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Predicting Early Voluntary Turnover in Canadian Forces Recruits:
The Role of Commitment, Newcomer Adjustment, and Mental Toughness

by

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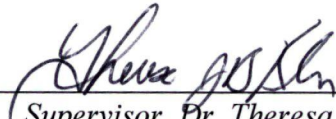
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Abstract

Although turnover has been widely investigated over the last several decades, a paucity of research exists on early voluntary turnover in newcomers. To address this literature gap and to investigate an alarming rate of early voluntary turnover in the CF, a longitudinal study was conducted on recruits undergoing basic training. Based on previous commitment and turnover theory and research, several individual characteristic variables and post-entry job attitudes were investigated as predictors of commitment and early voluntary turnover. Hierarchical multiple and logistic regressions analyses provided support for the majority of hypotheses, laying the foundation for the development of an early voluntary turnover model in CF recruits. Results suggest that newcomers bring with them pre-existing individual characteristics including mental toughness and commitment propensities that influence subsequent commitment and turnover. Post-entry commitment and adjustment experiences further predicted turnover intentions and behavior across the newcomer socialization process. Limitations and implications are discussed.

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Dedication

This work is dedicated to my best friend and future husband. Your devotion, commitment, loyalty, and selfless duty to God, Queen, and Country have been an inspiration, albeit from the other side of the world, as you serve on yet another dangerous mission in support of peace and stability. I am counting the days to your safe return.

The opinions expressed in this document are those of the author and not necessarily those of the Canadian Forces, nor the Department of National Defence.

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CHAPTER ONE: INTRODUCTION

Early voluntary turnover can be a concern for organizations as investments made into the recruitment, selection, and training of newcomers are effectively lost and not recoupable (Kacmar, Andrews, Van Rooy, Steilberg & Cerrone, 2006; Kammeyer-Muller & Wanberg, 2003). Although some turnover may be considered desirable (i.e. when poor performers leave), voluntary turnover is generally considered negative for the organization (Griffeth, Hom, & Gaertner, 2000).

Despite weakened economic conditions in 2009 and a 2.3% rise in unemployment (Statistics Canada, 2009), voluntary turnover was a significant issue for the Canadian Forces (CF). For the last several years, early and later voluntary turnover has continued to challenge the CF's ambitious force generation strategies (Department of National Defence, 2009a). Two-thirds of the total attrition rate in the Regular Force is voluntary. It had been steadily increasing since 2004 and early voluntary attrition within the first year approached 25% in 2009 (Latchman & Fang, 2009). This is consistent with Hom, Robertson, and Ellis' (2008) report that voluntary turnover rates in organizations are highest during the first several years of employees' tenure. The cost of recruiting, enrolling, paying, and training new recruits who subsequently voluntarily turnover adds up to a significant loss of human effort and financial resources. There is also a human cost associated with voluntary turnover, in the form of impact on the individuals who leave (Mitchell, Holtom, & Lee, 2001). This increasing voluntary turnover trend and the associated costs to the organization indicate that the current organizational recruitment, selection, or socialization practices require closer scrutiny.

There has been much research dedicated to voluntary turnover (e.g. Griffeth et al., 2000; Hom & Kinicki, 2001). Although a myriad of turnover models have emerged,

including process models explicating how individuals decide to quit, content models focusing on why individuals quit, and an amalgamation of both process and content models (Lee and Mitchell, 1994; Maertz & Campion, 2004), there has been considerably less focus on early voluntary turnover models detailing how socialization and adjustment processes influence work attitudes and actual turnover behaviors. Maertz and Griffeth (2004) also noted that there is much to still discover about the predictors of turnover in specific contexts. This study aimed to bridge this gap in the literature by investigating the relationships between some of the most relevant voluntary turnover factors in a controlled environment.

Lee, Ashford, Walsh, and Mowday (1992) noted that pre-entry personal characteristics may influence individuals' initial work attitudes that can subsequently influence later post-entry attitudes and behaviors. Building on this foundation, relationships between the individual pre-entry characteristics of commitment propensity, pre-entry normative commitment, and mental toughness and the post-entry work attitudes of organizational commitment and newcomer adjustment were examined using a longitudinal design. These variables were examined with the ultimate goal of predicting early voluntary turnover intentions and subsequent voluntary turnover behavior in Canadian Forces recruits undergoing the institutionalized socialization processes of basic military training.

Second, given the debate on their discriminability in the literature (Bergman, 2006; Cohen, 2007) the relationship between the specific dimensions of affective commitment and normative commitment were revisited by taking into consideration the temporal nature of affective and normative commitment development. In this regard, the concept of pre-entry normative commitment was explored in order to predict affective commitment and post-entry normative commitment.

Third, the study investigated the relationship between newcomer adjustment and organizational commitment. Although previous studies have provided evidence for links between organization socialization tactics and newcomer adjustment outcomes (e.g. Allen & Meyer, 1990; Ashforth & Saks, 1996; Cable & Parsons, 2001; Jones, 1986; Takeuchi & Takeuchi, 2009), it is unclear how significant the role of newcomer adjustment is in the positive development of organizational commitment.

Finally, the predictive validity of organizational commitment and newcomer adjustment was tested in regards to turnover intentions and actual voluntary turnover behavior. Although much research has provided strong evidence for the negative relationship between organizational commitment and turnover (Griffeth, et al., 2000; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002), the connection between socialization process success manifested in newcomer adjustment and actual turnover behavior has rarely been shown empirically (Allen, 2006).

The results from the present study provide some much needed insight into where the CF might focus valued resources in order to diminish early voluntary turnover in the first three months of employment. The findings are also helpful in assessing the current recruiting and selection system and are beneficial to new CF recruits themselves, who are impacted by these systems as well as their turnover decisions. Finally, the information on the effectiveness current socialization processes and the impact of pre-entry factors on newcomer adjustment has further implications for continued research and the development of future selection systems and training programs.

Organizational Context

Due to an unstable global security climate since 2001 and an increase in government commitment of Canadian soldiers to United Nations and North Atlantic Treaty Organization (NATO) missions, the CF was required to undergo significant force expansion. Between 2004 and 2010, the CF had consistently been increasing its recruiting targets. In 2004, the recruiting goals were set at 4 440 new recruits. Over the subsequent years, the recruiting targets have doubled to almost 8000 in 2009 and stabilized in 2010/2011. Despite the significant swell in the annual intake of new recruits, due largely to increasing attrition rates, the strength of the Regular Force has only seen an overall 8% growth (Department of National Defence, 2009b). In addition to the normal middle and late career attrition, there was a significant and increasing trend in first-year turnover in the CF between 2004 and 2009. Specifically, attrition rates for Non-Commissioned Members (NCMs) with less than one year of service for 2008 reached around 25%, a significant increase over previous years (Latchman & Fang, 2009). This alarming rise in first year attrition has stimulated much interest in addressing the issues surrounding voluntary turnover. Current 2010/2011 first year attrition rates have decreased slightly to around 20% however this issue continues to be a priority for CF leadership.

As 56% of first year attrition for NCMs occurs in the first three months of service (i.e. during basic training), this presents an opportune situation in which to investigate the prediction of early voluntary turnover, which over the last six years has ranged from 4 – 16%. From a recruiting and selection perspective, this study aids in determining whether changes to current recruitment and selection procedures might help to reverse the high turnover rates by including measures of commitment propensity and mental toughness in the selection battery. From a training perspective, the study sheds additional light on the

effectiveness of the CF's current socialization processes and its impact on newcomer adjustment, commitment and subsequent voluntary turnover. Overall, this investigation provides some indication as to where additional resources and research should be directed in order to combat the rising rate of early voluntary turnover.

Overall Plan of the Study

This investigation focused on the adjustment and commitment of new CF recruits undergoing basic training and obtained measures of voluntary turnover intentions and behavior. Recruits were tracked for a period of 13 weeks during their initial Basic Military Qualification (BMQ) course. Variables relevant to turnover were collected at three points in time over the course of training and actual voluntary turnover information was gathered at course completion. Time 1 was at the beginning of basic training on day 1. Time 2 was 4.5 weeks into basic training. This time frame was purposefully selected, as new recruits are not permitted to voluntarily leave the organization prior to week 5. Time 3 was near the end of basic training at 12.5 weeks, as some recruits chose to turnover immediately following BMQ. The Time 2 and 3 surveys included identical measures for the purpose of capturing the leavers at those two intervals. The criterion measure of actual voluntary turnover was gathered from military personnel records at the conclusion of each course serial. The data collection commenced in July 2010 and continued through to February 2011 so as to capture enough leavers for appropriate statistical analysis. Surveys were completed in computerized format to facilitate mass data collection with minimal disruption to the recruits' training schedules. An overall schematic of the study times and variables is found at Appendix A. Each of the variables of interest is discussed in detail below.

Turnover Theory

Defined in its simplest form, turnover is whether an employee stays or leaves the organization. Voluntary turnover refers to situations where the employee has the opportunity to remain in the organization but opts to leave, while involuntary turnover addresses situations where continued employment is not an option (i.e. the employee is terminated). Considerable research has been conducted on voluntary turnover in organizations (Griffeth et al., 2000; Hom & Griffeth; 1995; Hom & Kinicki, 2001; Maertz & Campion, 1998) resulting in the development and testing of content models, process models and an amalgamation of the two. Process models have focused on how individuals come to the decision to quit while content models focused on antecedents and answer why individuals quit. A review of the literature reveals that the two main predictor categories in turnover models include job alternatives and job attitudes (cf. Bentein, Vandenberg, Vandenberghe, & Stinglhamber, 2005).

Given that many military researchers have underlined the importance of commitment to the hardships of military service (Allen, 2003; Gade, 2003; Karrasch, 2003), this variable plays a key role in the present study. Organizational commitment, mainly affective organizational commitment, is a consistent variable in most attitude-focused or content turnover models. Organizational commitment has been repeatedly found to be negatively associated with the cognitive aspects of turnover, namely turnover intentions, as well as the actual behavioral aspects of turnover (Bentein, et al., 2005; Griffeth, et al., 2000; Van Breukenlen, Van Der Vlist, & Steensma, 2004).

Notwithstanding the abundance of research on voluntary turnover and some reports that turnover is highest among new employees (Griffeth & Hom, 2001; Farber, 1994), there has been considerably less emphasis on early voluntary turnover models detailing why and

when newcomers quit. Hom, et al., (2008) recently reported that organizational voluntary turnover rates are highest during the first few years of employment and then steadily decline. Current CF attrition rates seem to be consistent with this pattern of attrition.

Inspired by initial efforts by Sumer and Van de Ven (2008) and Barton and Johnson (2007) in proposing structural models of military turnover, some variables most relevant to early voluntary turnover (i.e. organizational commitment, newcomer adjustment, commitment propensity, pre-entry normative commitment and mental toughness) were investigated as predictors of voluntary turnover cognitions and behavior.

Organizational Commitment in the Military

As previously discussed, central to most models of turnover is the work attitude of organizational commitment, particularly affective commitment. Organizational commitment is an enduring concept, having been widely investigated over the last fifty years, with established links to a multitude of important organizational outcomes, including voluntary turnover intentions, actual turnover, organizational citizenship behavior, job satisfaction, absenteeism, stress, work-family conflict, and job performance (Meyer, et al., 2002). Although organizational commitment is under current examination in various military contexts in Canada as part of a larger initiative, to date it has not been investigated at the point of organizational entry into the CF with newcomers, where voluntary turnover rates are often highest. In addition to its connection to important organizational behaviors, commitment has specific significance with the military, particularly in relation to how soldiers are socialized to exercise loyalty. When a soldier joins the military, he or she accepts the contract of unlimited liability:

Unlimited liability is the fundamental condition under which all members of the CF serve. They are required to accept, without reservation, that they must carry out their missions and tasks regardless of personal discomfort, fear, or danger. Unlimited liability is the cornerstone of military service and distinguishes CF members from their civilian counterparts (DND, Canadian Military Doctrine, 2009, p. 4-5).

