were similar to the nationally based MMPI-2 normative profile. The authors determined that special norms for the military were not needed because of the similarity to the national profile. Data indicated that men at or below the age of 19 produced more clinical scale deviation on the MMPI-2 scales at a statistically significant level (Butcher et al., 1991). This may have something to do with psychosocial development and the developmental stage at which 19-year-olds are navigating. They may endorse higher levels of clinically significant pathology simply given the point of their developmental stage. Typical recruits score higher on the MMPI-2 when compared with an outpatient setting; this may be due to the increased stress they are under. Psychologists interpreting the data of the MMPI-2 need to be aware of this and make a clinical judgment which includes this factor. Menefee's (1996) study found that the MMPI-2 scales associated with symptoms of distress (F, Hs, D, Pa, Pt, Sc) were statistically higher for those recruits who

were separated from the service than those who ended up finishing basic training.

Increased stress is expected during basic training; however, those recruits

recommended for evaluation were not only endorsing statements in these areas,

but displaying behaviors that may have rendered them unable to complete the

training. Menefee (1986) stated that challenges within a military environment,

which are not present in the civilian sector, may contribute to individuation.

Those without mental health problems will endure stress during boot camp, but

will be able to cope. As a result those who successfully complete boot camp may

have higher individuation than those in civilian positions because they were

placed in a stressful situation and were able to deal with it. Those who do not

successfully complete boot camp may have had an underlying disorder which was

exacerbated as a result of the stress characteristic of boot camp (Menefee, 1986).

Another study examined the utility of the Millon Clinical Multiaxial

Inventory (MCMI) in determining adaptability for military service. The authors

found that those endorsing characteristics consistent with personality disorders

were recommended for discharge (Butters, Retzclaff, & Gibertini, 1986). In

addition, nonadaptable basic trainees were distinguishable from adaptable trainees

on several factors including distress, social activity, submissiveness, and

suspiciousness.

Basic training is designed to evoke stress and to observe how the trainee

copes with that stress (Menefee, 1996). Fitness for military duty is based on both

physiological and emotional stability (Butters, Retzlaff, & Gibertini, 1986).

According to Menefee, individuals with emotional or behavioral problems during

Air Force basic training are referred to the behavioral analysis service for a

psychological evaluation. This center is designed for brief treatment and

evaluation of recruits. Following evaluations, recruits are either recommended for

return to duty (RTD) or do not return to duty (DNRTD). Those with a DNRTD

recommendation are discharged from the Air Force. According to Butters,

Retzclaff, and Gibertini (1986), mental health evaluations typically occur 5 to 8

training days later than the initial Air Force screening. This data suggests the

lack of adaptability to the stress may be caused by basic training. Mental stability

is a critical factor during the initial training for the military and relates to long-

term military adaptability (Butters, Retzlaff & Gibertini, 1986). A 6-year retention

follow-up to this study found that trainees who come to the mental health center

for any reason will be discharged prior to the completion of their enlistment

(Retzlaff & Deatherage, 1993). This provides an important piece of information

for clinicians in the military. Mental health screening may be straightforward and

recommendations may be easy; however, the best predictor appears to be in the

referral alone. The most striking result of this follow-up study was the large

number of discharges within the entire sample. Out of 165, 47% were discharged

within the first month, 76% by 6 months, 80% by 1 year, and 86% before 4 years.

Only 23 of the 165 served 4 years or more, with 17 still on active duty at the time of the study.

The Air Force, and most likely all other branches of military service, cannot afford to train recruits who will be unable to complete a minimum of 2 years of active duty service. Basic training commanders in the Air Force recommend recruits who are having difficulty for evaluation. Two thirds of those recruits who are referred for evaluation are recommended for discharge; a large percentage of the rest are discharged within their first year of service (Menefee, 1996).

This study addressed perceived control and locus of control within military members at differing stages of entry into the military. Perhaps a stronger sense of perceived control helps recruits navigate their way through boot camp. If perceived control is important for success in the military, it would be essential for the military to look at this cognitive style prior to sending a potential service member to boot camp.

Reenlistment Factors

It is a major motivational issue for the military to maintain a happy and satisfied force of members who will reenlist (McCombs, 1994). Motivational variables that have particular importance in a military context include intentions, expectations, goals, and commitment. An individual's self-competence and self-

agency play a role as well. McCombs defines agency as an "inherent tendency of the self to originate behavior, to relate to and assimilate events, and to gain a sense of personal control and mastery of one's environment." Does self-esteem precede personal adequacy or is it the opposite? Some individuals base their worth on social approval from others, whereas other individuals internalize self-worth and seem to have a more positive affect and intrinsic motivation to learn (McCombs, 1994). According to McCombs, three components are necessary for motivation: will, skill, and social support. The will component is defined as the ability of an individual to understand the self as an agent and for realizing potential overthinking and future self-possibilities. It is with will that a person can step outside of externally controlled boundaries and become self determined. Individuals who do not recognize the choice to selectively use their thought system operate within the limits of that system. For example, if a person has an external locus of control, they will believe that they do not have any control over life circumstances and will never attempt to try something different. In other words, life "just happens."

Not only is it important for the military to understand what types of personalities are attracted to the military, an understanding of who is likely to make the military a career is essential in order to reduce extensive training and manpower costs. The military must compete with civilian occupations for manpower (La Rocco, Pugh, & Gunderson, 1977; Hindelang, Schwerin, &

Farmer, 2004). Recruitment and retention problems have become similar to civilian occupations. Most studies have included demographics, social background, and service history, with remarkable consistency among these characteristics for reenlistment. In addition, several studies indicate that education relates to reenlistment. La Rocco, Pugh, and Gunderson (1977), summarized factors related to reenlistment, both individual and organizational. Retention appears to be the result of mutual satisfaction, between worker and organization. La Rocco, Pugh, and Gunderson (1977) were concerned with determining relative importance, regarding reenlistment, from five domains: demography, social background, service history, satisfaction, and performance between three groups of Navy personnel. The three groups compared were: (a) those eligible to reenlist who do, (b) those not eligible to reenlist, and (c) those eligible to reenlist who do not. The goal was to figure out what variables are important to reduce attrition in the Navy and meet the interests of the individual. In terms of demographics, those not eligible to reenlist were often younger and not married; they typically had higher rates of traffic violations and expulsions from school. They also attended fewer technical schools, had lower levels of satisfaction, lower pay, and poorer evaluations. What is interesting about La Rocco, Pugh, and Gunderson's (1977) study is that when comparing data from the three groups, those eligible to reenlist that did so and those not eligible to reenlist were the most similar. These two groups had less schooling, failed more grades, supervised fewer personnel, and

had higher rates of illness. Members of the group eligible to reenlist who did not had more education and higher aptitude scores. It seems that this finding is consistent with the thinking that higher education is incompatible with the military lifestyle. In other words, it seems that education is negatively correlated with military success; the higher the education, the lower the military compatibility. Schumm, Gade, and Bell (2003) found that rank and years of service enhanced professional values, as opposed to education, which yielded a negative association. This may be a military socialization effect in that civilian education does not enhance the same professional values as military education, which is required for advancement in rank.

Preservice variables and in-service experiences contribute to retention decisions. A member's satisfaction with the military is also important. La Rocco, Pugh, and Gunderson (1977) suggested those individual personality traits such as achievement need, autonomy need, self-esteem, and what they termed perceived locus of control as interesting areas for future research.

According to Motowidlo and Lawton (1984), people who report feelings of dissatisfaction are more likely to quit a job. Better methods of predicting turnover may reduce this problem. Turnover is mediated by cognitive operations that occur in causal sequences, for example, dissatisfaction creates thoughts about quitting and intentions to search for a new job (Motowidlo & Lawton, 1984). The effects of satisfaction on turnover should be studied jointly with the effects of the

individual's expectancies. People form feelings of satisfaction or dissatisfaction

with their jobs from a limited set of perceptual cues and develop expectancies

about the consequences of quitting or staying. Thus, their expectancies are

distorted by their feelings of satisfaction or dissatisfaction with their work

environment, in part according to their perceptions of its positive and negative

characteristics. These feelings of satisfaction and dissatisfaction help shape their

beliefs about what would probably happen if they were to quit or stay. Feelings

act as a filter that is tuned to incoming material that supports or justifies those

feelings; the filter admits material congruent with the perceiver's mood but casts

aside incongruent material. To increase retention, organizations may find it useful

to focus on affective variables of job satisfaction to increase retention, and this is

something the military has attempted to do with the advent of many new human

service programs available to military personnel (Bowen & Scheirer, 1986).

Previously, the military focused on the mission of the military and neglected the

needs of the individual. The military has evolved to take into account satisfaction

for both the member and the organization (Gal & Mangelsdorff, 1991).

Many factors have an effect on reenlistment and retention of service

members. More and more, civilian businesses and the military are attending to the

effects of personal life domains on satisfaction in a job (Hindelang, Schwerin, &

Farmer, 2004). Specific to the Navy, spousal support was implicated as a major

factor affecting reenlistment (Harris, 2003). The following are contributing

factors that are said to affect a spouse's decision to support the service member

with reenlistment: permanent change of station moves, deployment issues,

standard of living, and detailing (Harris, 2003). The happier the spouse is, the

more likely it is that the service member will reenlist.

A study investigating reservist opinions about increased deployments

found that many reservists had serious reservations about this change. In addition,

many subjects felt that their families and careers would suffer deleterious effects,

thus decreasing the likelihood that the reservist would remain in the military

(Schumm, Jurich, Stever, Sanders, Castelo, & Bollman, 1998). Some members in

the study did not believe that increased deployments would affect their families or

careers and this resulted in a greater commitment to the military. It is possible that

those who did not feel negatively about this change enjoyed deployments, and

others who did not had already made the decision to exit the military. Others

believed that a reasonable amount of deployments over the course of their military

reserve career was appropriate; however, drawing upon the reserves more often

will make them question their commitment to the military (Schumm et al., 1998).

Commitment to an organization successfully predicts reenlistment

behavior and results in increased retention, thereby reducing costs of training

(Gade, Tiggle, & Schumm, 2003; Hindelang, Schwerin, & Farmer, 2004).