This is a commitment that requires the military member to go where and do what the government requires of him or her. It is obedience to lawful orders from the chain of command, even if those orders put the soldier in dangerous and lethal situations. Under this unlimited liability contract, the soldier gives up some individual rights, such as the right to withdraw his/her labor. Military members adapt collective standards that contribute to the common good and undertake to fight for a purpose in which they may have no personal interest (Holmes, 2005). Integral to the CF training and socialization process, and indeed to military culture itself, are the values of duty, loyalty, integrity and courage. A commitment to these values and to the organization is essential in order for the soldier to function effectively in a military environment.

Organizational Commitment Theory and Turnover

The development of organizational commitment (OC) has had three main influences: a) side-bet theory; b) psychological attachment; and c) the multi-dimensional approach, dominated by the three-component model of affective, continuance, and normative commitment (Cohen, 2007).

Side-bet theory. One of the earliest conceptualizations of OC was the side-bet theory (Becker, 1960). This theory posits that committed employees are committed because they have hidden or relatively hidden “side-bets” or investments they have made by staying with an organization. These side bets may include valued investments such as time invested, effort, money, pension, or prestige and they would be lost if the individual were to

leave the organization. The longer an employee remains in the job, the more difficult it is for them to leave and disengage from the consistent pattern of behaviors of belonging to the organization. Given the threat of losing their side-bets as well as a perceived lack of alternative investments to replace the lost ones, employees remain committed and stay with the organization. According to Becker's theory, these side-bets are the main explanatory factor of voluntary turnover. Later research operationalized the side-bet theory and measured commitment by evaluating the reasons an employee would leave the organization. Although the side-bet theory did not endure as the leading commitment theory, its tenets still remain in the multi-dimensional model of OC.

Psychological attachment. Porter, Steers, Mowday and Boulian (1974) advanced the approach of psychological attachment to the organization. Using Blau's 1964 social exchange theory, this attitudinal approach described commitment as a focused attitude, void of behavioral intention and defined it as "the relative strength of an individual's identification with and involvement in a particular organization" (Mowday, Steers, & Porter, 1979, p. 226). Social exchange theory posits that the voluntary actions of individuals are motivated by the returns they are expected to bring from others (Blau, 1964, as cited in Porter et al., 1974). Mowday et al. (1979) characterized commitment in the following dimensions: "a) a strong belief in and acceptance of the organization's goals and values; b) a willingness to exert considerable effort on behalf of the organization; and c) a strong desire to maintain membership in the organization" (p. 226). Based on this approach, the Organizational Commitment Questionnaire (OCQ) was developed along the three dimensions, however most researchers used it as a one-dimensional tool (Cohen, 2007). The OCQ was not without its critics. Claims were made that some of the scale items dealt with turnover or performance intentions, and that the statements were more in line with

behavioral intentions rather than attitudes (O'Reilly & Chatman, 1986). These criticisms gave rise to the need for a new model.

Three-Component Model. Meyer and Allen's (1984) seminal methodological study testing the side-bet theory resulted in the present dominant model of OC. There is relative agreement in the literature that OC is multi-dimensional (Allen, 2003), with three components (Allen & Meyer, 1990, 1996; Meyer & Allen, 1984, 1991, 1997), or psychological states, that bind an individual to an entity. Together they constitute the commitment an individual feels toward the organization. These psychological ties are affective commitment, continuance commitment, and normative commitment.

Affective Commitment. The first psychological tie is emotional attachment, based on a desire to belong to the organization. It is characterized by identification and involvement with the organization, and enjoyment in being a member (Meyer & Allen, 1997). This is the "want to" stay component, and has been labeled affective commitment (AC). It is the component most strongly related to the psychological attachment described by Porter et al. (1974). AC has been the most widely studied components of the model (Bergman, 2006) resulting in strong evidence for antecedents, correlates, effects, and cross-cultural generalizability (Meyer et al. 2002).

In the last comprehensive meta-analysis of antecedents and correlates of employee turnover more than a decade ago, Griffeth et al., (2000) found that organizational commitment predicted turnover at $-.23$. Consistent with previous research, it is expected that levels of affective commitment to the organization will negatively predict turnover intentions and turnover behavior. Specifically the following hypotheses are offered:

Hypothesis 1a: Affective Commitment will negatively predict Turnover Intentions.

Hypothesis 1b: Affective Commitment will negatively predict Voluntary Turnover.

Continuance Commitment. The second psychological tie is the perceived costs associated with leaving the organization, labeled continuance commitment (CC). It is based on a belief that leaving the organization would be too costly and it is most closely related to turnover and turnover intentions (Meyer et al., 2002). It is the “have to” stay component and is most closely associated with Becker’s (1960) side-bet theory. CC has been found to be strongest in employees who have few viable employment alternatives if they left the organization. It is also strong in employees who have made significant investment in skills and education not easily transferable to other organizations. Given that CC develops over a longer period of time after significant investment by the organizational member and the relatively short time frame of this study, CC will not be assessed or addressed in this study.

Normative Commitment. The final psychological tie is labeled normative commitment (NC) and is described as a sense or feeling of obligation to stay with the organization, or “ought to” stay. NC is the least studied of the three components (Allen, 2003; Bergman, 2006) with limited empirical evidence as to its development, but it has been found to be positively correlated with job performance, work attendance, and organizational citizenship, albeit to a lesser extent than AC (Meyer & Allen, 1997). Given that the sense of duty and moral obligation toward the organization is expected to be especially strong in a military environment, it is an ideal situation in which to study this commitment component. Gade (2003) noted that if NC cannot be demonstrated in military services, it is unlikely that it can be demonstrated anywhere.

Unlike the other commitment components which develop well after one joins the organization, theory suggests that normative commitment develops prior to organizational entry and during early newcomer socialization (Bergman, 2006; Cohen, 2007; Meyer &

Allen, 1997; Wiener, 1982;). It is influenced by familial, cultural, and organizational socialization experiences underlining loyalty and appropriateness of remaining in the organization. Based on this argument, the present study distinguishes between a pre-entry normative commitment which may be influenced by pre-entry factors such as family and culture and a post-entry normative commitment influenced by post-entry experiences such as socialization. In terms of post-entry factors, the individual may also feel an obligation to remain under a psychological contract (Rousseau, 1989, 1995) subjectively perceived to be in effect between employee and organization (Meyer, Allen, & Topolnytsky, 1998). In accordance with this prior research, the following hypotheses are proposed:

Hypothesis 2a: Post-Entry Normative Commitment will negatively predict Turnover Intentions.

Hypothesis 2b: Post-Entry Normative Commitment will negatively predict Voluntary Turnover.

The Affective-Normative Commitment Relationship

Theoretically, the three components of the model are distinct from one another (Meyer et al., 2002). AC, NC, and CC are different ways an employee bonds with the organization. There is sufficient literature to suggest that CC is distinct from the other two components (cf. Bergman, 2006), however AC and NC are not as clearly distinguishable. Confirmatory factor analysis has shown that AC and NC items load on different factors (Chen & Francesco, 2003; Meyer et al., 1993). However, the latent factors and scale scores have been found to be moderately to highly correlated (Allen & Meyer, 1990; Meyer et al., 2002).

Cohen (2007) noted several limitations to the three-component model, including the predictive ability and concept redundancy between normative and affective commitment.

He proposed investigating the AC-NC relationship within a new framework of organizational commitment. He posited that commitment is a process that unfolds over time, with time being a key element that creates two dimensions. The pre-entry process deals with the concept of commitment propensity prior to any socialization experiences, and the post-entry process is specific to actual commitment to the organization once already employed by the organization. He proposed that the reason the two concepts of AC and NC were so highly correlated was because NC should be examined prior to organizational entry, *not* after. In his model he argued that, what he calls commitment propensity, which is a general obligation to an organization, develops prior to organizational entry and reflects individual differences. This is supported by Bergman (2006) who agreed that NC develops prior to organizational entry through familial and cultural socialization processes. She proposed that, “NC develops before and precipitates AC” (p. 651). Given this prior literature, in the present study the concept of normative commitment is distinguished into two related constructs. It is considered as pre-entry normative commitment focusing on a more general pre-entry sense of obligation to any organization as well as a post-entry normative commitment developed after entry into the organization and specific to obligations to the current organization.

Cohen (2007) proposed that the original normative commitment scale developed by Meyer and Allen in 1990 should be employed as a measure of pre-entry normative commitment as its focus is general loyalty to an ambiguous organization, while the new 1993 revised normative commitment scale is more specific to a particular organization and reflects post-entry obligations.

In light of the aforementioned research and propositions, the following hypotheses are proposed regarding NC:

Hypothesis 3a: Pre-Entry Normative Commitment will positively predict Affective Commitment.

Hypothesis 3b: Pre-Entry Normative Commitment will positively predict Post-Entry Normative Commitment.

Commitment Propensity and Commitment

Given the above argument emphasizing that normative commitment may be better understood as a pre-entry commitment propensity, a more detailed discussion of the construct of commitment propensity is warranted. Cohen's (2007) argument is built on the concept that employees have a predisposed attitude towards commitment developed prior to and during the socialization process. The attitudes are influenced by personal values, beliefs, job expectations, and prior experiences.

The concept of commitment propensity was proposed by Mowday et al. (1982), integrating several variables thought to be involved in the entry process. It is defined as the "aggregation of specific personal characteristics and experiences, which individuals bring to the organization, such that a stable attachment to the organization more likely develops" (Lee, Ashford, Walsh, & Mowday, 1992, p. 17). Thus, higher levels of commitment propensity are expected to lead to higher levels of actual commitment after entry and lower levels of turnover. Commitment propensity integrates three components: a) personal characteristics, b) expectations about the organization, and c) choice factors in selecting the organization. Personal characteristics refer to the individual's desire to belong to the organization, knowledge of the organization, self-efficacy, and self-confidence. A strong desire for a career in the organization and more familiarity with core values of the organization should lead the individual to develop stronger OC.

Expectations about the organization should serve as a frame of reference for the newcomer in assessing his or her new experiences and lead to stronger OC. This claim is modestly supported with the realistic job preview (RJP) literature. Wanous (1992) argued that affective organizational commitment and job survival of newcomers could be increased by utilizing realistic job previews that depict both the positive and negative characteristics of the employment. Meyer and Allen (1997) outline the theoretical explanations for why RJP may influence OC. Firstly, applicants are better able to establish if the organization meets their needs if RJP are provided and subsequently decide to accept job offers. Secondly, RJP should work to lower applicants' expectations prior to organization entry. With lower expectations, it is less likely that the newcomer will be disappointed after organizational entry. Thirdly, with the provision of the negative aspects of the job, newcomers should be better prepared to face and cope with the challenges and problems. Finally, by being aware of the positive and negative facets of employment, applicants should appreciate the decision they make in accepting or rejecting the job offer. Those who freely decide to enter the organization are likely to be more committed to the decision.

In a sample of 840 new US Air Force cadets entering the Air Force Academy, Lee et al., (1992) examined the relationship between commitment propensity, OC, and voluntary turnover over a four-year period using a longitudinal design. As hypothesized, the authors found that commitment propensity measured prior to organizational entry was positively related to initial and subsequent organizational commitment. The authors noted that individuals with high commitment propensity appeared to be predisposed to view their environment more favorably than those with low commitment propensity. They also found that those who were one standard deviation above the mean on initial commitment had a 66% decrease in probability of voluntary turnover later in time.

Unfortunately, it is unclear from the above study exactly which component of commitment propensity was responsible for the correlation with OC (Meyer & Allen, 1997). To this end the current study shall specifically examine: a) personal characteristics, specifically recruits' previous experience and desire for CF career; b) pre-entry expectations; and c) organizational choice variables such as volition and irrevocability, in order to empirically determine which commitment propensity facets correlate with affective commitment. In light of the presently high attrition rates, the possibility that applicants may be selected based upon their propensity to become committed to the organization is an appealing one. Therefore, the following hypotheses are posed:

Hypothesis 4: The CF Commitment Propensity facets of Desire for Military Career, Expectations, Familiarity with Military, Sacrifice, and Volition will positively predict Affective Commitment.

Hypothesis 5a: CF Commitment Propensity will negatively predict Turnover Intentions.

Hypothesis 5b: CF Commitment Propensity will negatively predict Voluntary Turnover.

Given the apparent closeness of the two constructs of CF Commitment Propensity and Pre-Entry Normative Commitment, the present study will attempt to extend the above findings with the following research question:

Research Question 1: Will either Pre-Entry Normative Commitment or CF Commitment Propensity account for unique variance over and above the other in predicting Affective Commitment?

Basic Training and Newcomer Adjustment

Organizational culture is the deep-rooted values and assumptions shared by members of an organization. The military, in particular, has a very strong and specific organizational culture that distinguishes it from civilian organizations. Organizational socialization (OS) is the process by which newcomers make the transition from being outsiders to becoming insiders to the organization (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007) and become part of the culture. The socialization experience provides guidance to the newcomer about the appropriateness of specific attitudes and behaviors. Through the complex processes of conditioning and modeling individuals learn what is expected of them (Meyer & Allen, 1997). OS encourages the development of new skills, knowledge, abilities, attitudes, values, and new sense-making in newcomers (cf. Cooper-Thomas & Anderson, 2005).

Socialization is a vital component in military service, especially during the early stages of organizational entry. Each new member undergoes a series of socialization processes in the form of training courses beginning with basic training. These socialization processes are designed to teach the new recruit the core military values of duty, loyalty, integrity, and courage, and outline the behaviors and attitudes expected of them. During the period of organizational entry, newcomers are thought to form or fail to form an attachment to the organization (Mowday, Porter, & Steers, 1982). Several studies have demonstrated a clear link between socialization experiences and commitment (Allen & Meyer, 1990; Ashford & Saks, 1996; Meyer & Allen, 1987).

Newcomer adjustment is the result of the socialization process. It measures the extent to which the individual accepts organizational goals and values and successfully navigates new tasks and the social transition (cf. Haueter, Macan, & Winter, 2003).

Effectively, newcomer adjustment speaks to the success of the socialization process. For new recruits, the culture shock and social transition requirements can be quite challenging. By measuring their relative newcomer adjustment (i.e. how they are dealing with the demands of the training and socialization tactics) it will be possible to infer the effectiveness of the socialization process.

Some of the most consistently measured dimensions of organizational socialization in the literature are job task, interpersonal interactions, and the rewards system, such as pay and promotion (Taormina, 2004). Taormina (1997; 2004) developed the Organization Socialization Inventory (OSI), a 20-item questionnaire with four dimensions: a) training – how well the organization prepares the newcomer to perform the job; b) understanding – how well the newcomer understands the organizational functions and how to operate within the organization; c) co-worker support – how the newcomer relates to others in the organization; and d) future prospects – the newcomer's long-term prospects with the organization and expected continued membership. As these dimensions are very generic and designed to fit most types of organizations, the OSI should be transferable for use with a military recruit sample. A close examination of the scale items reveals an affective quality to the dimensions measured by this scale. Another relevant scale, the organizational socialization dimension of the Newcomer Socialization Questionnaire (OSQ; Haueter et al., 2003) provides a more cognitive perspective to the newcomer adjustment dimensions. As these measures appear to measure distinct types of newcomer adjustment, affective and cognitive aspects, both scales were employed in the study in order to fully capture the adjustment domains.

OC is a desired outcome of the socialization process, a process whose success can be gauged by the extent to which newcomers adjust to organizational goals and values.

Socialization tactics and newcomers' early work experiences have been found to predict OC and turnover (Allen & Meyer, 1990; Ashford & Saks, 1996; Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007). As socialization and training help build employees' initial predisposition for OC and given the above arguments, it is expected that:

Hypothesis 6: Newcomer Adjustment (affective and cognitive) will positively predict Affective Commitment.

Hypothesis 7: Newcomer Adjustment (affective and cognitive) will positively predict Post-Entry Normative Commitment.

Hypothesis 8a: Newcomer Adjustment (affective and cognitive) will negatively predict Turnover Intentions.

Hypothesis 8b: Newcomer Adjustment (affective and cognitive) will negatively predict Voluntary Turnover.

Mental Toughness, Commitment, and Turnover

It is believed that personal characteristics such as values, beliefs, and personality can differentially influence newcomer adjustment and OC (Cohen, 2007). It has also been suggested that personal characteristics may affect newcomers' desire to be socialized to organizational values and attitudes (Fisher, 1986), although there has not been any published research to this effect (cf. Cooper-Thomas & Anderson, 2005). Newcomers enter an organization with already formed characteristics, personality traits, beliefs and values that may be difficult to change. Cohen (2006) found a strong relationship between socialized personal cultural values and commitment, supporting the idea that individuals will respond differently to various socialization processes based on their own individual differences.

One such individual difference may include the level of mental toughness an individual possesses. Mental toughness is a relatively common concept in the sports psychology literature and is particularly popular with elite and professional athletes and coaches (Crust, 2007). The main underlying premise of the construct is to differentiate those who deal with stressful situations and are capable of exceptional performance in those circumstances, such as Olympic athletes, from those who cannot deal with such pressures. Its relationship with performance is sparking interest in a variety of research domains including organizational and personality psychology (Horsburgh, Schermer, Veselka, & Vernon, 2009; Marchant, Polman, Clough, Jackson, Levy, & Nicholls, 2009). A recent review has also called for its expansion into domains other than sports, such as the military (Crust, 2007).

Although there is still relative disagreement on the conceptualization of mental toughness, there has been considerable advancement in the areas of conceptual clarity and measurement in the last decade (Jones, Hanton, & Connaughton, 2002). In an effort to bridge the gap between theoretical research and the applied practice of mental toughness, Clough, Earle, and Sewell (2002) used the theoretical work of Kobasa (1979) and Kobasa, Maddi, and Khan (1982) on the hardiness personality as a theoretical foundation for mental toughness.

Hardiness is defined as a “set of personal characteristics that helps people turn stressful circumstances from potential disasters to opportunities for enhanced performance” (Maddi, 2007, p. 61). Over 600 studies have been conducted on hardiness worldwide with findings connecting hardiness to performance, leadership, conduct, and health using such diverse samples as bus drivers, firefighters, lawyers, nurses, undergraduates, and military personnel (cf. Maddi, 2007). Westman (1990) found that hardiness predicted successful

graduation from officer training in Israeli military recruits. Maddi, Harvey, Ressureccion, Giatras and Raganold (2007) found that hardiness predicted performance and training completion success rate in firefighter applicants (cf. Maddi, 2007). Maddi (2002) found positive relationships between hardiness and hardy actions such as coping with stress by problem solving, giving and getting assistance and encouragement, and engaging in effective self-care such as proper nutrition, exercise, and relaxation. In a study on war-related stress in 389 army reservists, Bartone (1999) reported that hardiness was a significant predictor of health and interacted with combat stress to predict fewer health symptoms under high stress conditions. In a study of public accountants, Law (2005) also found hardiness to be positively correlated with affective commitment and inversely correlated with intent to turnover.

Fourie and Polgieler (2001) reported hardiness as a sub-component of mental toughness as both are characterized by perseverance, resiliency, effective coping, intrinsic motives for achievement, and a sense of purpose. In addition to the hardiness components of commitment, control, and challenge, mental toughness has the additional dimension of confidence (Clough et al., 2002). Mental toughness is described as a trait-like personality dimension comprised of a “4C” model. The first 3C’s come from Kobasa’s (1979) model of hardiness (control, commitment and challenge), with confidence added as the fourth “C”. *Control* is the predisposition to feel and act in an influential manner. It provides the cognitive ability to “incorporate stressful events into an ongoing life plan using knowledge, skill, and choice” (p. 35) to influence how situations are perceived. When faced with stressful situations, the individual can choose the most appropriate course of action and transform the threatening situation into something more acceptable. *Commitment* is the tendency to become involved in a situation, rather than become alienated from it. Through

cognitive appraisal, the individual is able to identify and give meaning to a new situation and makes the person more proactive rather than passive. *Challenge* is the belief that change is normal in life and to view this as an opportunity to grow rather than as a threat. *Confidence* speaks to the individual's high sense of belief in ability to achieve success and an unshakable faith that they control their own destiny. Confidence can be an important aspect to success on military training, given the divestiture tactics employed to build group cohesion and teamwork.

Clough, Earle, and Sewell (2002) found that performance on a cognitive planning task was influenced by levels of mental toughness. They manipulated positive and negative feedback conditions and found that those high in mental toughness performed well regardless of feedback, while those low in mental toughness had poorer performance. There is also evidence that mental toughness is related to pain tolerance (Crust & Clough, 2005). This study found that higher scores of mental toughness predicted a higher tolerance for a physical endurance task.

In a study of organizational commitment, hardiness, and turnover Law (2005) found a positive correlation between affective commitment and hardiness, suggesting that hardiness may be an important individual characteristic that assists an organizational member to adapt to and embrace a unique work culture and environment. Furthermore, Meyer et al., (2002) reported meta-analytic findings of a weak positive relationship between self-efficacy and affective commitment, and a moderate negative relationship between external locus of control (LOC) and affective commitment. As mental toughness has elements of both self-efficacy and LOC, it is reasonable to propose that mental toughness and affective commitment may be related.

Given the physically and mentally demanding aspects of basic recruit training, mental toughness is expected to capture and differentiate between recruits' personal characteristics with respect to responses to intense physical and mental stressors, and may be beneficial to the prediction of voluntary attrition from basic training. With ties to the hardiness construct, mental toughness has shown to be related to performance under stress, coping, and physical endurance, rendering it a promising measure for military recruits undergoing basic training. Given the above findings, it is proposed that:

Hypothesis 9: Mental Toughness will positively predict Affective Commitment.

Hypothesis 10a: Mental Toughness will negatively predict Turnover Intentions.

Hypothesis 10b: Mental Toughness will negatively predict Voluntary Turnover.

Research Question 2: Is Mental Toughness related to Newcomer Adjustment (affective and cognitive)?

Turnover Intentions and Turnover

Intentions to quit are seen as the culmination of the decision process concerning voluntarily leaving the organization and correspond to the transitional link between thought processes and behavioral action (Mobley, 1977; Vandenberg & Nelson, 1999). Numerous turnover literature reviews and meta-analyses have confirmed that quit intentions are superior predictors of turnover to any attitudinal variables (Griffeth et al., 2000; Steel & Griffeth, 1989; Steel & Lounsbury, 2009; Van Breukenlen, Van Der Vlist, & Steensma, 2004). However, it is suggested that the intentions-turnover relationship differs based on circumstances and populations (Allen, Weeks, Moffitt, 2005). As such, an investigation of the relationship between turnover intentions and voluntary turnover in CF recruits undergoing basic training socialization processes may prove useful. Based on previous

research findings, it is expected that:

Hypothesis 11: Turnover Intentions will positively predict Voluntary Turnover.