Affective commitment also has been shown to correlate significantly with

adjustment to Army life and the propensity to stay in. Organizational commitment

is complex and involves several variables. Gade et al. (2003) found that organizational commitment theory put forth by Meyer and Allen in 1997 worked well in predicting behavioral outcomes in terms of affective commitment and continuance commitment. Components that comprise affective commitment are feeling part of a family, personal meaning, sense of belonging, and emotional attachment. Those elements that comprise continuance commitment are too costly to leave, afraid to quit without a job, leaving disrupts life, and a lack of alternatives. The authors believe that measures of these elements will effectively function as predictors of willingness to remain in the service and perform well.

Singer and Morton (1969) did a study on retention of enlisted Navy personnel with interesting outcomes. Men with scores on the high and low end of the General Classification Test (a test used to measure an individual's ability to understand words and ideas) had higher reenlistment rates than those near the middle. This contradicts previous findings that education is negatively correlated with reenlistment (La Rocco, Pugh, & Gunderson, 1977). A possible explanation for this could be that the new programs were aimed at higher functioning service members. Another explanation could relate to the discontinuance of the GI Bill during that period of time. Service members may have chosen to stay in the military in order to complete their education, as they would not receive money for education if they separated from the service. Reenlistment rates for men who spent less than 3 months at their last duty station were also high. This could be

because duty stations are often changed if men indicate they are not going to reenlist and their ship is scheduled to go on a cruise.

Age also showed interesting results, with increasing reenlistment rates as age of the member increased. Men who lived in states other than the state in which they were born showed higher rates of reenlistment. The authors hypothesized that this is because of mobility. A person who has moved at least once in his or her lifetime is more compatible with the mobile life of a sailor than someone who has not moved at all. The more dependents a sailor had, the more likely he was to reenlist. It is likely that the reasons for this were greater military benefits, increased job security, comprehensive medical care, and the more dependents the less likely the member will go to college. The more time a person had in the Navy, the more likely he was to reenlist. Individuals who finished their second term had a reenlistment rate of 84%; for second, and third-term completion, these numbers increased respectively to 98% and 99% (Singer & Morton, 1969).

An important component of all four branches of the military is the reserve population. The reserves consist of units comprised of individuals from varying areas of specialty that can be ordered to active duty service upon presidential declaration of a national emergency. They must maintain the highest state of readiness. Salient characteristics of the reserve population include the following:

1. Reservists are part-time.

2. They do not have the geographical mobility of full-time soldiers, so vacancies must be found in local units.

3. Two categories of recruits may be distinguished: prior service and nonprior service.

4. Prior-service personnel can vest their active duty service for retirement by participating in the reserves.

5. The reserve enlistment contract may be a less binding constraint than an active duty contract.

6. The flexibility of the reservist's civilian employer is an important influence.

The two distinct populations in the reserves, those with prior service and those without, have varying degrees of training and experience (Hogan & Villa, 1986). The behavior and motivation of the two groups may differ significantly. Nonprior service members typically enlist for 6 years and attend initial training that lasts from 4 to 12 months, whereas prior service members do not typically attend any initial training. A reservist typically completes 48 drills per year and 2 weeks of active duty per year (4 drills equals 1 weekend). The employer is required by law to allow the member time off to meet his training requirements; however, pay for this time is not required. Some employers will pay the member or pay the difference between his or her civilian pay and what they receive from the military. Most frequently, employers do not pay the members at all, which can

play a major role in a member's financial ability to afford to reenlist. Reservists

earn the same hourly wage as their active duty counterparts. Because service in

the reserves is not a full-time job and not enough to be the sole support for

families, it is difficult to measure reenlistment factors that play a role. Hogan, &

Villa (1986) suggest longitudinal studies to look at reenlistment behavior over

time, as a cross-section of one particular point in time is not enough information

to represent reenlistment behavior.

Quality of life initiatives have increased among the branches of the

military as research continues to link personal factors with satisfaction with an

employer (Hindelang, Schwerin, & Farmer, 2004). This holds true for both

civilian and military occupations. The military can no longer afford to ignore

personal issues among their service members, as these issues impact readiness,

performance, and desire to reenlist. The advent of the all-volunteer force and the

military's increased desire for higher-skilled individuals has resulted in more time

and effort spent on research about retention (Hindelang, et al., 2004). The military

will need to continue these efforts in order to attract and retain competent military

personnel.

Some research has indicated that career indecision is related to a lack of

confidence in decision-making skills, a lack of a clear personal identity, external

barriers to choices, and a lack of immediacy to make a decision (Taylor & Betz,

1983). These personality characteristics are important to consider when

examining retention decisions. How do perceived control and quality of life play a role in a member's decision to reenlist? The present study will examine perceived control as a construct, but will first define the differences between perceived control and locus of control.

General Occupational Information

Sanchez and colleagues (2004) conducted a study that looked at predictors of job satisfaction among active duty and reserve personnel in the U.S. military; 24,881 members from both groups were studied. Overall, military job satisfaction was higher among reserve personnel than active duty. The two strongest predictors were the perception of a relatively high level of job pressure experienced by active duty military personnel and the belief that the biggest problem in one's life was the result of job-related issues rather than nonjob issues such as health or family. These findings suggest areas in which the military can intervene to increase satisfaction of personnel and the likelihood of staying in military (Sanchez,Bray, Vincus, & Bann, 2004). Attrition in the military is both common and costly; 30-35% of enlisted personnel separate before their first term is complete.

The estimated cost of recruiting, training, and screening for basic military skills is $20,000 per person (Clark, Mahmoud, Krauss, Kelley, Grubb, & Ostroski, 1999). People are more likely to stay in the military if greater job satisfaction exists. Sanchez et al., (2004) focused on psychological, demographic,

and physical predictors, but omitted consideration of organizational, societal, and dispositional variables. Job satisfaction in the military is unique, as is the environment. Military personnel experience many factors that are dissimilar to comparable civilian positions, such as the requirement to maintain high levels of physical fitness. These differences require important consideration when attempting to increase job satisfaction (Sanchez et al, 2004).

Job satisfaction, in general, was extensively studied in the 1930's. Job dissatisfaction has been linked to numerous negative outcomes. Dissatisfaction with a job may lead to frustration, aggression, psychological withdrawal, poor physical health, and shortened life span. It is also linked to higher turnover, increased absenteeism, higher number of grievances and decreased job performance. Military members report lower levels of job satisfaction than civilians (Sanchez et al., 2004). Job satisfaction is unique within the military due to inherent stressors and compensation associated with military work. Older age has been demonstrated to account for greater job satisfaction, possibly because older individuals' expectations of people are "worn down," and there are increased job opportunities for older workers. Older personnel in the military are more satisfied with their job. Life satisfaction was a significant predictor of job satisfaction for both active duty and reserve personnel. Among active duty personnel, those who felt pleased with their lives had higher levels of job satisfaction than those who felt lower life satisfaction. Among reservists, those

who were pleased with their lives had significantly higher job satisfaction than those who were mostly dissatisfied. Surprisingly, feeling terrible or unhappy about their lives did not have an effect on perceived job satisfaction (Sanchez et al., 2004).

According to Thompson and Prottas (2005), changes in the workforce in the past few decades have created an increased demand on work and family life. These competing demands between work and family can lead to increased dissatisfaction in the workplace, reduced commitment to the organization, and higher rates of absenteeism. Family-friendly initiatives have increased; however, it is not these programs alone that predict an adequate work-life balance. Thompson and Prottas (2005) found that perceived control is an important mechanism for influencing the relationship between organizational support and benefits and employee health and well-being. Thompson and Prottas defined perceived control as a "psychological construct that reflects an employee's beliefs about his or her ability to change the environment," and they argued that perceptions of control can be influenced by the attitudes and behaviors of others (e.g., supervisors and coworkers). The authors drew the conclusion from their study that it may be only when a benefit or policy enhances an employee's sense of control that there is a positive effect on outcomes. Informal organizational support and job autonomy are associated with employee perceptions of control; this in turn decreases negative consequences of balancing multiple roles.

Group Conformity and Organizational Climate

Conformity is a yielding behavior, which is the result of real or imagined group punishment (Walker & Heyns, 1962). Nonconformity is related to independence and resistance. If you have conformity without true change, it is just compliance. In social psychology, it is believed that conformity may be the result of de-individuation, i.e., not being able to think of the self as a separate individual within a group. Conversely, individuation is negatively correlated with conformity (Mezzacappa, 1993). Conformity increases when subjects have been previously successful in a group, when subjects make public responses toward the opposition, when there are ambiguous stimuli, and when group members are more interdependent (Mezzacappa, 1993). The following factors contribute to being at risk for group conformity (Mezzacappa, 1993): (a) women conform more than men, (b) people who lack competence, (c) low self-esteem, (d) social inadequacy, (e) inhibition of aggression (f) depressive tendencies, (g) submissive to authority, (h) narrow range of interest, (i) anxious, (j) conventionality for rules, and (k) distrustful of others.

In 1959, Tudenham found that conformity is negatively correlated with intelligence, achievement, psychological sensitivity, perceptiveness of self and

others, security in social status, drive, educational level, thinking in terms of

generalizations, verbal facility, and masculinity. He found that yielding group

behaviors correlate to being overweight, conventional, cooperative, and good-

natured. Despite the small sample size, Tudenham's (1959) research agreed with

prior findings that yielding behavior is independent from personal stability. Some

differences between the sexes were apparent in the study. Women tend to have

lesser ego involvement in a task, in other words, they yield more and their

yielding tends to be less closely attached to value of self.