CHAPTER TWO: METHOD

Participants and Procedures

A longitudinal study was conducted with 815 new military recruits at the Canadian Forces Leadership and Recruit School (CFLRS) undergoing basic training. The sample consisted of Non-Commissioned Members (NCMs) only, 741 Males (91%) and 74 Females (9%) with an average age of 24. Eighty-four percent of the participants were Single, 9% were Married and 6%, unknown. The majority of participants (94%) had a high school education and 4% had a post secondary education. 65% of recruits were in Army occupations, 23% were in the Navy, and 12% were in the Air Force. A total of 35 recruits voluntarily turned over, 31 involuntarily turned over, and 158 were unsuccessful in their first attempt of basic training and were required to repeat basic training.

Recruit training is a 13 – week intensive training and socialization program with high levels of physical and mental challenge designed to teach new recruits basic military procedures and values. Ethics approval from the University of Calgary and the Canadian Forces Social Science Research Review Board were sought and granted for the administration of the multiple surveys to CF recruits (refer to Appendices B and C).

Participants were recruited on day 1 of training by the researcher or an administrative delegate and those volunteering for the study signed an informed consent form detailing the study process and requirements. Participants from 12 course serials completed the computerized questionnaires at Time 1 (T1: Day 1 of training), Time 2 (T2: Week 4.5) and Time 3 (T3: Week 12.5). A total of 815 participants completed the T1 survey, 565 completed the survey at T2, and 347 completed the T3 survey. In order to track the participants across administrations, participants reported their service numbers on at the start of each survey session. The service number allowed the gathering of relevant turnover

and demographic data from the personnel records without requiring participants to report it on the surveys, thus incorporating an additional level of confidentiality for the recruits and their data. Once all the data was gathered, unique identifiers were assigned to the participants' service number and they were removed from the data set.

Measures

Responses to all measurement items were on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating higher levels of the construct of interest. Appendices D and E contain the survey introduction page and all scale items.

Pre-Entry Normative Commitment. This was measured at T1. The original normative commitment scale developed by Meyer and Allen (1991) which referenced general organizational loyalty (i.e. not specific to any one organization), less one item that did not correspond to attitudes prior to entry, was used to measure pre-entry normative commitment as suggested by Cohen (2007). Higher scores indicated higher levels of pre-entry normative commitment. An example item includes, "I think that people these days move from company to company too often." This measurement had an alpha reliability of 0.62 in the present study.

CF Commitment Propensity. This was measured at T1 using a scale by Lee et al., (1992) that was adapted for the purposes of this study specifically focusing on commitment propensity to the CF. The commitment propensity measure consists of three components, personal characteristics, expectations, and organizational choice factors. Personal characteristics were measured with: a) desire for a CF career (8 items) (e.g. "I have a strong desire to be a soldier, sailor, or airman/airwoman"; and b) familiarity with the CF (4 items) (e.g. "How much do you know about the military lifestyle?"). Expectations were measured

with 3 items (e.g. “I think I have a good idea about what the military is really like”).

Organizational choice was measured with: a) volition of choice (5 items) (e.g. “I always carefully weigh costs and benefits when making decisions that affect my life”; and b) sacrifice in choice (6 items) (e.g. “I turned down other job offers to enroll in the CF”).

Higher scores indicate higher levels of commitment propensity. In the current study, this measurement had an alpha reliability of 0.77.

Mental Toughness. This was measured at T1 and assesses the personal characteristics of confidence, commitment, challenge, and control. Clough et al. (2002) used the hardiness and sports psychology literature, opinions of athletes, coaches, and sport psychology practitioners to develop a 48-item mental toughness questionnaire (MT-48) and concurrently an abridged 18-item questionnaire (MT-18). The MT-48 provides a score on each of the four sub-scales as well as an overall score, while the MT-18 provides an overall score. The two questionnaires are correlated at 0.87. Construct validity of the MT-48 has been established with significant correlations with optimism, self-image, life-satisfaction, self-efficacy, and stability. In order to keep the length of the surveys to an acceptable length and to avoid survey fatigue, the shorter MT-18 survey was used. An example includes, “Even when under considerable pressure I usually remain calm.” Higher scores indicate higher levels of mental toughness. The alpha coefficient is reported at 0.83 in this study.

Affective Commitment. This construct was measured at T2 and T3 to capture recruits prior to departure if they chose to leave after the mandatory five weeks. Affective commitment was measured with items from this component of Meyer, Allen, and Smith’s (1993) model. Higher scores indicate higher levels of commitment. A sample item is, “I really feel as if the CF’s problems are my own”. The scale’s alpha is reported at 0.82 for T2 and at .80 for T3 in the present study.

Post-Entry Normative Commitment. This construct was also measured at T2 and T3 with the items from this component of Meyer, Allen, and Smith's (1993) model which relates to loyalty and obligation to a specific organization, namely to the CF in the present study. Thus, the measure is comprised of items different from those in the Pre-Entry Normative Commitment scale. Higher scores indicate higher levels of post-entry normative commitment. A sample item is, "Even if it were to my advantage, I do not feel it would be right to leave the CF now". The scale's alpha is reported at 0.82 at T2 and at .80 at T3 in the current research.

Newcomer Adjustment (Affective). This measure of newcomer adjustment (affective) was administered at T2 and T3. The Organizational Socialization Inventory (OSI; Taormina, 2004) consists of 20 items with higher scores indicating higher levels of socialization success and affective newcomer adjustment. Dimensions on the scale measured with five items each include a) training, "The CF has provided excellent training for me"; b) understanding, "I have a full understanding of my duties in the CF"; c) co-worker support, "My peers and trainers have done a great deal to help me adjust to the CF; and d) future prospects, "There are many chances for a good career in the CF". The alpha coefficient for the OSI was 0.93 for T2 and T3 for the overall scale.

Newcomer Adjustment (Cognitive). This measure of newcomer socialization (cognitive) was also administered at T2 and T3. The Newcomer Socialization Questionnaire (NSQ; Haueter, et al., 2003) has items that may prove useful in terms of information received during the recruiting process and further captures the knowledge domain with more detailed items. It reflects the cognitive components of newcomer adjustment, for example, "I understand how to act to fit in with what the CF values and believes." The organizational socialization subscale consists of 11 items with higher scores

indicating higher levels of organizational socialization and cognitive newcomer adjustment. In the present study the alpha coefficient reported at 0.89 at T2 and at .91 at T3.

Turnover Intentions. A measure of turnover intentions developed specifically for the CF was employed at T2 and T3 of the study. A five-item measure with an alpha coefficient of .90 for T2 and .91 for T3 for the present study, included items such as, “I intend to leave the CF as soon as another job becomes available,” “I intend to leave the CF as soon as I complete Basic Training,” and “I intend to stay in the CF as long as I can.”

Voluntary Turnover. Actual voluntary turnover behavior was captured at the end of each course serial from official personnel records with a clear distinction between voluntary turnover and involuntary turnover. Only voluntary turnover data was used in the present study.

Demographics. The demographic variables of gender, age, and marital status were collected from personnel records.

CHAPTER THREE: RESULTS

The means and standard deviations of all variables are presented in Table 1. Correlations among all the study variables are presented at Table 2. Hierarchical multiple and logistic regression analyses results are presented in Tables 3-7. A summary of hypotheses results is found at Table 8.

Demographic Controls. Examinations for possible significant relationships between the variables of Gender, Age, and Marital Status and the study variables were conducted. Given the large number of analyses carried out, a more conservative p value of .01 was used. Significant Gender differences were found for several variables, therefore statistical control for Gender was carried out in each analysis. For all hierarchical models the variables of interest were tested in a second step after controlling for Gender, and so the change in the relevant statistic is reported and presented in Tables 3-7. A case-wise deletion process was used in each analysis to handle missing cases.

Hypothesis Testing

H1: Affective Commitment and Turnover. As hypothesized (H1a), Affective Commitment (T2) negatively predicted Turnover Intentions (T2 and T3) in CF recruits. A hierarchical multiple regression was employed and Affective Commitment accounted for an additional 38% of variance above Gender in Turnover Intentions at T2, $\Delta R^2 = .38$, $F(1, 553) = 357.20$, $p < .001$, and 19% at T3, $\Delta R^2 = .19$, $F(1, 330) = 76.03$, $p < .001$.

Hypothesis 1b held that Affective Commitment (T2) would negatively predict Voluntary Turnover and was supported. A hierarchical logistic regression analysis was performed and results showed that this model was significantly better at predicting Voluntary Turnover than a constant and gender model $\Delta\chi^2(1, N = 565) = 21.25$, $p < .001$. Higher scores on Affective Commitment were negatively related to Voluntary Turnover (b

= -1.47, S.E. = .32, Wald = 20.84, $p < .001$). The odds ratio indicated that for every one unit increase in Affective Commitment, recruits were 4.31 times less likely to voluntarily turnover.

H2: Post-Entry Normative Commitment and Turnover. In Hypothesis 2a, it was suggested that Post-Entry Normative Commitment would negatively predict Turnover Intentions at T2 and T3. This hypothesis was supported. Based upon results from a multiple hierarchical regression, Post-Entry Normative Commitment accounted for an additional 28% of variance above Gender in Turnover Intentions at T2, $\Delta R^2 = .28$, $F(1, 561) = 227.03$, $p < .001$, and 12% of additional variance at T3, $\Delta R^2 = .12$, $F(1, 333) = 45.75$, $p < .001$.

As hypothesized (H2b), Post-Entry Normative Commitment negatively predicted Voluntary Turnover, and results from a hierarchical logistic regression analysis provided support. The model including Post-Entry Normative Commitment was significantly better at predicting Voluntary Turnover than the constant and gender model, $\Delta\chi^2(1, N = 565) = 20.31$, $p < .001$ ($b = -1.19$, S.E. = .27, Wald = 20.16, $p < .001$). With each one unit increase in Post-Entry Normative Commitment, recruits were 3.29 time less likely to voluntarily turn over.

H3: Pre-Entry Normative, Affective, and Post-Entry Normative Commitment.

As hypothesized (H3a), a hierarchical multiple regression confirmed that Pre-Entry Normative Commitment (T1) positively predicted Affective Commitment (T2 and T3). Pre-Entry Normative Commitment accounted for 11% of variance in Affective Commitment, $\Delta R^2 = .11$, $F(1, 534) = 69.13$, $p < .001$. Pre-Entry Normative Commitment continued to significantly predict Affective Commitment at T3, accounting for 9% of variance in the criterion, $\Delta R^2 = .09$, $F(1, 343) = 32.19$, $p < .001$.

Hypothesis 3b proposed that Pre-Entry Normative Commitment (T1) would positively predict Post-Entry Normative Commitment (T2 and T3). The results supported Hypothesis 3b. Pre-Entry Normative Commitment accounted for 11% of variance in Post-Entry Normative Commitment measured at T2, $\Delta R^2 = .11, p < .001, F(1, 543) = 66.59, p < .001$. Pre-Entry Normative Commitment also significantly predicted Post-Entry Normative Commitment measured at T3 accounting for 11% of variance, $\Delta R^2 = .11, F(1, 338) = 40.65, p < .001$. In light of the above results as well as the results from H1a and H2a, post hoc analyses were carried out to investigate if Pre-Entry Normative Commitment would negatively predict Turnover Intentions. A hierarchical multiple regression analysis was used and results showed that Pre-Entry Normative Commitment was able to negatively predict Turnover Intentions, accounting for 6% of variance, $\Delta R^2 = .06, F(1, 538) = 33.49, p < .001$.

H4: Commitment Propensity (CP) and Affective Commitment. In Hypothesis 4 it was anticipated that the CP facets of Desire for Military Career, Expectations, Familiarity with Military, Sacrifice, and Volition would positively predict Affective Commitment at T2 and T3. Results provided partial support for this hypothesis. Hierarchical multiple regression analyses showed that together, Desire for Military Career, Expectations, Familiarity with Military, Sacrifice, and Volition accounted for 34% of the variance in Affective Commitment, $\Delta R^2 = .34, p < .001, F(5, 511) = 54.52, p < .001$. Desire for Military Career ($b = .43, SE = .03, t(511) = 12.82, p < .001$), Expectations ($b = .09, SE = .03, t(511) = 2.74, p < .01$), and Familiarity with Military ($b = .06, t(511) = 2.13, p < .05$) accounted for significant unique variance over and above the other facets, while Sacrifice ($b = .05, SE = .04, t(511) = 1.21, p = .23$) and Volition ($b = .05, SE = .03, t(511) = 1.53, p = .132$) did not. For Affective Commitment measured at T3, CP accounted for 28% of

variance in Affective Commitment, $\Delta R^2 = .28$, $F(5, 322) = 25.35$, $p < .001$, with only Desire for Military Career providing unique significant variance over and above the other facets ($b = .42$, $SE = .05$, $t(332) = 9.06$, $p < .001$).

Given the results found in H4, post hoc hierarchical multiple regression analyses were run to assess if Desire for Military Career (T1) predicted Affective Newcomer Adjustment at T2. Results showed that Desire for Military Career accounted for 19% of variance in Affective Newcomer Adjustment, $\Delta R^2 = .19$, $F(1, 515) = 117.90$, $p < .001$, ($b = .32$, $SE = .03$, $t(515) = 10.86$, $p < .001$).

H5: Commitment Propensity and Turnover. Consistent with Hypothesis 5a, CP (T1) negatively predicted Turnover Intentions (T2) and (T3). Results showed that CP accounted for 22% of variance at T2, $\Delta R^2 = .22$, $F(5, 515) = 29.31$, $p < .001$ and 18% at T3, $\Delta R^2 = .18$, $F(5, 330) = 14.50$, $p < .001$. Only Desire for Military Career was a significant unique predictor at T2 ($b = -.50$, $SE = .05$, $t(515) = 10.93$, $p < .001$) and T3 ($b = -.52$, $SE = .07$, $t(330) = -7.72$, $p < .001$).

It was proposed (H5b) that Commitment Propensity would negatively predict Voluntary Turnover. This hypothesis was not supported using a hierarchical logistic regression analysis. Results showed that this model did not significantly predict Voluntary Turnover $\Delta\chi^2(5, N = 724) = 10.45$, $p = .06$. However, results did approach significance in the expected direction. Given the results obtained in Hypothesis 5a suggesting Desire for Military Career as the only significant predictor, a post hoc analysis was conducted using only Desire for Military Career as a predictor of Voluntary Turnover. A hierarchical logistic regression analysis revealed that Desire for Military Career did significantly predict Voluntary Turnover, $\Delta\chi^2(1, N = 742) = 5.56$, $p < .05$. A one unit increase in Desire for

Military Career corresponded with a 1.82 times decrease in probability of voluntary turnover.

RQ1: Pre-Entry Normative Commitment, Commitment Propensity, and Affective Commitment. Hierarchical multiple regression analyses were conducted to investigate Research Question 1. Results showed that Commitment Propensity accounted for unique variance over and above Pre-Entry Normative Commitment in predicting Affective Commitment at T2, $\Delta R^2 = .25$, $F(5, 507) = 39.76$, $p < .001$. Specifically Desire for Military Career ($b = .40$, $SE = .04$, $t(507) = 10.62$, $p < .001$), Expectations ($b = .09$, $SE = .03$, $t(507) = 2.67$, $p < .01$), and Familiarity with Military ($b = .06$, $SE = .03$, $t(507) = 2.25$, $p < .05$) accounted for unique variance, while Sacrifice and Volition were not significant unique predictors ($b = .04$, $SE = .04$, $t(507) = 1.08$, $p = .28$ and $b = .05$, $SE = .03$, $t(507) = 1.51$, $p = .13$).

Pre-Entry Normative Commitment accounted for less than one percent of additional variance over and above Commitment Propensity in predicting Affective Commitment at T2, $\Delta R^2 = .01$, $F(1, 507) = 4.70$, $p < .05$.

H6: Affective and Cognitive Newcomer Adjustment and Affective Commitment. Hypothesis 6 anticipated that Affective and Cognitive Newcomer Adjustment would positively predict Affective Commitment at T2 and T3. Results from a hierarchical multiple regression analyses provided support for Hypothesis 6. Affective and Cognitive Newcomer Adjustment accounted for 49% of the variance in Affective Commitment at T2, $\Delta R^2 = .49$, $F(2, 537) = 258.19$, $p < .001$, $b = .77$, $SE = .05$, $t(537) = 15.15$, $p < .01$, and $b = .12$, $SE = .05$, $t(537) = 2.18$, $p < .05$), respectively. Affective and Cognitive Newcomer Adjustment continued to predicted Affective Commitment at T3,

accounting for 31% of its variance, $\Delta R^2 = .31$, $F(2, 326) = 74.02$, $p < .001$, $b = .51$, $SE = .07$, $t(326) = 7.07$, $p < .001$, and $b = .20$, $SE = .08$, $t(326) = 2.64$, $p < .01$), respectively.

H7: Affective and Cognitive Newcomer Adjustment and Normative

Commitment. Hypothesis 7 suggested that Affective and Cognitive Adjustment measured at T2 would positively predict Post-Entry Normative Commitment measured at T2 and T3. Results provided partial support for Hypothesis 7. Using hierarchical multiple regression analyses, Affective and Cognitive Newcomer Adjustment measured at T2 accounted for 30% of the variance in Post-Entry Normative Commitment, $\Delta R^2 = .30$, $F(2, 542) = 115.48$, $p < .001$, with unique variance accounted for by Affective Newcomer Adjustment ($b = .75$, $SE = .07$, $t(542) = 10.86$, $p < .001$). Cognitive Newcomer Adjustment did not significantly predict Post-Entry Normative Commitment above and beyond Affective Newcomer Adjustment ($b = .03$, $SE = .07$, $t(542) = .47$, $p = .64$).

Time 2 Affective and Cognitive Newcomer Adjustment also significantly predicted Post-Entry Normative Commitment measured at T3 accounting for 25% of its variance, $\Delta R^2 = .25$, $p < F(2, 322) = 52.72$, $p < .001$, with both Affective and Cognitive Newcomer Adjustment significantly accounting for unique variance over the other ($b = .52$, $SE = .10$, $t(322) = 5.43$, $p < .001$) and $b = .27$, $SE = .10$, $t(322) = 2.70$, $p < .01$, respectively).

H8: Affective and Cognitive Newcomer Adjustment and Turnover. Hypothesis 8a proposed that Affective and Cognitive Newcomer Adjustment would negatively predict Turnover Intentions at T2 and T3. Results partially supported this hypothesis. Hierarchical multiple regression analyses revealed that Affective and Cognitive Newcomer Adjustment accounted for 33% of variance in Turnover Intentions (T2), $\Delta R^2 = .33$, $F(2, 542) = 139.46$, $p < .001$, with significant unique variance accounted for by Affective Newcomer Adjustment ($b = -.89$, $SE = .07$, $t(545) = -12.85$, $p < .001$). Cognitive Newcomer

Adjustment did not contribute as a unique predictor, $b = .07$, $SE = .07$, $t(545) = .98$, $p = .33$.

Similar results were obtained with Turnover Intentions at T3. Together, Affective and Cognitive Newcomer Adjustment accounted for 13% of variance, $\Delta R^2 = .15$, $F(2, 323) = 24.90$, $p < .001$. Only Affective Newcomer Adjustment accounted for unique variance ($b = -.50$, $SE = .11$, $t(323) = -4.43$, $p < .001$) while Cognitive Newcomer Adjustment did not, $b = -.07$, $SE = .12$, $t(323) = -.96$, $p = .34$.

It was hypothesized (H8b) that Affective and Cognitive Newcomer Adjustment would negatively predict Voluntary Turnover. This hypothesis was partially supported with significant results found for Affective Newcomer Adjustment only. Separate hierarchical logistic regression analyses were performed on each variable to assess the predictive ability of Affective and Cognitive Newcomer Adjustment on Voluntary Turnover. Results indicated that Affective Newcomer Adjustment significantly predicted Voluntary Turnover, $\Delta\chi^2(1, N = 550) = 4.19$, $p < .05$; $b = -.81$, $Wald = 4.35$, $p < .05$). With each unit increase in Affective Newcomer Adjustment, recruits were 2.24 times less likely to voluntarily turnover. Cognitive Newcomer Adjustment was not a significant predictor of Voluntary Turnover, $\Delta\chi^2(1, N = 550) = 1.93$, $p = .17$ ($b = -.58$, $SE = .42$, $Wald = 1.94$, $p = .16$).

H9: Mental Toughness and Affective Commitment. As hypothesized (H9), Mental Toughness measured at T1 positively predicted Affective Commitment measured at T2 and T3. Hierarchical multiple regression analyses showed Mental Toughness significantly predicted Affective Commitment with 13% of the variance in T2 Affective Commitment, $\Delta R^2 = .13$, $F(1, 530) = 82.66$, $p < .001$, ($b = .47$, $SE = .05$, $t(530) = 9.09$, $p < .001$) and 9% of the variance in T3 Affective Commitment, $\Delta R^2 = .09$, $F(1, 342) = 32.08$, $p < .001$, ($b = .36$, $SE = .06$, $t(342) = 5.67$, $p < .001$).

H10: Mental Toughness and Turnover. In Hypothesis 10a, it was suggested that Mental Toughness would negatively predict Turnover Intentions at T2 and T3 and the results support this hypothesis. Hierarchical multiple regression analyses were run. Mental Toughness accounted for 7% of the variance in Turnover Intentions at T2, $\Delta R^2 = .07$, $F(1, 534) = 37.85$, $p < .001$, ($b = -.40$, $SE = .07$, $t(534) = -6.15$, $p < .001$) and 3% of variance at T3, $\Delta R^2 = .03$, $F(1, 339) = 8.88$, $p < .01$, ($b = -.27$, $SE = .09$, $t(339) = -2.98$, $p < .01$).

Hypothesis 10b proposed that Mental Toughness would predict Voluntary Turnover. This hypothesis was not supported: $\Delta\chi^2(1, N = 743) = 2.78$, $p < .10$ ($b = -.58$, $SE = .34$, $Wald = 2.84$, $p = .09$). Although not significant at the $p < .05$ level, this result is marginally significant and in the hypothesized direction.

RQ2: Mental Toughness and Affective and Cognitive Newcomer Adjustment. Hierarchical multiple regression analyses were conducted to test Research Question 2. Results indicated that Mental Toughness measured at T1 significantly accounted for 14% of the variance in T2 Affective Newcomer Adjustment. $\Delta R^2 = .14$, $F(1, 516) = 81.21$, $p < .001$, $b = .39$, $SE = .04$, $t(516) = 9.01$, $p < .001$ and 10 % of the variance in T2 Cognitive Newcomer Adjustment $\Delta R^2 = .10$, $F(1, 540) = 57.10$, $p < .001$, $b = .32$, $SE = .04$, $t(540) = 7.56$, $p < .001$.