  Conformity reduces stress. Higher cohesiveness and a threat of

punishment are associated with conformity according to Mezzacappa (1993). A

negative aspect of cohesiveness is the concept of groupthink, whereby

individuals submit to a group to maintain conformity, which leads to thought

suppression and poorer group performance (Janis, 1971). In a cohesive group,

concurrence seeking overrides realistic appraisal of alternative actions,

according to Janis. The symptoms of groupthink arise when members avoid

being harsh in their judgments of their leaders; all members seek to be amiable

and agreeable to the decisions the group puts forth. No one wants to spoil the

atmosphere. Groupthink involves nondeliberate suppression of critical thoughts

as a result of internalization of the group's norms. One would presuppose that as

a group becomes closer and more cohesive, each individual would feel freer to

openly discuss opinions; however, the opposite is true. Not all groups are subject

to intense groupthink and not all groupthink is destructive. However, there is greater danger of losing independent critical thinking in a group, which can result in dehumanizing actions against outgroups. Janis cites eight main symptoms of groupthink: (a) invulnerability, overoptimistic, willing to take extraordinary risk; (b) rational, construct rationalizations to discount warnings or negative feedback; (c) morality, believes in the inherent morality of the group and ignores ethical or moral consequences of the group's actions; (d) stereotypes, believes that others are too weak or stupid to harm the group or that negotiating is pointless; (e) pressure, members apply pressure to any other member who expresses doubt; (f) self-censorship, avoid deviating from the group; (g) unanimity, assumption that everyone agrees with everything; (h) mindguards, a person who protects the leader from adverse information that may break complacency. Some techniques outlined by Janis (1971) to reduce the effects of groupthink are to encourage opinions to be shared by each member, have a member frequently play devil's advocate, invite outside speakers to challenge decisions, and survey other alternatives.

Group cohesiveness is defined by Back (1951) as the total field of forces that act on members to remain in a particular group. There are two factors that affect the force field: The attractiveness of the group and the extent to which the group mediates goals that are important to members. Some of the consequences of these factors are an increased influence over members, ability of the group to

retain members, degree of participant loyalty, feelings of security, and power of influence the group has over the member (Back, 1951). With increased group cohesiveness, members strive to reach agreement. Fewer individual differences are found in cohesive groups. According to Back's study, if cohesiveness was based on personal attraction, the group members transformed the discussion into a pleasant conversation. If the cohesiveness was based on task performance, the group members attempted to complete the task as quickly and efficiently as possible. If cohesiveness was based upon group prestige, members did little to endanger their status; they acted cautiously and concentrated on their actions. When cohesiveness was minimal, members acted independently with little consideration for each other.

The performance of an organization depends on factors within an individual employee (knowledge, skills, motivation, attitude), as well as organizational factors such as the nature of the job and the reward involved (Capps, 2000). Many commanders believe that attention to organizational climate is of low priority. This apathy toward enhancing work environment is possibly due to lack of accountability for climate. Commanders have many responsibilities which they are held accountable for, such as the ability to fight wars and training exercises. Unfortunately, work climate, if negative, will have a deleterious effect on service members, resulting in lower performance (Capps, 2000). The military is experiencing high attrition rates of first-and second-term

service members. This attrition is not just within the enlisted ranks; more and more officers are fulfilling their service commitment and not continuing on with the military as a career. One study found that a core component of job satisfaction in the U.S. Army was job fulfillment; however, it appears that job fulfillment is reduced with increased stress (Schumm, Gade, & Bell, 2003). Job satisfaction is important in both military and civilian sectors, with satisfaction with work, promotion, pay, supervision, and coworkers as the most important factors related to retention (Schumm, et al., 2003). According to Capps (2000), officers rated organizational climate much more favorably than enlisted members, which may have been due to their role as leaders. Officers are expected to conduct more autonomous tasks than enlisted and are therefore often respected more. Capps also discovered that workers prefer tasks that call for different skills, autonomy, and feedback. They enjoy working as a team where members display respect for each other. In the military climate, teamwork is essential; however, individual contributions to the team typically are not highlighted. An example would be an enlisted person making a suggestion to a commander on how to perform a job more effectively. This is not acceptable in the military. Commanders make decisions and tell senior personnel how to implement them. There is not room for creative thinking. It is this phenomenon that has led to the thinking behind this study. Perceived control is diminished in a military environment, as there is little opportunity for members to make

decisions. The question is if perceived control is affected more in early versus late enrollees (those who enlist after age 21).

One study indicated that affective organizational commitment is more valuable than job satisfaction in retaining Army personnel (Parker, 1998). This indicates that matching value systems are highly important in the reenlistment decision. Parker utilized the Mobility Perspective to explain further findings in her study (1998). The Mobility Perspective posits that individuals of low or medium performance are less likely to quit a job, regardless of their level of satisfaction. High performers were found to be more likely to quit when dissatisfied, possibly due to perceptions of better employment opportunities and dissatisfaction with their current job. It is possible that high performers have higher perceived control and are more likely to leave a job if they are unhappy because they believe they can find something more fulfilling.

Another facet of military service is that of monetary rewards. Enlisted soldiers are not awarded monetary bonuses for excellent performance; rather, they achieve higher ranks automatically based on time, competence, and whether or not they are a disciplinary problem. Rewards are more intrinsic in nature, such as letters of commendation and verbal praise. Parker (1998) found that this reward system is apparently not affecting the decision to reenlist.

Civilian Lifestyle: Academic

A college lifestyle appears to be opposite from that of the military. According to Kaats (1969), several studies from the 1930s and 1940s suggested that a college education led to a liberalization of students' values and beliefs. However, it is possible that changes in value systems may have had more to do with that era rather than college education. According to Kaats (1969), an individual's basic value system does not change as the result of a college education; rather, changes in content are more likely to occur than the actual structure of one's belief system. This is unfortunate because goals of education are to develop greater cognitive flexibility, abstractness, and an increased richness in ideational content, thus altering structural belief systems, not content alone (Kaats, 1969). Greater concreteness (opposite of abstractness) is reflected by a tendency to be more evaluative, be dependent on authority, have polarized judgments, have difficulty with change, have lower creativity, and have a higher need for structure, to name a few (Kaats, 1969). Kaats believes that gaining the potential for increased abstractness would be a basic goal of a college education, which led to his research question "do such changes take place during a military service academy education?" Kaats' 1969 study found that U.S. Air Force Academy cadets progressively and consistently moved from a concrete

orientation to an abstract one as they negotiated through their service academy

education. Therefore, seniors were found to be significantly more abstract than

freshmen. Kaats utilized the California F scale, Rokeach's Dogmatism scale, and

Harvey's Conceptual Systems Test to determine concrete versus abstract

cognitive style in cadets. His research suggests the need for further investigation

into structural changes in belief systems as a result of education.

Adjustment to college may be better if an individual was raised with

authoritative parents, a democratic style of parenting, as opposed to authoritarian

(strict, non-negotiating) or permissive (no structure or rules, more like a

friendship) parents. However, this does not hold true for those adjusting to a

military lifestyle (Wintre & Ben-Knaz, 2000). These authors suggest a match

between parenting styles and future endeavors. Authoritatively reared adolescents

may experience more stress in an authoritarian military environment due to the

differences in environments. There are many psychological demands placed on an

individual during a transition to a military environment: the lack of parental

support, the potential for life-threatening situations, and the demand of absolute

conformity. These drastic changes can affect self-esteem and mood, at the very

least. This study found that permissive and authoritarian parenting styles were

most conducive to adjustment into a military context. Authoritative parenting

style led to more depressive, stress-related, and adaptive difficulties in a military

context. In addition, the opposite was found for college adjustment, supporting a

matching contexts theory. This could be due to anticipatory learning, where individuals correctly anticipate what their environment will be like based on past experience, making them better prepared for a military lifestyle. Permissive parenting seemed to provide recruits with the highest advantage when compared with authoritarian or authoritatively reared recruits. Permissively reared recruits may appreciate the clear boundaries and routines as a relief from an unstructured and undemanding upbringing (Wintre & Ben-Knaz, 2000).

Biopsychosocial Development

It is not just whether a person attends college, begins work immediately after high school, or joins the military that determine perceived control. Perceived control is one aspect of a complex matrix of personality. There are many developmental psychologists who believe that development occurs in stages; some believe that we develop sequentially, finishing each stage prior to beginning the next (Santrock, 2002). No individual theory accounts for all of the aspects of development, but each has an important contribution. As an example, Erik Erikson's psychosocial stages of development highlight a progression of stages that suggests an individual negotiates throughout the lifespan. Erikson believed that behavior is motivated by a person's desire to affiliate with others in a social context. He created an eight-stage framework, where each stage consists of a developmental task during which a crisis must be faced. For the purpose of this

study, it is important to consider the developmental stage relative to time of entry into the service. The Identity vs. Identity Confusion Stage, said to occur in adolescence into the early 20s may be a confounding variable in this study. It may not be military influence affecting perceived control or locus of control; rather, it is the developmental stage a person is negotiating (Santrock, 2002). Individuals with identity confusion may not have fully developed their sense of control; therefore, it may not be the culture of the military that contributes to perceived control or locus of control. Unfortunately, it is beyond the scope of this research to address stages of development in a military population. It is, however, important to keep in mind the many factors that play a role in forming aspects of personality, such as perceived control and locus of control (Santrock, 2002).

From a biological perspective, brain development is also an important consideration when discussing development, behavior, flexibility, intelligence, and overall personality style. This examination of a military population would be incomplete without a discussion of frontal lobe development, as it is this area of the brain that controls many aspects that may relate to adaptability or nonadaptability in a military environment (Stuss & Levine, 2002).

Neuropsychologists utilize numerous approaches in the assessment of brain-behavior relationships; however, few psychometric tools incorporate recent neuroscientific findings regarding the frontal lobes (Stuss & Levine, 2002). The frontal lobes are what define us as human, as they mediate and control many brain

functions such as memory, language, attention, and emotion. The maturation of

the frontal lobes in terms of development is not yet clearly defined; however,

many scientists believe that the teenage brain is a work in progress (National

Institute of Mental Health [NIMH], 2001). Brain images at different points in the

lifespan indicate that there is a gray matter growth spurt just prior to puberty,

predominantly in the frontal lobe. The gray matter maturation appears to begin at

the back of the brain and move forward throughout childhood. This results in the

frontal lobes being developed last, approximately some time in early adulthood

(NIMH, 2001). In a comparison of young adults ages 23 to 30 with teenagers ages

12 to 16, the frontal lobes in the adult group showed increased myelination, which

relates to maturation of cognitive processing. A study investigating differences in

development of male and female brains over time found that cerebral gray matter

significantly decreased and cerebral white matter volume increased as age of the

subjects increased. In addition, the corpus callosum, an area responsible for

interhemispheric communication, also increased in volume as the subjects

matured (DeBellis, Keshavan, Beers, Hall, Frustaci, Masalehdan, Noll, & Boring,

2001). Brain development is another confounding variable in this study, as it is

beyond the scope of this paper to differentiate the military's effects on perceived

control compared to an individual's brain development.