T1 Mental Toughness continued to predicted 7% of T3 Affective Newcomer Adjustment variance, $\Delta R^2 = .07$, $F(1, 336) = 23.57$, $p < .001$ ($b = .29$, $SE = .06$, $t(336) = 4.85$, $p < .001$) and 8% of Cognitive Newcomer Adjustment variance, $\Delta R^2 = .08$, $F(1, 336) = 28.80$, $p < .001$ ($b = .31$, $SE = .06$, $t(336) = 5.37$, $p < .001$).

H11: Turnover Intentions and Voluntary Turnover Behavior. Hypothesis 11 proposed that Turnover Intentions (T2) would positively predict Voluntary Turnover. A hierarchical logistic regression analysis provided support for this hypothesis. $\Delta\chi^2(1, N =$

568) = 35.20, $p < .001$ ($b = 1.47$, $SE = .42$, $Wald = 31.44$ $p < .001$). A one unit increase in Turnover Intentions was related to a 4.36 times increase in the likelihood of recruit voluntary turnover.

Table 1 Means, Standard Deviations for T1, T2, and T3 Variables

Variable	<i>N</i>	Mean	<i>SD</i>
1. Age	815	24	5.93
2. Commitment Propensity T1	752	3.45	.44
3. Mental Toughness T1	743	3.54	.48
4. Pre-Entry Normative Commitment T1	747	3.86	.55
5. Affective Commitment T2	556	3.80	.60
6. Affective Newcomer Adjustment T2	550	3.95	.50
7. Cognitive Newcomer Adjustment T2	574	3.92	.49
8. Post-Entry Normative Commitment T2	574	3.43	.55
9. Turnover Intentions T2	564	1.73	.74
10. Affective Commitment T3	361	3.85	.55
11. Affective Newcomer Adjustment T3	354	3.95	.51
12. Cognitive Newcomer Adjustment T3	355	3.92	.49
13. Post-Entry Normative Commitment T3	356	3.74	.68
14. Turnover Intentions T3	336	1.79	.76

Table 2 Inter-correlations and Reliability Estimates for all study variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Gender	--															
2. Age	-.13**	--														
3. Marital Status	-.16**	.45**	--													
4. Comm Propensity T1	-.17**	.12**	.12**	(.77)												
5. Mental Tough T1	.01	.07	.00	.40**	(.83)											
6. Pre-Entry Norm T1	-.04	-.01	-.08*	.27**	.21**	(.62)										
7. Affective Comm T2	-.10*	.03	-.02	.49**	.37**	.34**	(.82)									
8. AffNew Adj T2	-.11*	-.03	-.09*	.36**	.37**	.28**	.70**	(.93)								
9. Cog New Adj T2	-.04	-.05	-.06	.40**	.31**	.18**	.52**	.68**	(.89)							
10. Post-Entry Norm T2	-.07	.02	-.03	.38**	.19**	.33**	.68**	.55**	.40**	(.82)						
11. Turnover Intent T2	.16**	-.05	-.02	-.33**	-.26**	-.25**	-.63**	-.59**	-.37**	-.54**	(.90)					
12. Affective Comm T3	-.05	.02	.06	.40**	.29**	.30**	.69**	.55**	.48**	.45**	-.51**	(.80)				
13. AffNew Adj T3	-.07	-.10	.00	.29**	.26**	.21**	.50**	.63**	.52**	.42**	-.39**	.62**	(.93)			
14. Cog New Adj T3	-.05	-.05	-.05	.32**	.28**	.18**	.43**	.52**	.63**	.35**	-.33**	.48**	.75**	(.91)		
15. Post-Entry Norm T3	-.02	.03	-.05	.28**	.13*	.33**	.55**	.49**	.42**	.62**	-.44**	.62**	.54**	.46**	(.80)	
16. Turnover Intent T3	.12*	-.02	-.10	-.27**	-.16**	-.23**	-.44**	-.37**	-.30**	-.35**	.63**	-.59**	-.56**	-.43**	-.47**	(.91)

Note. Coefficient alphas appear on the diagonal in parentheses. Gender coded 0 = female, 1 = male.

* $p < .05$, ** $p < .001$

Table 3 Hierarchical Multiple Regressions Examining predictors of Turnover Intentions T2 after controlling for Gender.

Hypothesis	Variables	ΔR^2	ΔF	b^a	S.E.	95% CI
H1a	Affective Commitment	.38**	357.20	-.77**	.04	[-.85, -.69]
H2a	Post-Entry Normative Commit	.28**	227.03	-.55**	.04	[-.63, -.48]
H5a	Commitment Propensity	.22**	29.31			
	Desire for Military Career			-.50**	.05	[-.58, -.41]
	Expectations			.03	.04	[.06, .11]
	Familiarity with Military			-.04	.04	[-.11, .03]
	Sacrifice			.03	.05	[-.07, .13]
	Volition			-.08	.04	[-.16, .01]
H8a	Newcomer Adjustment	.33**	139.46			
	Affective Newcomer Adjust			-.89**	.07	[-1.03, -.76]
	Cognitive Newcomer Adjust			.07	.07	[-.07, .22]
H10a	Mental Toughness	.07**	37.85	-.40**	.07	[-.53, -.27]

Note. ^a Unstandardized regression coefficients

$\dagger p < .10$, * $p < .05$, ** $p < .001$.

Table 4 Hierarchical Multiple Regressions Examining predictors of Turnover Intentions T3 after controlling for Gender.

Hypothesis	Variables	ΔR^2	ΔF	b^a	S.E.	95% CI
H1a	Affective Commitment	.19**	76.03	-.61**	.07	[-.75, -.47]
H2a	Post-Entry Normative Commit	.12**	45.75	-.40**	.06	[-.52, -.28]
H5a	Commitment Propensity	.18**	14.50			
	Desire for Military Career			-.52**	.07	[-.66, -.39]
	Expectations			-.03	.06	[-.15, .08]
	Familiarity with Military			.03	.05	[-.07, .13]
	Sacrifice			-.09	.07	[-.23, .06]
	Volition			-.04	.06	[-.16, .08]
H8a	Newcomer Adjustment	.13**	24.90			
	Affective Newcomer Adjust			-.50**	.11	[-.72, -.28]
	Cognitive Newcomer Adjust			-.12	.12	[-.07, .22]
H10a	Mental Toughness	.03*	8.88	-.27*	.09	[-.35, .12]

Note. ^a Unstandardized regression coefficients

Tp < .10, * *p* < .05, ** *p* < .001.

Table 5 Hierarchical Logistic Regressions Examining predictors of Voluntary Turnover after controlling for Gender.

Hypothesis	Variables	$\Delta \chi^2$	b^a	S.E.	Wald	Exp (B)
H1b	Affective Commitment	21.25**	-1.47**	.32	20.84	.23
H2b	Post –Entry Normative Commit	20.31**	-1.19**	.27	20.16	.30
H5b	Commitment Propensity	10.45†				
	Desire for Military Career		-.39	.26	2.31	.68
	Expectations		.03	.27	.01	1.03
	Familiarity with Military		-.33	.24	1.83	.72
	Sacrifice		-.34	.33	1.11	.71
	Volition		-.31	.27	1.35	.73
H8b	Affective Newcomer Adjust	4.19*	-.81*	.39	4.35	.45
	Cognitive Newcomer Adjust	1.93	-.58	.42	1.94	.56
H10b	Mental Toughness	2.76†	-.58†	.34	2.84	.56
H11	Turnover Intentions	35.20**	1.47**	.26	31.44	4.36

Note. ^a Unstandardized regression coefficients
 † $p < .10$, * $p < .05$, ** $p < .001$.

Table 6 Hierarchical Multiple Regressions Examining predictors of Affective (AC) and Post-Entry Normative (PNC) Commitment T2 after controlling for Gender.

Hypothesis	Variables & Criterion	ΔR^2	ΔF	b^a	S.E.	95% CI
H3a	Pre-Entry NC, AC	.11**	69.13	.36**	.04	[.28, .45]
H3b	Pre-Entry NC, PNC	.11**	66.59	.41**	.05	[.31, .51]
H4	Commitment Propensity, AC	.34**	54.52			
	Desire for Military Career			.43**	.03	[.37, .50]
	Expectations			.09*	.03	[.03, .15]
	Familiarity with Military			.06*	.03	[.01, .11]
	Sacrifice			.04	.04	[-.03, .12]
	Volition			.05	.03	[-.01, .11]
H6	Newcomer Adjustment, AC	.49**	258.19			
	Affective Newcomer Adjust			.77*	.05	[.67, .86]
	Cognitive Newcomer Adjust			.12*	.05	[.01, .22]
H7	Newcomer Adjustment, PNC	.30**	115.48			
	Affective Newcomer Adjust			.75**	.07	[.62, .89]
	Cognitive Newcomer Adjust			.03	.07	[-.11, .18]
H9	Mental Toughness, AC	.13**	82.66	.47	.05	[.37, .57]

Note. ^a Unstandardized regression coefficients
 $\dagger p < .10$, * $p < .05$, ** $p < .001$.

Table 7 Hierarchical Multiple Regressions Examining predictors of Affective (AC) and Post-Entry Normative Commitment (PNC) T3 after controlling for Gender.

Hypothesis	Variables & Criterion	ΔR^2	ΔF	b^a	S.E.	95% CI
H3a	Pre-Entry NC & AC	.09**	32.19	.29**	.05	[.19, .39]
H3b	Pre-Entry NC & PNC	.11**	40.65	.41**	.06	[.28, .53]
H4	Commitment Propensity & AC	.28**	25.35			
	Desire for Military Career			.42**	.05	[.33, .51]
	Expectations			.06	.04	[-.02, .14]
	Familiarity with Military			.05	.03	[-.01, .12]
	Sacrifice			.07	.05	[-.03, .17]
	Volition			.03	.04	[-.05, .11]
H6	Newcomer Adjustment & AC	.31**	74.02			
	Affective Newcomer Adjust			.51**	.07	[.37, .66]
	Cognitive Newcomer Adjust			.20	.08	[.05, .35]
H7	Newcomer Adjustment & PNC	.25**	52.72			
	Affective Newcomer Adjust			.51**	.07	[.37, .66]
	Cognitive Newcomer Adjust			.20*	.08	[.05, .35]
H9	Mental Toughness, AC	.09**	32.08	.36	.06	[.23, .48]

Note. ^a Unstandardized regression coefficients

$\dagger p < .10$, $* p < .05$, $** p < .001$.

Table 8 Hypotheses Results Summary

Hypothesis	Variables	Supported
H1a	AC negatively predicted Turnover Intentions	Yes
H1b	AC negatively predicted Voluntary Turnover	Yes
H2a	Post-Entry NC negatively predicted Turnover Intentions	Yes
H2b	Post-Entry NC negatively predicted Voluntary Turnover	Yes
H3a	Pre-Entry NC positively predicted AC	Yes
H3b	Pre-Entry NC positively predicted NC	Yes
H4	CF Commitment Propensity positively predicted AC	Partially
H5a	CF Commitment Propensity negatively predicted Turnover Intentions	Yes
H5b	CF Commitment Propensity negatively predicted Voluntary Turnover	No
H6	Newcomer Adjustment positively predicted AC	Yes
H7	Newcomer Adjustment positively predicted Post-Entry NC	Partially
H8a	Newcomer Adjustment negatively predicted Turnover Intentions	Partially
H8b	Newcomer Adjustment negatively predicted Voluntary Turnover	Partially
H9	Mental Toughness positively predicted AC	Yes
H10a	Mental Toughness negatively predicted Turnover Intentions	Yes
H10b	Mental Toughness negatively predicted Voluntary Turnover	No
H11	Turnover Intentions positively predicted Voluntary Turnover	Yes

CHAPTER FOUR: DISCUSSION

The purpose of the present study was to investigate the contributions of several pre-entry individual characteristic factors and post-entry work attitudes on the prediction of organizational commitment and turnover cognitions and behavior in CF military recruits. Although much research literature has been dedicated to voluntary turnover (Lee & Mitchell, 1994; Hom et al., 2008), there has been considerably less focus on early voluntary turnover intentions and behavior in newcomers, particularly in a military setting. The multi-dimensional construct of organizational commitment appears in many of the classic voluntary turnover models (Griffeth et al., 2000; Meyer et al., 2002) and has been included in the current study as a foundation against which to evaluate the other variables of interest. Based on its strong relationship with turnover, it is employed as both a predictor and criterion in the current study. However, given the high first year voluntary turnover rates in the CF, the criteria of primary interest in the study were turnover intentions and voluntary turnover.

Organizational Commitment and Turnover

Hypotheses 1a and 1b predicted that Affective Commitment would negatively predict Turnover Intentions and Voluntary Turnover. Hypotheses 2a and 2b proposed that Post-Entry Normative Commitment would negatively predict Turnover Intentions and Voluntary Turnover. The data supported all four hypotheses in line with past affective commitment/turnover research (Griffeth, et al., 2000; Hom & Griffeth, 1995). These results provide continued support for the importance of Affective and Post-Entry Normative Commitment in voluntary turnover models (Maertz & Griffeth, 2004; Griffeth et al., 2000; Mathieu & Zajac, 1990), as well as highlighting their value in early voluntary turnover cognitions and behavior of CF recruits. Affective and Post-Entry Normative Commitment

significantly predicted Turnover Intentions at both T2 and T3, which supports its enduring predictive strength across the basic training socialization process. Furthermore, from a theoretical perspective, the results point to the possibility that AC and NC develop, and are present fairly early on in the socialization process, as early as five weeks after organizational entry, and influence subsequent turnover intentions and turnover behavior. Consistent with past findings (Meyer & Allen, 1997), AC appears to be a stronger predictor than NC of both turnover intentions and turnover behavior.

With the aim to investigate the persistent issue of discriminability between Affective Commitment and Normative Commitment, the variable of Normative Commitment was investigated with both a Pre-Entry Normative Commitment measured prior to organizational socialization at T1 and a Post-Entry Normative Commitment measured at week 4.5 (T2) and week 12.5 (T3) in the socialization process. As a pre-entry attitude, Pre-entry Normative Commitment was hypothesized to predict Affective Commitment (H3a) and Post-Entry Normative Commitment (H3b) and was supported at both T2 and T3. The correlation matrix at Table 1 showed that Pre-Entry Normative Commitment (T1) was correlated with both AC (T2) ($r = .34, p = .001$) and AC (T3) ($r = .30, p = .001$). It had less overlap than Post-Entry Normative Commitment (T2) with AC (T3) ($r = .45, p = .001$). It also had less overlap than Post-Entry Normative Commitment (T3) with AC (T2) ($r = .55, p = .001$) providing preliminary substantiation for the use of Pre-Entry Normative Commitment as a distinct pre-entry work attitude. This study is the first to provide results to support Cohen's (2007) postulations that normative commitment unfolds over time and contributes to the development of Affective and Post-Entry Normative Commitment. These results provide a noteworthy contribution to the organizational commitment literature by supplying empirical evidence based on a large field sample that

military recruits' predisposed pre-entry attitudes towards commitment and loyalty in general influence subsequent development of Affective and Normative Commitment, as well as turnover intentions. Despite these initial findings, additional research and replication is required with more diverse samples and across longer periods of time in order to draw more confident and lasting conclusions about the development of commitment at the point of organizational entry and throughout the socialization process.

In order to further extend the research originally conducted by Lee et al., (1992) on Commitment Propensity, the present study investigated the predictive ability of the individual facets of Commitment Propensity, namely, Desire for Military Career, Expectations, Familiarity with the Military, Sacrifice, and Volition on AC (H4), Turnover Intentions (H5a), and Voluntary Turnover (H5b). Hypothesis 4 was partially supported in that the three facets of Desire for Military Career, Familiarity with the Military, and Expectations were significant predictors of AC at T2. These results suggest that those recruits who are more motivated towards joining the CF and better prepared in terms of knowledge and realistic expectations, developed more AC towards the organization during the socialization process. Practical implications at the recruiting and selection stages may include more concentration by selection officers on gauging applicants' motivation towards serving in the CF, providing extensive realistic previews of basic training and life in the CF, and providing increased opportunities to speak and interact with serving members. Perhaps in times of significant force generation and requirements for increased selection and enrolment processing speed, military applicants are rushed through the recruiting and selection process and do not always have the opportunity and time to gather and mentally process all the required information about basic training and military life. This may have

negative consequences for subsequent development of organizational commitment and adjustment to military training.

Hypothesis 4a was also supported, with Commitment Propensity accounting for significant variance in Turnover Intentions at T2 and T3. However, only Desire for Military Career uniquely contributed as a predictor. Although, Hypothesis 4b proposing that Commitment Propensity would negatively predict Voluntary Turnover was not supported by the data, the results approached significance at $p = .06$ and were in the expected negative direction. Given the obvious dominance of Desire for Military Career as a predictor over and above the other facets, it is likely that this facet alone may perform better in predicting Voluntary Turnover than in conjunction with the others. Future military turnover research might want to reconsider the multi-facet concept of Commitment Propensity, and focus more specifically on Desire for Military Career. Post hoc analyses also provided support for Desire for Military Career as a significant predictor of Affective Newcomer Adjustment, rendering this construct a future viable area of study in military recruits. The combined results suggest that recruits can differ in their propensity to become affectively committed (Lee et al., 1992; Meyer et al., 1998), specifically with regards to their Desire for Military Career, which in turn, can have differential influences on adjustment and turnover intentions and behavior.

Due to the similarity between Pre-Entry Normative and Commitment Propensity, the two variables were analyzed for unique variance over and above the other in predicting Affective Commitment (RQ1). Results showed that Commitment Propensity, specifically Desire for Military Career, Expectations and Familiarity with the Military uniquely contributed to accounting for 25% of Affective Commitment variance over and above Pre-Entry Normative Commitment. However, Pre-Entry Normative Commitment accounted for

less than 1% of variance over and above Commitment Propensity. These results suggest that the three facets of Commitment Propensity are much stronger predictors of AC than Pre-Entry Normative Commitment, and are not entirely unexpected, given the alpha coefficient for Pre-Entry Normative Commitment in the present study's recruit sample was not as high as the other measures at .62. Furthermore, the facet of Desire for Military Career includes more affect related items specific to the CF, while the Pre-Entry Normative Commitment items speak to a more cognitive approach to remaining loyal to an ambiguous organization. This difference in affect and context could explain why Pre-Entry Normative Commitment is a much weaker predictor of AC relative to Desire for Military Career. Future investigations of Pre-Entry Normative Commitment might consider adjusting the context to reflect the target organization rather than an ambiguous one. In addition, Commitment Propensity consisted of a number of unrelated variables that were not equally significant in predicting AC and therefore future research might consider treating them separately along side Pre-Entry Normative Commitment.

Newcomer Adjustment, Commitment, and Turnover

In order to investigate the impact of the military basic training socialization process on recruits' development of Affective and Post-Entry Normative Commitment, measures of Affective and Cognitive Newcomer Adjustment were used. Hypothesis 6 was fully supported with both Affective and Cognitive Adjustment significantly predicting AC at each of T2 and T3. Hypothesis 7 was partially supported in that only Affective Newcomer Adjustment significantly predicted Post-Entry Normative Commitment at T2. However, both Affective and Cognitive Newcomer Adjustment significantly predicted Post-Entry Normative Commitment at T3. These combined results indicate that Affective and Cognitive Newcomer Adjustment are worthy predictors with important implications for the

development of AC and Post-Entry Normative Commitment in CF recruits. The better the recruits' adjustment (affective and cognitive) to the basic training socialization process, the more organizationally committed they became. Theoretically, the results provide added support to the premise that early work experiences positively influence AC (Meyer & Allen, 1991; Meyer & Allen, 1997; Meyer, et al., 1998). Practical implications may include ensuring that recruits are provided with the support and time to adjust to the mental and physical demands of basic training so as to encourage greater development of organizational commitment.

The predictive validity of Affective and Cognitive Newcomer Adjustment was also investigated on Turnover Intentions (H8a) and Voluntary Turnover (H8b), with partial support found for both criterion variables. Higher Affective Newcomer Adjustment corresponded with a decreased likelihood of turnover cognitions and voluntary turnover behavior, but Cognitive Newcomer Adjustment was not a useful predictor. One possible explanation for the poor predictive ability of Cognitive Newcomer Adjustment on turnover was its large overlap with Affective Newcomer Adjustment, rendering it ineffective as a predictor (correlations: $r = .68$ at T2 and $r = .75$ at T3). Further, it is also possible that affective adjustment is simply more important to turnover intentions and behavior than cognitive adjustment on basic training.

The above findings are consistent with previous research on socialization, early work experiences, and commitment and turnover (Allen & Meyer, 1990; Ashford & Saks, 1996; Bauer, et al., 2007), with the added contribution of providing empirical evidence of the importance of Affective and Cognitive Adjustment in the development of organizational commitment, and specifically Affective Adjustment for turnover intentions and behavior in newcomers. These are also highly relevant findings for the leadership of

the Canadian Forces Leadership and Recruit School who control the training processes. Based on these results, further investigation into the development of a training system that promotes stronger Affective Newcomer Adjustment is warranted. Greater adjustment to the socialization process would foster greater Affective and Post-Entry Normative Commitment, and be expected to reduce voluntary turnover cognitions and behavior. Future military research might also investigate Affective and Cognitive Newcomer Adjustment measures as predictors of involuntary turnover and recruit training performance.

Mental Toughness, Commitment, Adjustment, and Turnover

The construct of Mental Toughness has been relatively overlooked in organizational behavior research. The present study was the first to employ Mental Toughness as a predictor of Affective Commitment (H9), Turnover Intentions (H10a) and Voluntary Turnover (H10b) in CF recruits. Both Hypotheses 9 and 10a were supported, with Mental Toughness accounting for 4 – 14% of variance in the criterion variables at T2 and T3. Although Hypothesis 10b was not supported relative to the standard alpha level of .05, the *p* value was less than .10 and in the predicted negative direction. It would appear that higher levels of mental toughness could contribute to decreased voluntary turnover behavior, in a similar manner as to turnover intentions. Given these preliminary findings, additional research is necessary to investigate if mental toughness is a viable predictor of involuntary turnover, another main contributing factor to early attrition in the CF.

In accordance with RQ2, it was found that Mental Toughness significantly predicted Affective and Cognitive Newcomer Adjustment both at T2 and T3. These results have implications for recruiting and selection models, in that recruits with higher Mental Toughness scored higher on Affective and Cognitive Newcomer Adjustment. With

additional research and lengthier longitudinal study replication, Mental Toughness measures might be taken into consideration for use in military applicant selection batteries.