Perceived Control and Locus of Control

Terms falling under the construct of control are numerous and poorly distinguished. According to Skinner (1996), the Thesaurus of Psychological Index Terms contains over 100 terms having to do with control. In research, these terms are used interchangeably and are ill defined (Skinner, 1996). The same term may be used to refer to different constructs, which may lead to inconsistent findings, when in fact, it is the definitions that are inconsistent (Skinner, 1996). This inconsistency impedes research. Skinner proposed a framework to categorize and integrate terms. In her research, she divided the numerous terms regarding control into two areas: objective control, subjective control, and experiences of control, and agents, means and ends of control. Skinner classified both perceived control and locus of control in the second category. She conceptualized perceived control in the agent-ends category, referring to the person's belief that he or she can intentionally produce a desired outcome. Locus of control, in Skinner's research, was categorized in the means-ends group, referring to the connection between causes and outcomes. An external locus of control means that an individual believes external forces have produced an outcome.

A fundamental distinction in the literature is between actual control and an individual's belief of control (perceived control). Research has shown that perceived control may be more beneficial than actually having control. A person's

conviction that a situation can improve no matter what the objective conditions are will have positive psychological consequences. Conversely, those who hold realistic conceptions about controllability of events and their own potential are more likely to be depressed (Heckhausen & Schulz, 1995). There is a fine line between obtainable and unrealistic goals; therefore, using good judgment coupled with some self-deception can foster optimism (Heckhausen & Schulz, 1995).

Similar to the numerous other terms referring to control, perceived control and locus of control have often been used interchangeably. Some empirical evidence indicates that locus of control and self-efficacy are actually subsets of perceived control or sense of control. Perceived control has been used by some authors to refer to something that encompasses locus of control (Palenzuela, 1987).

Despite confusion about control terminology, locus of control is a well studied personality construct. Measurement of control began with this construct and has evolved into domains such as health behaviors, substance use, and relationships. In 1966, Rotter defined locus of control as a belief about the causes of outcomes. Locus of control refers to the degree to which people believe that important outcomes are determined by their efforts and abilities (internal locus of control) versus the extent to which they see them as due to chance or under the control of powerful others (external locus of control). Locus of control is a personality concept that has been linked to depression (Rotter, 1966).

In 1976, Beck described depression as a major health problem. He postulated that the vulnerability of a depression-prone person is attributable to negative attitudes about self, world, and future. He sees depression as caused by faulty cognitions. Individuals with an internal locus of control believe that they have a large amount of control over the outcomes in their lives; individuals with an external locus of control believe that things happen and that they have little ability to control them. An external locus of control often results in tolerating unpleasant circumstances and not making an effort to change, such as staying with a job (or in the military) even if it is unpleasant. In certain circumstances, an external locus of control may be beneficial for example, in a military environment, where external rules and regulations are extremely strict with little room for questioning or autonomy (Gal & Mangelsdorff, 1991).

Heckhausen and Schulz (1995) reviewed the literature on control in an attempt to correlate control with developmental stages. They based their research on the concepts of primary and secondary control. According to these researchers, primary control is said to be related to perceived control and to be stable throughout life. Primary control refers to behaviors that are directed at the environment and attempts at changing the world to meet one's needs or desires. Secondary control is a concept that helps an individual cope with failure. It is primarily a cognitive, internal process that mediates and supports primary control. According to Heckhausen and Schulz (1995), humans dislike having an inability

to produce behavior-event contingencies and experience negative emotion when faced with anticipated or actual loss of control.

Cognitive processes play an important role in behavior patterns (Bandura, 1977). In the early history of psychology, it was believed that human behavior was shaped through consequences and reinforcement. While this appears to be true, we have learned that cognition plays a role as well. A person cannot connect a consequence to a stimulus automatically without cognition. Beliefs about schedules of reinforcement may influence behavior more than the reinforcement itself. Motivation is also partly related to cognitive activities because an individual has the capacity to think about future consequences. Cognitions lead to the expectancy of certain outcomes in certain situations. Outcome expectancy is a person's estimate that a given behavior will lead to a particular outcome. An efficacy expectation is the belief that a person can successfully perform the behavior necessary for a particular outcome (similar to internal locus of control). This difference is important, as a person can believe that a certain behavior will lead to a certain outcome; however, they will need to have the belief that they can perform the behavior first (perceived control). According to Bandura (1977), avoidance of stressful activities prevents the development of self-efficacy and coping skills and results in a decreased sense of perceived control. Bandura used the term *perceived self-efficacy* and believes that this has proven to be a better predictor of behavior than past performance (Bandura, 1977).

Accurate appraisal of one's capabilities has extreme importance, as people will avoid or approach a situation based on this appraisal (Bandura, 1982). People with a strong sense of self-efficacy or perceived control will exert greater effort. When a person knows his or her abilities for a particular task, he or she will not need to pay attention to their self-appraisal; rather, they will be able to act on what they know they can and cannot do. In a novel situation, a person will have to make an appraisal about their ability to perform it. People rely partly on their physiological states to make a judgment about capability. This information becomes instructive through cognitive appraisal. A person's arousal tells them something about their capability to perform the task. An anxious person may believe that their physical arousal definitely indicates danger and something to fear, which will lead to debilitating behavior (avoidance). Certain things can undermine personal efficacy, for example, being in the presence of a highly confident individual or attending to what is strange in a new task instead of what is familiar. If a person is placed into a subordinate role, this can undermine self-efficacy, as it implies limited competence and results in decreased performance. In order to change self-efficacy, small proximal goals are efficacious. The attainment of these smaller goals will build upon each other and provide evidence for the person that larger goals can be attained as well (Bandura, 1982).

Development of locus of control begins in early childhood (Santrock, 2002). It is widely accepted by psychologists of varying schools of thought that

personality evolves from elements of nature (biological) and nurture (environmental). Consistent with that thinking, stage theorists believe that certain milestones are achieved throughout a person's childhood, as well as into adulthood, that contribute to success or failure in terms of self-esteem and locus of control. As an individual moves through life, his or her potential for primary control undergoes changes. For example, preschoolers may overestimate their abilities, but this corresponds with the rapid development that occurs at that age. As their growth stabilizes, so do perceptions of their ability (Heckhausen & Schulz, 1995).

For the purpose of this study, the term *perceived control* will be defined as a person's belief that he or she can intentionally produce a desired outcome (Skinner, 1996). Locus of control was defined by Rotter in 1966 as a belief about the causes of outcomes, internal versus external. Perceived control will be measured in terms of the six domains represented on the PCADS relative to a military population. These results will be compared with the SOC-3 scale that measures locus of control across three domains. PCADS is an untimed, 17-item scale that assesses perceived control across six domains. The SOC-3 is a 30-item scale that assesses locus of control across three domains.

Purpose

This study attempted to differentiate perceived control and locus of control in two groups of military service members: those who enlisted immediately following high school (early enrollees) and those who enlisted after the age of 21 (late enrollees).

Following are the hypotheses for this study:

1. Late enrollees have higher perceived control than early enrollees across six domains, as measured by the Perceived Control Across Domains Scale (PCADS).

2. Late enrollees have an internal locus of control compared to early enrollees who have an external locus of control, as measured by the Spheres of Control-3 Scale (SOC-3).

3. PCADS and SOC-3 do not correlate when used with an enlisted military population.

4. Number of years of education are inversely related to number of years of military service in the enlisted population.

Method

Participants

Eighty-five male and female subjects from a Navy and Marine Corps

Reserve Center completed a demographics questionnaire (Appendix C), the

Perceived Control Across Domains Scale (PCADS) (Appendix D), and the

Spheres of Control Scale (SOC-3) (Appendix E). The commanding officer of the

Navy and Marine Corps Reserve Center where the sample was obtained approved

the use of military subjects. Subjects were included if they had prior active duty

military service in any branch of the military (Army, Navy, Air Force, Coast

Guard, or Marines). The subjects were approached as they arrived for lunch and

asked to fill out the questionnaires during their break. Their anonymous

participation was described. Additionally, they were told that they could freely

decline to fill out the questionnaires. Personnel were excluded from the study if

they decided not to participate or if they did not have prior active duty military

service. Of the 85 participants, 76 were veterans of the Navy and 9 were veterans

from other services. Due to the small representation of veterans from other

branches of the military, only data from the Navy veteran population was used.

When the nine participants were removed from the sample, the remaining subject

pool was 83% male (N = 63) and 17% female (N = 13). All of the subjects were

currently serving in the Navy Reserves. The subjects self-identified their

ethnicity. The subject pool was predominantly Caucasian (71.1%), with American

Indian accounting for 7.9% and African American accounting for 3.0 %. Those

who stated their ethnicity was comprised of two or more races accounted for

5.3%, and those who identified themselves as Other accounted for 10.5%. Of the

76 total participants, 44 (57.9%) entered active duty immediately after high

school; 32 (42.1%) did not. The average age of entry into boot camp was 19 years

and 9 months (19.78 years). The youngest entered at age 17 and the oldest entered

at age 36. The average number of years spent on active duty was 5.44. The

average amount of time between high school and boot camp was nearly 2 years.

Those who attended college prior to boot camp represented 30.3% of the subject

pool and attended an average of 0.47 years of college. Those who did not attend

college before boot camp represented 69.7% of the total. Those who worked in a

civilian job before the military represented 84.2%, with an average of 2.95 years

of work before boot camp. Those who did not work prior to boot camp accounted

for 15.8%. The majority of the participants were married (67.1%), 13.25% were

never married, and 19.7% were single. Upon discharge from active duty, the

majority of participants in this study were ranked at the E-4 (38.2%) or at the E-5

(36.8%) level. Military enlisted rank ascends from E-1 through E-9. Persons

progress in rank as they earn time in service and additional education. They earn

higher rank based on time, evaluations, and ability to pass tests relative to military

occupation. It is reasonable to expect that a service member would be able to

achieve an E-4 rank by about the 4th year of service if they entered as an E-1.

Those who may have entered the service at the E-3 level (due to college education) would likely be able to progress to an E-5 rank by the end of a 4-year term.

Most of the participants left active duty service because it was the end of their term (42.1%). The next largest group to leave the service left because of family reasons (17.1%). Those that had a civilian job opportunity accounted for 5.3% of the subject pool. Those who left because they finished college accounted for 5.3%. Those who left because they were dissatisfied with military life accounted for 7.9%. Those who requested early discharge accounted for 5.3%. Those who had a civilian job opportunity accounted for 5.3%, and those who left for multiple reasons accounted for 9.2%.

The reserve units present for the study were representative of the enlisted Navy population except for aviation, as there were no aviation units attached to this reserve center. Of the total number of reservists affiliated with this particular reserve center, approximately 14% participated in this research study. However, many units were deployed when data was collected and were therefore unable to participate.

Prior to the execution of this research, the Institutional Review Board (IRB) at Philadelphia College of Osteopathic Medicine approved the study. The Navy and Marine Corps Reserve Center did not require IRB approval. Because

the study was entirely anonymous, without specific identifying information, the

participants were not required to sign a statement of informed consent.

Design

The data used in this analysis were gathered from drilling reservists at a

Navy and Marine Corps Reserve Center. This nonexperimental, case-control

design compared two groups of reservists based on their age when they entered

boot camp, as designated on the demographics questionnaire. The two groups

were early enrollees (those who entered boot camp immediately following high

school) and late enrollees (those who entered boot camp after age 21). The

reservists were asked to participate in this study based on their presence at lunch,

during a randomly selected drill weekend. The lunchroom was located at the

Navy and Marine Corps Reserve Center. The reservists were approached as they

stood in line for their food. Those who chose to complete the surveys did so while

they ate. All drilling reservists located at this particular reserve center had an

equal chance of being present during the drill weekend; however, several units

were deployed and not available to participate.

The study attempted to compare the effect of time of entry into active duty

military service on a service member's perceived self-control and locus of control.

There are two levels of comparison: early enrollees-those who went to boot camp

immediately after high school, and late enrollees-those who were 21 or

older when they went to boot camp. Entry date into active duty is the day the

member went to boot camp, not necessarily the day the contract was signed.

Description of Measures

Early and late enrollee scores on the Perceived Control Across Domains

Scale (PCADS) and the Spheres of Control Scale were the dependent variables.

PCADS (Davis, Freeman, & Royer, 2004) was designed as an untimed, face

valid, 17-item scale (Appendix C), developed to measure the amount of perceived

control across six common domains: personal control, nonfamily relationships,

personal empowerment, emotional control, personal cognition, and substance use.

Individuals must select one out of four statements that apply to them personally.

For example, the item about family relationships asks the individual to choose

from the following:

> 0 – I never have problems with family relationships.

> 1 – I sometimes have problems with family relationships.

> 2 – I often have problems with family relationships.

> 3 – I almost always have problems with family relationships

This study served as a continuing validation study of the PCADS with a

military population. This study tested the hypothesis that perceived control

changes based on time of entry into military service. This study also tested the

PCADS against an already validated measure, the Spheres of Control Scale (SOC-

3).

The SOC-3 (Paulhus, 1990) is comprised of 30 items in three subscales:

Personal, Interpersonal, and Socio-Political Control. The first domain represents

personal achievement and can also be termed personal efficacy. The second

domain represents how the individual interacts with others in dyads and group

situations. Lastly, the socio-political domain represents an individual's goals

compared with those of the political and social system. This instrument has been

available for over 20 years and has been used in a wide variety of studies. The

SOC was first published by Paulhus and Christie in 1981 and was later updated by

Paulhus in 1983. The SOC followed the Rotter Scale, which was a 23-item scale

developed in 1966. The Rotter Scale was in a forced-choice format. Based on the

respondent's answers, he or she was classified as having internal or external locus

of control. Research on the Rotter Scale has been difficult to interpret, according

to Paulhus and Christie (1981). These researchers found that it is difficult or

impossible to determine which component is responsible for any obtained

relationships. Rotter himself called for a more specific mechanism for measuring

locus of control. Paulhus and Christie cited Coan's 1974 study as being the most

comprehensive locus of control study. In this research, Coan administered a 130-

item inventory that included the Rotter Scale in its entirety, along with 107 more

items. This was administered to 525 subjects with the intent to identify all of the

components of the locus of control domain. Coan's studies were not

independently evaluated because the scale items were not published and there is

not any information on the psychometric properties of the scales. However,

Paulhus and Christie (1981) analyzed Coan's factors and grouped them into four

clusters under the following domains: sociopolitical activity, interpersonal

behavior, personal achievement, and self-control. Interpersonal control had

surprisingly received little attention when Paulhus and Christie began to

conceptualize the SOC-2 scale; this particular domain has served as a central

reason for conception of the SOC scale. The conceptual model underlying the

development of the SOC scale posits that an individual may have different

expectancies of control within the three domains and that an individual will have

a "control profile," according to Paulhus and Christie (1981). The SOC scale was

validated over a course of 2 years and five studies. The final study involved a

sample of 110 males from an introductory psychology course. The result was a

clean separation of the personal efficacy, interpersonal, and sociopolitical control

items, with alpha reliabilities all above 0.75 for each domain. This reliability

result is higher than for the original Rotter Scale, which was 0.70. The scale items

are presented on a 7-point Likert scale, with 1 being equivalent to "disagree," 4

meaning "neutral," and 7 representing "agree." According to Paulhus and Van

Selst, (1990), the Personal Control scale is less internally consistent than the

Interpersonal and Socio-Political Control scales. The lower internal validity for

the Personal Control scale may reflect the nature of the personal control construct,

according to Palenzuela (1987), as it represents efficacy and contingency.

Efficacy is represented by items 2, 4, 6, and 10, and contingency is represented by

items 1, 3, 5, and 8. According to Paulhus and Christie (1981), all three subscales

showed test-retest correlations above 0.80 at 4 weeks and above 0.60 at 6 months.

Paulhus and Van Selst (1990) compared the SOC-2 with the newer

version, the SOC-3. They found that reliability had improved to 0.80 for the new

scale, compared to 0.59 for the old scale. They highly recommend the use of the

new scale, as internal consistency is improved, which should generate higher

correlations with external measures. Sample items from the SOC-3 are as follows:

Personal Control

I can usually achieve what I want if I work hard for it.

Once I make plans, I am almost certain to make them work.

Interpersonal Control

In my personal relationships, the other person usually has more control

than I do.

I'm not good at guiding the course of conversation with several others.

Socio-Political Control

I prefer to concentrate my energy on other things rather than solving the

world's problems.

The average citizen can have an influence on government decisions.

Procedure

A group of reservists was addressed on Saturday of their drill weekend. The commanding officer indicated that lunch was an opportune time for administration of the scales, as all units would be present during this time. The subjects were addressed by the commanding officer, as they stood in line for lunch. She provided an introduction and gave a brief overview of the study and the subjects' voluntary participation. The subjects were then approached individually and were able to decline participation. Those who chose to participate were given a raffle ticket for an opportunity to win a gift certificate to a local restaurant.

Questionnaires were passed out in packets with the demographics questionnaire on the top, the PCADS second, and the SOC-3 last. Participants were given the opportunity to ask questions throughout the administration.

Results

In summation, the hypotheses in this study contend that those who enter the military at a younger and perhaps more influential age are more likely to have lower perceived control and an external locus of control because of the experience of military life. Those individuals who entered military service after working or going to college were hypothesized to have a higher sense of perceived control and an internal locus of control. The validation process consisted of correlation and t-tests. The results did not return significant findings between early and late enrollees with regard to perceived control or locus of control; however, significant findings occurred when the SOC-3 was correlated with the PCADS in this population. As scores on the PCADS increased, indicating lower perceived control, SOC-3 scores decreased, indicating an external locus of control. Therefore, military members with lower perceived control are likely to also have an external locus of control, according to this study.

Frequency distributions of PCADS scores

The sample was decreased from 85 participants to 76 due to the limited representation from other services. All of the following statistics are representative of 76 participants, all of whom had prior military experience in the Navy only. The mean and standard deviation of the total PCADS scores were

calculated and suggested a normal distribution in this sample (M = 9.42, and SD = 4.20).

Research on this population was not available with regard to the separation of early versus late enrollees. Therefore, a decision was made to examine groups in three different categories: under 21 compared to over 21 upon entry into boot camp, college versus no college before boot camp, and civilian employment versus no employment prior to boot camp.

Early versus late enrollees

There were 56 participants in the under 21 group and 20 participants in the over 21 group. The first hypothesis was that late enrollees have higher perceived control across six domains compared to early enrollees. The results indicate that subjects' total PCADS scores did not differ between early and late enrollees ($t(74)$ = .406, p = .686). Scores across all six domains also did not demonstrate a significant difference: Personal control domain, ($t(74)$ = .347, p = .729), non-family relationships ($t(74)$ = -.035, p = .972), personal empowerment ($t(74)$ = .103, p = .918), emotional control ($t(74)$ = .380, p = .705), cognition ($t(74)$ = .381, p = .704), and substance use ($t(74)$ = -1.33, p = .187) (Appendix F, Table 1).

The second hypothesis was that late enrollees have an internal locus of control compared to early enrollees, who have an external locus of control, across three domains of the SOC-3 scale. Scores were not significant across all three

domains: personal control domain ($t(74) = .407, p = .685$), interpersonal domain ($t(74) = .776, p = .440$), and the socio-political domain ($t(74) = .373, p = .710$).

College versus no college prior to boot camp

There were 23 participants in the college before boot camp group and 53 participants in the no college before boot camp group. It was anticipated that those participants with more education prior to boot camp would be more likely to have higher perceived control across six domains compared to those with less education. The results indicate that subjects' total PCADS scores did not differ between these two groups ($t(74) = .272, p = .207$). Scores across the six domains also did not render significant differences: personal control ($t(74) = 1.48, p = .144$), non-family relationships ($t(74) = .341, p = .734$), personal empowerment ($t(74) = -.356, p = .723$), emotional control ($t(74) = .683, p = .497$), cognition ($t(74) = .809, p = .421$), and substance use ($t(74) = .547, p = .586$) (Appendix F, Table 2).

The second question regarding these two groups is whether locus of control differs when academic experience differs. It was postulated that those with college prior to boot camp would be more likely to have an internal locus of control than those without college. Results from the SOC-3 scale did not return significant findings: personal control domain ($t(74) = -.536, p = .593$),

interpersonal domain ($t(74) = -.650$, $p = .518$), and the socio-political domain

($t(74) = -.033$, $p = .973$), (Appendix F, Table 2).

Civilian employment versus no employment prior to boot camp

When the sample was divided according to employment criteria, there

were 64 participants who reported working in a civilian position prior to boot

camp and 12 participants who reported no employment prior to boot camp

(Appendix F, Table 3). It was postulated that those with an employment history

prior to boot camp would be more likely to have higher perceived control across

six domains than those who did not work before entering the military. The results

indicate that subjects' total PCADS scores did not differ between these two

groups ($t(74) = 1.436$, $p = .155$). The results did not return significant findings in

all of the following domains: personal control ($t(74) = .909$, $p = .366$), non-family

relationships ($t(74) = .906$, $p = .368$), personal empowerment ($t(74) = -.549$, $p =$

.585), cognition ($t(74) = .113$, $p = .911$), and substance use ($t(74) = 1.125$, $p =$

.264). In the emotional control domain, however, scores were significant between

these two groups ($t(74) = 3.090$, $p = .003$).

Second, it was postulated that those who reported employment prior to

military service would be more likely to have an internal locus of control, and

those without civilian employment would be more likely to an external locus of

control across three domains of the SOC-3 scale. Results were not significant

across the three domains: personal control ($t(74) = 1.760$, $p = .083$), interpersonal

domain ($t(74) = 1.812$, $p = .074$), and the socio-political domain ($t(74) = .727$, $p =$

.469) (Appendix F, Table 3).

PCADS and SOC-3

PCADS initially was compared to the SOC-3 in an undergraduate

population. The findings did not reveal a correlation between the two measures. In

this population, however, the measures were found to correlate in the following

ways: The PCAD total scores were significantly negatively correlated to the SOC-

3 total scores ($r = -.400$, $p < .01$) (Appendix F, Table 4), SOC-3 total scores

compared to the PCADS personal control domain scores demonstrated a

significant negative correlation ($r = -.230$, p<.05) (Appendix F, Table 5), SOC-3

total scores were negatively correlated with the PCAD non-family relationships

domain ($r = -.284$, $p < .05$) (Appendix F, Table 6), a significant negative

correlation was identified between the SOC-3 total scores and the PCADS

personal empowerment domain ($r = -.292$, $p < .05$) (Appendix F, Table 7), the

PCADS emotional control domain correlated negatively with SOC-3 total scores

($r = -.254$, $p < .05$) (Appendix F, Table 8), and the PCADS cognitive domain was

significantly negatively correlated to SOC-3 total scores ($r = -.32$, $p < .01$)

(Appendix F, Table 9). The only domain from the PCADS that did not correlate

with SOC-3 total scores was the substance use domain ($r = -.027$).

Education and military service

It was hypothesized that an increase in education would be inversely related to number of years spent serving in the military. In this sample, no correlation was found between years of education and years served on active duty ($r = -.046$). Years served on active duty also did not significantly correlate with educational level obtained ($r = -.009$).

Discussion

It is well known that the military is a controlling and restricting environment. This study was designed to determine if an individual's perceived control and/or locus of control are affected as a result of military experience. Particularly, individuals entering the service immediately following high school were of interest. It was hypothesized that these individuals perhaps had less opportunity to develop a personal sense of control and were therefore susceptible to a controlling environment regarding cognitive style.

Research regarding perceived control and locus of control in military members was limited. There were no other studies available examining the effect of military service on perceived control and locus of control with regard to time of entry into the service. Therefore, the sample was divided into three different groups for comparison. The groups were: (a) early, entered boot camp immediately after high school, and late enrollees, entered boot camp after age 21; (b) those who went to college prior to boot camp compared to those who did not; and (c) those who were employed in a civilian job prior to boot camp compared to those who were not. Perceived control and locus of control were examined with the PCADS, a measure that was not previously validated with a military population and with the SOC-3, a well-known and well-validated measure that examines the construct of locus of control. For the purpose of this study, perceived control and locus of control were defined as separate constructs.

The first hypothesis was that those who entered the service immediately after high school would be more likely to have lower perceived control and an external locus of control. The second hypothesis was that the PCADS would not correlate with the SOC-3 in this population, and the third hypothesis was that education would be inversely related to years of service.

The early versus late enrollee groups did not reveal significant findings with regard to perceived control or locus of control. In this sample, it did not appear that the military had an effect on a member's sense of control. College education prior to boot camp was also examined in terms of effect on perceived control and locus of control. The sample was divided into those who had some college prior to boot camp and those who did not. A comparison of these groups also did not reveal significant findings. Although the college environment is vastly different than that of the military (college encourages a sense of personal control), joining the military with prior college education did not appear to affect the member's sense of control. The sample was again divided into groups to look at the effect of employment prior to military service on perceived control and locus of control. Those who sustained a civilian job prior to boot camp did not differ with regard to the constructs of personal control, with the exception of emotional control. There are three questions from the PCADS that represent the

domain of emotional control. These are addressing acts of aggression, self-injurious behaviors, and obsessive behavior. It appears that those who sustained civilian employment were more likely to exhibit higher emotional control in these areas compared to those without a civilian employment history. Perhaps having had previous experience in a civilian job prepared the member for increased emotional control in the military environment. It is presumed that those who are able to maintain employment have maturity and control over their emotions. Therefore, individuals who have sustained employment have been exposed to authority, structure, expectations, and rules. If they have been successful in terms of emotional control in a civilian job, this may serve to better prepare them for the emotional stress of the military environment. Therefore, the emotional control domain may be offering a clue for future researchers as an area for examination. Perhaps perceived/locus of control are not significantly affected, but a member's ability to suppress and control emotions is. Qualitative data may be more effective at eliciting a deeper understanding of what phenomenon is occurring. Despite these findings, there is something that seems to draw individuals back to the military.

The study that served as the creation of the PCADS did not reveal a significant correlation between the PCADS and the SOC-3 in an undergraduate population, but did find that perceived control is in fact measurable and quantifiable across different domains (Davis, 2004). In the present study,

PCADS was found to correlate with the SOC-3. In current sample, it appears that there is some crossover between the constructs of perceived control and locus of control and that these two measures are demonstrating the similarity between these two constructs. Five of the six domains represented by PCADS correlated with the SOC-3. This means that as a member's perceived control in the areas of personal control, nonfamily relationships, personal empowerment, emotional control, and personal cognition increase, they are more likely to also have an internal locus of control. Military members who believe they have control within these domains also believe they have control over outcomes in their lives. The substance use domain was the only domain from the PCADS that did not demonstrate significant findings compared to the SOC-3. It is possible that the participants were not willing to share details about substance use due to the sensitivity of this topic, and this area may be an interesting area to examine in the future.

While not a formal hypothesis, this study did identify that there is overlap between perceived control and locus of control, perhaps somewhat reducing the ambiguity in the literature regarding terms of control. In other words, there is confusion in the literature among terms of control. The definitions are close, and there is little consistency as to which terms are used for studies that examine control. The use of terms related to control appears to be random, that is, based on the researcher and his or her choice of which term to use. This study indicated that

there is little difference between the terms of perceived control and locus of control. Therefore, future researchers could simply choose one construct to study with a measure that has been validated for that construct.

Another area of concern in this study is the face validity of the measures. Both the PCADS and SOC-3 measures are relatively short with obvious questions. In other words, the participants can probably figure out what the surveys are looking for and are therefore more likely to respond with what they believe are favorable answers. Particularly with military members, looking good (in control) are important. A measure that has a similar design to the MMPI-II would be more appropriate with regard to face validity. Perhaps open-ended questions and a qualitative design would better solicit true opinions of service members. It is important that future research studies with this population are designed in such a way that the participants can be open and honest with their responses. Somehow, a study that is able to preserve a member's appearance and, at the same time, elicit truthful data would be useful in understanding the phenomenon this research attempted to understand.

Anecdotal observations made by this author during active duty military service do not seem to be related to a member's sense of control, regarding either perceived or locus of control. However, it is this author's belief that there is a phenomenon in operation where military members have a difficult transition into civilian life after military service. According to this study, perceived control and

locus of control are unaffected and not contributory. Perhaps the phenomenon is at a more basic and logistical level rather than actually affecting cognitive style. It could be that the military simply does not prepare members for civilian life adequately. Job training may not be relevant in the civilian world or benefits and salary may not be comparable for the same work that the member was trained for in the military. Quite possibly, the military wishes to retain service members and does not want to have the transition be smooth. This is certainly an area where further research is warranted.

From a therapeutic standpoint, this research is important because transition from the military to the civilian world proves to be difficult, with a high rate of failure. Therapists that are employed by the military or civilian therapists that choose to work with military personnel need to understand the military dynamics and the differences members face when they choose to exit active duty service. Cognitive behavioral therapy would certainly be a useful tool with these individuals. Examination of thoughts and fears relating to exiting the protective cocoon of the military into the ambiguous civilian world would be a good starting point in a therapeutic relationship. Although the member's sense of control may not be affected, civilian life offers infinite choices and fairly limited structure compared to the military. This freedom may lead to confusion, frustration, and fear of failure, again, good areas for examination with veteran clients.

Limitations of the Study

This study was completed at one reserve center in the United States. It is unknown how representative this reserve center is compared with all other centers. Therefore, external validity is questionable. Another limitation is that the research was completed with all the subjects in the same room, with the potential for cohort effects. Participants may have felt uncomfortable answering questions while surrounded by their peers. Therefore, they may have been unwilling to admit decreased feelings of control. Military members represent their particular unit and the United States. They are told to wear their uniform with pride and always behave appropriately because of this. Therefore, appearance is critical. Members that participated in this study may have decided not to be completely honest for fear of looking bad or the possibility of consequences, despite the purported anonymity of the study. The consequences of engaging in unethical behavior in the military are large and could affect the rest of the member's military and/or civilian career.

Some other reasons for hesitation with admitting lower perceived or locus of control may be: immaturity, poor ability to be introspective about themselves, dishonesty, or the presence of the examiner and the commanding officer. These characteristics may be operating within this study, in that members do not wish to display themselves as having a lower sense of control. They may wish to portray

the impression that they are in control and not admit to problems. This research needs to be replicated with larger groups of military members and across all branches of service to see if significant findings occur in a larger sample and can be generalized to the military population.

Perceived control and locus of control were measured based on responses to two different questionnaires. This researcher has no way of knowing if the participants had high or low perceived control or external or internal locus of control prior to their entry into the military. Therefore, it was impossible to determine if the military attracts those with low perceived control or creates it in vulnerable individuals (those with limited independent experiences). It was also impossible to determine if the military attracts those with an external locus of control or creates this. Future prospective studies should examine high school students planning to join the military and study them over the course of time to elicit this information. It would be beneficial to compare perceived control and locus of control in individuals prior to their military service and after completion of military service.

Military experiences have changed significantly over the past 20 years. This study sampled various age groups and may not be able to discern if the effects relate to these changes in the military. Individuals who decided to enlist in the military after September 11, 2001, may be different from their counterparts

who enlisted prior to this horrific historical event. Individuals entering the military now may have higher control and join the military based on their convictions to fight terrorism. This could be skewing results, as those who entered prior to September 11, 2001, may have been interested in the military for other reasons such as education and travel. Today's military member knows that enlisting will definitely put them in the face of danger and this type of personality may have a high sense of control coupled with a strong conviction to fight for his or her country. With that said, future studies may want to compare those who enlisted prior to September 11 with those who enlisted afterward. It would be interesting to discern if perceived control or locus of control differs between these two groups.

Conclusion

Perceived control and locus of control were unaffected by military service according to this study; however, there clearly is something that makes the transition from the military to the civilian world difficult. This is an area where research is limited and would be fertile ground for future examination. Interestingly, perceived control and locus of control were found to relate to each other. Historically, constructs of control are numerous and poorly defined. It is this author's hope that this study has demonstrated that these two terms measure similar constructs. Future studies should choose one construct to examine with a well-validated measure. The measure of choice should have less obvious questions in order to elicit the most accurate answers as possible.

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Appendix A

Introduction

"Good afternoon, my name is Lori Montgomery and I am doing research on military service members for the completion of my degree in Clinical Psychology. I chose to study military service members because I am a veteran of the Navy and continue to have an interest in military matters. I served in San Diego from 1995-1998 and became a reservist from 1998-1999. I would appreciate if you could help me by filling out 3 anonymous questionnaires. This will take less than a half an hour of your time. I will not be asking for your name, nor will I have any way of identifying which questionnaire was filled out by you. Your identity, as well as your responses is confidential. Your participation in this study is strictly voluntary and is limited to those of you with prior active duty military service only. Those of you who decide to participate will be able to enter into a raffle with prizes from local restaurants."

Appendix B

Directions

"The packet you are receiving contains 3 questionnaires. The first page is some

general information about your military career; the second two pages are the

scales for you to individually fill out. Please take a moment to fill out these

questionnaires, please raise your hand when you finish and I will collect them

from you. "

Appendix C
Demographics Questionnaire
COMPLETE THESE SURVEYS ONLY IF YOU HAVE BEEN ACTIVE DUTY USN, USMC,

USA, USAF, USCG (NOT AFFILIATED WITH THE RESERVES) IN THE PAST

Instructions: Circle appropriate answer or fill in the blank

1.   **Have you been on active duty in the past?**   **YES OR NO**

2.   **In which branch did you serve on active duty? Navy/Marines/Army/Air Force/Coast Guard**

3.   **How many years did you serve on active duty?**   _____

4.   **Did you enter active duty immediately after high school?**   **YES or NO**

5.   **How old were you when you went to boot camp?**   _____

6.   **How many years were between your high school graduation and your entry into boot camp?**   _____

7.   **Did you attend college prior to your active duty service?**   **YES OR NO**

8.   **How many years of college did you complete prior to your entry into boot camp?**   _____

9.   **Did you work in a civilian position prior to your active duty service?**
                                                                                                          YES OR NO

10.   **How many years did you have a civilian job prior to boot camp?**   _____

11.   **Are you male or female?**   **MALE OR FEMALE**

12.   **What branch of the reserves are you currently in?**   **NAVY OR MARINES**

13.   **How many years were there between your active duty service and your enlistment in the reserves?**   _____

14.   **What is your marital status? NEVER MARRIED/MARRIED/SINGLE/WIDOWED**

15.   **What was your rank/rate upon discharge from active duty service?** _____

16.   **Which type of discharge did you receive?**
       ❑   **Honorable**
       ❑   **General**
       ❑   **Dishonorable**
       ❑   **Medical**
       ❑   **Other**

17.   **Please circle which category best describes your civilian job upon discharge from active duty:**

Federal	**Administrative/Secretarial**	**Sales**
Private	**Healthcare Worker (nurse etc.)**	**Business Professional**
Other	**Trade/Laborer**	**Healthcare Professional (Doctor)**

18.   **Why did you leave active duty service?**

Civilian job opportunity (overmanned rate)	**Family Reasons**	**Early Out**
End of term	**Health Reasons**	**More money in civilian job**
Finished College	**Dissatisfied with military lifestyle**	

19.   **What is your highest level of education?**
- ❑ **High School Diploma**
- ❑ **GED**
- ❑ **Trade School**
- ❑ **Some College**
- ❑ **Associates Degree**
- ❑ **Bachelors Degree**
- ❑ **Graduate Degree or Higher**

20.   **What is your ethnicity?**

American Indian	**Alaska Native**	**Asian**
Native Hawaiian	**Other Pacific Islander**	**White**
Two or More Races	**Other**	**Black or African American**

21.   **Briefly describe your experience when you separated from active duty**

_____
_____
_____
_____

22.   **Upon discharge from active duty, did you feel prepared for civilian life   YES OR NO**
       Why or why not?

_____
_____

THANK YOU FOR PARTICIPATING IN MY STUDY!!

I WILL COLLECT THESE SURVEYS **SATURDAY MAY 20 DURING YOUR LUNCH BREAK**

WE WILL HOLD THE RAFFLE AFTER LUNCH

Appendix D

PCADS
(Perceived Control Across Domains Scale)
Copyright, 2004, Beth Arburn Davis

Instructions for completing the Perceived Control Across Domains Scale: *After carefully reading each group of statements, circle the response (0,1,2, or 3) that best describes the way you feel.*

1. Activities of daily living:
   0 – I almost never have problems doing things for myself such as eating, dressing, or bathing.
   1 – I sometimes have problems doing things for myself such as eating, dressing, or bathing.
   2 – I often have problems doing everyday activities for myself such as eating, dressing, or bathing.
   3 – I almost always have problems doing everyday activities for myself such as eating, dressing, or bathing.

2. Self care:
   0 – I am always careful about my health.
   1 – I am often careful about my health.
   2 – I sometimes am careful about my health.
   3 – I am never careful about my health.

3. Goals:
   0 – I almost never have problems achieving my goals.
   1 – I sometimes have problems achieving my goals.
   2 – I often have problems achieving my goals.
   3 – I almost always have problems achieving my goals.

4. Food intake:
   0 – I never have problems with the amount of food I eat.
   1 – I often have problems with the amount of food I eat.
   2 – I sometimes have problems with the amount of food I eat.
   3 – I almost always have problems with the amount of food I eat.

5. Substance use:
   0 – I never have problems with drug or alcohol use.
   1 – I sometimes have problems with drug or alcohol use.
   2 – I often have problems drug or alcohol use.
   3 – I almost always have problems with drug or alcohol use.

6. Thought processes:
   0 – I almost always change the way I think, if doing so would help me.
   1 – I often change the way I think, if doing so would help me.
   2 – I sometimes change the way I think, if doing so would help me.
   3 – I never change the way I think, even if doing so would help me.

7. Aggressive behavior:
>0 – I never think of myself as aggressive.
>1 – I sometimes think of myself as aggressive.
>2 – I often think of myself as aggressive.
>3 – I almost always think of myself as aggressive.

8. Future:
>0 – I always think of myself as optimistic.
>1 – I often think of myself as optimistic.
>2 – I sometimes think of myself as optimistic.
>3 – I almost never think of myself as optimistic.

9. Emotional expression:
>0 – I never have problems like yelling or throwing things when I'm angry or frustrated.
>1 – I sometimes have problems like yelling or throwing things when I'm angry or frustrated.
>2 – I often have problems like yelling or throwing things when I'm angry or frustrated.
>3 – I almost always have problems like yelling or throwing things when I'm angry or frustrated.

10. Family relationships:
>0 – I never have problems with family relationships.
>1 – I sometimes have problems with family relationships.
>2 – I often have problems with family relationships.
>3 – I almost always have problems with family relationships.

11. Impulsive behavior:
>0 – I never have thoughts, images, or impulses that I can't put a stop to.
>1 – I sometimes have thoughts, images, or impulses that I can't put a stop to.
>2 – I often have thoughts, images, or impulses that I can't put a stop to.
>3 – I almost always have thoughts, images, or impulses that I can't put a stop to.

12. Work/school relationships:
>0 – I almost never have problems with people at work or school.
>1 – I sometimes have problems with people at work or school.
>2 – I often have problems with people at work or school.
>3 – I almost always have problems with people at work or school.

13. My environment:
>0 – I almost always think I am able to influence people around me.
>1 – I often think I am able to influence people around me.
>2 – I sometimes think I am able to influence people around me.
>3 – I never think I am able to influence people around me.

14. Self-injurious behavior:
> 0 – I never have problems with wanting to harm myself.
> 1 – I sometimes have problems with wanting to harm myself.
> 2 – I often have problems with wanting to harm myself.
> 3 – I almost always have problems with wanting to harm myself

15. Social relationships:
> 0 – I almost never have problems with people when I'm in a social situation.
> 1 – I sometimes have problems with people when I'm in a social situation.
> 2 – I often have problems with people when I'm in a social situation.
> 3 – I almost always have problems with people when I'm in a social situation

16. Physical sensations:
> 0 – I always am able to relieve physical discomfort when I have it.
> 1 – I often am able to relieve physical discomfort when I have it.
> 2 – I sometimes am able to relieve physical discomfort when I have it.
> 3 – I rarely am able to relieve physical discomfort when I have it.

17. Finances:
> 0 – I never have problems with spending too much money.
> 1 – I sometimes have problems with spending too much money.
> 2 – I often have problems with spending too much money.
> 3 – I almost always have problems with spending too much money.

Appendix E
Spheres of Control Scale: Version 3
Write a number from 1 to 7 to indicate how much you agree with each statement.

```
1    2    3    4    5    6    7
/    /    /    /    /    /    /
Disagree        Neutral          Agree
```

____ 1. I can usually achieve what I want if I work hard for it.

____ 2. In my personal relationships, the other person usually has   more control than I do.

____ 3. By taking an active part in political and social affairs, we the people can influence world events.

____ 4. Once I make plans, I am almost certain to make them work.

____ 5. I have no trouble making and keeping friends.

____ 6. The average citizen can have an influence on government decisions.

____ 7. I prefer games involving some luck over games requiring pure skill.

____ 8. I'm not good at guiding the course of a conversation with several others.

____ 9. It is difficult for us to have much control over the things politicians do in office.

____ 10. I can learn almost anything if I set my mind to it.

____ 11. I can usually develop a personal relationship with someone I find appealing.

____ 12. Bad economic conditions are caused by world events that are beyond our control.

____ 13. My major accomplishments are entirely due to my hard work and ability.

____ 14. I can usually steer a conversation toward the topics I want to talk about.

____ 15. With enough effort we can wipe out political corruption.

____ 16. I usually do not set goals because I have a hard time following through on them.

____ 17. When I need assistance with something, I often find it difficult to get others to help.

____ 18. One of the major reasons we have wars is because people don't take enough interest in politics.

____ 19. Bad luck has sometimes prevented me from achieving things.

____ 20. If there's someone I want to meet, I can usually arrange it.

____ 21. There is nothing we, as consumers, can do to keep the cost of living from going higher.

____ 22. Almost anything is possible for me if I really want it.

____ 23. I often find it hard to get my point of view across to others.

_____ 24. It is impossible to have any real influence over what big businesses do.

_____ 25. Most of what happens in my career is beyond my control.

_____ 26. In attempting to smooth over a disagreement, I sometimes make it worse.

_____ 27. I prefer to concentrate my energy on other things rather than on solving the world's problems.

_____ 28. I find it pointless to keep working on something that's too difficult for me.

_____ 29. I find it easy to play an important part in most group situations.

_____ 30. In the long run, we the voters are responsible for bad government on a national as well as a local level.

Scoring:
On all the negatively-keyed items, reverse the subject's responses (i.e., 7=1, 6=2, 5=3, 4=4, 3=5, 2=6, 1=7). Then calculate the three scores by summing the 10 items for each subscale.

Personal Control: Positive 1, 4, 10, 13, 22
                Negative 7, 16, 19, 25, 28

Interpersonal Control: Positive 5, 11, 14, 20, 29
                Negative 2, 8, 17, 23, 26

Socio-Political Control: Positive 3, 6, 15, 18, 30
                Negative 9, 12, 21, 24, 27

Norms based on 177 UBC undergraduates:

Subscale	Mean	S.D.	Alpha
PC	51.4	8.3	.80
IPC	47.1	9.1	.83
SPC	36.6	8.3	.75

Table 1

Early versus Late Enrollees Independent Samples Test

Measures	Levene's Test Equality of Variances		*t*-test for Equality of Means						95% Interval	
	F	Sig.	t	df	2-tail	Mean Difference	Standard Error		Lower	Upper
PCADTotal	0.45	0.50	0.40	74	0.69	0.45	1.10		-1.75	2.64
PCADPers	0.18	0.67	0.35	74	0.73	0.18	0.52		-0.86	1.23
PCADNF	0.18	0.67	-0.04	74	0.97	-0.01	0.20		-0.42	0.40
PCADPE	0.32	0.58	0.10	74	0.92	0.02	0.17		-0.33	0.36
PCADEmot	3.79	0.06	0.38	74	0.71	0.10	0.27		-0.44	0.65
PCADCog	0.41	0.52	0.38	74	0.70	0.16	0.42		-0.68	1.00
PCADSub	4.14	0.05	-0.96	74	0.34	-0.11	0.12		-0.34	0.12
SOCpers	0.16	0.70	-0.40	74	0.69	-0.80	1.98		-4.76	3.14
SOCinter	0.45	0.51	-0.78	74	0.44	-1.75	2.26		-6.26	2.75
SOCSocio	2.50	0.12	-0.37	74	0.71	-0.76	2.05		-4.85	3.32

Table 2

College versus no college before boot camp Independent Samples Test

Measures	Levene's Test for Equality of Variances		*t*-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	2-tail	Mean Difference	Std. Error	Lower	Upper
PCADTotal	0.42	0.52	1.28	74	0.21	1.33	1.05	-0.75	3.41
PCADPers	0.11	0.90	1.48	74	0.14	0.73	0.50	-0.26	1.72
PCADNF	1.61	0.21	0.34	74	0.73	0.07	0.20	-0.33	0.46
PCADPE	0.55	0.46	-0.36	74	0.72	-0.06	0.17	-0.39	0.27
PCADEmot	1.61	0.21	0.68	74	0.50	0.18	0.26	-0.34	0.70
PCADCog	0.38	0.54	0.81	74	0.42	0.33	0.40	-0.48	1.13
PCADSub	1.01	0.32	0.55	74	0.59	0.06	0.11	-0.16	0.28
SOCpers	0.77	0.38	-0.54	74	0.59	-1.02	1.90	-4.80	2.76
SOCinter	1.10	0.30	-0.65	74	0.52	-1.41	2.17	-5.73	2.91
SOCSocio	0.09	0.77	-0.03	74	0.97	-0.07	1.97	-3.99	3.86

Table 3

Civilian job prior to boot vs. no civilian job prior to boot Independent Samples Test

Measures	Levene's Test for Equality of Variances		*t*-test for Equality of Means					95% Confidence Interval	
	F	Sig.	t	df	2-tail	Mean Difference	Std. Error	Lower	Upper
PCADTotal	0.75	0.39	1.44	74	0.16	1.885	1.31	-0.73	4.50
PCADPers	0.002	0.96	0.91	74	0.37	0.57	0.63	-0.68	1.83
PCADNF	1.53	0.22	0.91	74	0.37	0.22	0.25	-0.27	0.72
PCADPE	0.003	0.96	-0.55	74	0.59	-0.12	0.21	-0.53	0.30
PCADEmot	5.88	0.02	3.09	74	0.003	0.96	0.31	0.34	1.58
PCADCog	3.01	0.09	0.11	74	0.91	0.06	0.51	-0.96	1.07
PCADSub	6.11	0.02	1.10	74	0.26	0.16	0.14	-0.12	0.43
SOCpers	1.66	0.20	1.76	74	0.08	4.13	2.35	-0.55	8.81
SOCinter	3.45	0.07	1.81	74	0.07	4.86	2.68	-0.48	10.20
SOCSocio	0.31	0.58	0.73	74	0.47	1.80	2.48	-3.13	6.72

Table 4

Correlation of PCAD total versus SOC-3 total

Measure		PCAD Total	SOC Total
PCAD Total	Pearson Correlation	1	-0.40(**)
	Sig. (2-tailed)		0.00
	N	76	76
SOC Total	Pearson Correlation	-0.40(**)	1
	Sig. (2-tailed)	0.00	
	N	76	76

** Correlation is significant at the 0.01 level (2-tailed)

Table 5

Correlation of SOC-3 Total and PCADS personal control domain

Measures		SOC Total	PCAD Pers
SOC Total	Pearson Correlation	1	-.230(*)
	Sig. (2-tailed)		.045
	N	76	76
PCAD Pers	Pearson Correlation	-.230(*)	1
	Sig. (2-tailed)	.045	
	N	76	76

* Correlation is significant at the 0.05 level (2-tailed)

Table 6

Correlation of SOC-3 total and PCAD non-family relationships

Measures		SOC Total	PCAD NF
SOC Total	Pearson Correlation	1	-.284(*)
			.013
	Sig. (2-tailed)		
		76	76
	N		
		-.284(*)	1
PCAD NF	Pearson Correlation		
		.013	
	Sig. (2-tailed)		
		76	76
	N		

* Correlation is significant at the 0.05 level (2-tailed)

Table 7

Correlation of SOC-3 total compared to PCAD personal empowerment domain

Measure		SOC Total	PCAD PE
SOC Total	Pearson Correlation	1	-.292(*)
	Sig. (2-tailed)		.010
	N	76	76
PCAD PE	Pearson Correlation	-.292(*)	1
	Sig. (2-tailed)	.010	
	N	76	76

* Correlation is significant at the 0.05 level (2-tailed).

Table 8

Correlation of SOC-3 total compared to PCAD emotional control domain

Measure		SOCTotal	PCADEmot
SOC Total	Pearson Correlation	1	-0.25(*)
	Sig. (2-tailed)		0.03
	N	76	76
PCAD Emot	Pearson Correlation	-0.25(*)	1
	Sig. (2-tailed)	0.03	
	N	76	76

* Correlation is significant at the 0.05 level (2-tailed).

Table 9

Correlation of SOC-3 total compared to PCADS cognitive domain

Measures		SOC Total	PCAD Cog
SOC Total	Pearson Correlation	1	-0.32(**)
	Sig. (2-tailed)		0.01
	N	76	76
PCAD Cog	Pearson Correlation	-0.32(**)	1
	Sig. (2-tailed)	0.005	
	N	76	76

** Correlation is significant at the 0.01 level (2-tailed).