The above results have both theoretical and practical implications for commitment, adjustment, turnover, and future recruit research in the CF. Mental Toughness has not been previously considered as an important construct in the development of commitment, nor in adjustment to basic military training. Based on these initial findings, additional investigation is warranted to determine its continued utility in military recruit research. As a viable predictor of work attitudes and potentially work behavior outcomes, future studies might examine the relationship between mental toughness and practical and academic performance on basic training, physical fitness and endurance, as well as leadership potential.

Turnover Intentions and Turnover Behavior

Finally, consistent with past research and reviews (Griffeth et al., 2000; Hom & Kinicki, 2001; Steel & Lounsbury, 2009) Hypothesis 11 was supported, where those recruits with stronger intentions to turnover had a higher probability of actually voluntarily leaving the organization. Although demonstrating the durable link between turnover intentions and turnover behavior is a worthwhile one, future voluntary turnover research might want to investigate the specific reasons for turnover intentions and voluntary turnover (e.g. Vandenberg & Nelson, 1999), especially given that the relationship is not perfect. A natural extension of the present research would be to include the reasons recruits provide for quitting the organization and investigate potential predictors of those reasons, as well as elucidating reasons why recruits do not leave. Furthermore, examining the point in time that recruits quit may provide additional valuable insight into when and what retention strategies may be necessary to diminish early voluntary turnover behavior.

Strengths and Limitations

One of the major strengths of the present study is the longitudinal design based on a sizable field sample, allowing for the evaluation of the pre-entry individual characteristic predictors and post-entry attitudes across time. As well, the collection of accurate voluntary turnover data from personnel records made possible the analysis of personality characteristics and attitudes against actual turnover behavior in addition to turnover intentions, which do not always translate into behavior (Vandenberg & Nelson, 1999). This is also the first study to employ Mental Toughness with CF recruits as a measure of pre-entry characteristics and Newcomer Adjustment as an indicator of organizational socialization success, both yielding promising theoretical and practical implications for future CF research.

Despite its strengths and generally supportive results for the hypotheses, several limitations exist in the present research. Firstly, despite the large sample size, only 35 male recruits voluntarily turned over. In addition to the voluntary attrition from the organization, participant attrition is an intrinsic problem in longitudinal multi-survey studies, resulting in additional data loss and restricting analyzable variance. Further, most attrition in the study occurred between T2 and T3 survey administrations, potentially introducing survivor bias into the T3 analyzable data. In terms of the sample itself, the majority of participants were young males, which limits the study's generalizability to populations other than to military or para-military organizations such as firefighters, police, search and rescue, coastguard, etc. In addition, common method variance (e.g. Podsakoff & Organ, 1986) is a potential issue in this study as all the survey data were gathered from the same source (i.e. the recruits themselves). However, the longitudinal method used in the study, introducing a temporal lag between survey administrations, helps alleviate some of these concerns.

Furthermore, one of the main criteria of interest, voluntary turnover, was gathered from official records, further reducing the common method bias.

Another limitation is that only voluntary turnover was used as one of the primary outcome variables of interest. In addition to voluntary turnover, some turnover also occurred when recruits were removed from training and released from the CF (involuntary turnover) and some recruits were required to repeat basic training. These examples of organizational leaving, however, would have meant incorporating a different model including different variables (e.g. Donaghue & Castle, 2007; Shaw, Delery, Jenkins, & Gupta, 1998; Schneer, 1993) and is beyond the scope of the present study.

Conclusions

Notwithstanding the aforementioned limitations, as research primarily concerned with identifying potential predictors of CF recruit voluntary turnover, the study has achieved its aim. The majority of hypotheses were generally supported, bolstering several existing commitment and turnover theoretical premises, providing some additional bearings and focus for policy makers and future recruitment, selection, and organizational socialization strategies, as well as new directions for future turnover research in the military. Finally, given the significant findings, this study also provides a strong foundation for the development and testing of an early voluntary turnover model for CF recruits, an endeavor, which can only benefit the CF in its battle against early voluntary attrition.

References

- Allen, D. G. (2006). Do organizational socialization tactics influence newcomer embeddedness and turnover? *Journal of Management, 32*, 237 – 256.
- Allen, D. G., Weeks, K. P., & Moffitt, K. R. (2005). Turnover intentions and voluntary turnover: The moderating roles of self-monitoring, locus of control, proactive personality, and risk aversion. *Journal of Applied Psychology, 90*, 980 – 990.
- Allen, N. J. (2003). Organizational commitment in the military: a discussion of theory and practice. *Military Psychology, 15*, 237 – 253.
- Allen, N. J., & Meyer, J. P. (1990). The measurement and antecedents of affective, continuance, and normative commitment. *Journal of Occupational Psychology, 63*, 1 – 18.
- Allen, N. J., & Meyer, J. P. (1996). Affective, continuance, and normative commitment in the organization: An examination of construct validity. *Journal of Vocational Behavior, 49*, 252 – 276.
- Ashford, B. E., & Saks, A. M. (1996). Socialization tactics: Longitudinal effects on newcomer adjustment. *Academy of Management Journal, 39*, 149 – 178.
- Barton, N., & Johnson, K. (2007). *Project Laser – Longitudinal ADF Study Evaluating Retention*. Retrieved from: <http://www.internationalmta.org/Documents/2007/2007070P.pdf>
- Bartone, P. T. (1999). Hardiness protects against war-related stress in army reserve forces. *Consulting Psychology Journal, 51*, 72 – 82.

- Bartone, P. T., Roland, R. R., Picano, J. J., & Williams, T. J. (2008). Psychological hardiness predicts success in US army special forces candidates. *International Journal of Selection and Assessment, 16*, 78 – 81.
- Bauer, T. N., Bodner, T., Erdogan, B., Truxillo, D. M., & Tucker, J. S. (2007). Newcomer adjustment during organizational socialization: A meta-analytic review of antecedents, outcomes, and methods. *Journal of Applied Psychology, 92*, 707 – 721.
- Becker, H. S. (1960). Notes on the concept of commitment. *American Journal of Sociology, 66*, 32 – 42.
- Bentein, K., Vandenberg, R., Vandenberghe, C., & Stinglhamber, F. (2005). The role of change in the relationship between commitment and turnover: A latent growth modeling approach. *Journal of Applied Psychology, 90*, 468 – 482.
- Bergman, M. E. (2006). The relationship between affective and normative commitment: Review and research agenda. *Journal of Organizational Behavior, 27*, 645 – 663.
- Cable, D. M., & Parsons, C. K. (2001). Socialization tactics and person-organization fit. *Personnel Psychology, 54*, 1 – 23.
- Chen, Y. H., & Francesco, A. M. (2003). The relationship between the three components of commitment and employee performance in China. *Journal of Vocational Behavior, 62*, 490 – 510.
- Clough, P. J., Earle, K., & Sewell, D. (2002). Mental toughness: The concept and its measurement. In I. Cockerill (Ed.) *Solutions in Sports Psychology*. London: Thompson Publishing.
- Cohen, A. (2007). Commitment before and after: An evaluation and reconceptualization of organizational commitment. *Human Resources Management Review, 17*, 336 – 354.

- Cooper-Hakim, A., & Viswesvaran, C. (2005). The construct of work commitment: Testing an integrative model. *Psychological Bulletin, 131*, 241 – 259.
- Cooper-Thomas, H. D., & Anderson, N. (2005). Organizational socialization: A field study into socialization success and rage. *International Journal of Selection and Assessment, 13*, 116 – 128.
- Crust, L. (2007). Mental toughness in sport: A review. *International Journal of Sport and Exercise Psychology, 5*, 270 – 290.
- Crust, L. (2008). A review and conceptual re-examination of mental toughness: Implications for future research. *Personality and Individual Differences, 45*, 576 - 583.
- Crust, L., & Clough, P. J. (2005). Relationship between mental toughness and physical endurance. *Perceptual and Motor Skills, 100*, 192 – 194.
- Department of National Defence. (2009a). *Recruiting and retention in the Canadian Forces*. (BG- 09.004-May 5, 2009). Retrieved from <http://news.gc.ca/web/articleeng.do?m=/index&nid=448289>.
- Department of National Defence. (2009b). *CFJP 01 Canadian Military Doctrine*. Retrieved from: http://www.cfdcdf.forces.gc.ca/websites/Resources/dgfd/Pubs/CF%20Joint%20Doctrine%20Publications/CFJP_%2001_Canadian_Military_Doctrine_En_2009_04.pdf
- Donaghue, C. & Castle, N. G. (2007). Organizational and environmental effects on voluntary and involuntary turnover. *Health Care Management Review, 32*, 360 – 369.
- Donnelly, D. P., & Quirn, J. J. (2006). An extension of Lee and Mitchell's unfolding model of voluntary turnover. *Journal of Organizational Behavior, 27*, 59 – 77.

- Farber, H. S. (1994). The analysis of inter-firm worker mobility. *Journal of Labor Economics, 12*, 554 – 593.
- Fisher, C. D. (1986). Organizational socialization: An integrative review. In G. R. Ferris & K. M. Rowlands (Eds.), *Research in Personnel and Human Resources Management*. Greenwich, CT: JAI Press.
- Fourie, S., & Polgieler, j. R. (2001). The nature of mental toughness in sport. *South African Journal of Research in Sport, Physical Education and Recreation, 23*, 63 – 72.
- Gade, P. A. (2003). Organizational commitment in the military: An overview. *Military Psychology, 15*, 163 – 166.
- Griffeth, R. W., Hom, P. W. (2001). *Retaining Valued Employees*. Thousand Oaks, CA: Sage.
- Griffeth, R. W., Hom, P. W., & Gaertner, S. (2000). A meta-analysis of antecedents and correlates of employee turnover: Update, moderator tests, and research implications for the next millennium. . *Journal of Management, 26*, 463 – 488.
- Harman, W. S., Lee, T. W., Mitchell, T. R., Felps, W., & Owens, B. P. (2007). The psychology of voluntary turnover. *Current Directions in Psychological Science, 16*, 51 – 54.
- Haueter, J. A., Macan, T. H., & Winter, J. (2003). Measurement of newcomer socialization: Construct validation of a multidimensional scale. *Journal of Vocational Behavior, 63*, 20 – 39.
- Holmes, R. (2005). *The Soldier's Trade in a Changing World*. Retrieved from: http://www.bbc.co.uk/history/trail/wars_conflict/soldiers/soldier_trade_in_world_01.shtml.
- Holtom, B. C., Mitchell, T. R., Lee, T. W., & Inderrieden, E. J. (2005). Shocks as causes of turnover: What are they and how can organizations manage them. *Human Resource*

Management, 44, 337 – 352.

Hom, P. W., & Griffeth, R. W. (1995). *Employee Turnover*. Cincinnati, OH: Southwestern

Hom, P. W., & Kinicki, A. J. (2001). Toward a greater understanding of how dissatisfaction drives employee turnover. *Academy of Management Journal, 44, 975 – 987.*

Hom, P. W., Robertson, L., & Ellis, A. D. (2008). Challenging conventional wisdom about who quits: Revelations from corporate America. *Journal of Applied Psychology, 93, 1-34.*

Horsburgh, V. A., Schermer, J. A., Veselka, L., & Vernon, P. A. (2009). A behavioral genetic study of mental toughness and personality. *Personality and Individual Differences, 46, 100 – 105.*

Jones, G. R. (1986). Socialization tactics, self-efficacy, and newcomers' adjustment to organizations. *Academy of Management Journal, 29, 262 – 279.*

Jones, G., Hanton, S., & Connaughton, D. (2007). A framework of mental toughness in the world's best performers. *The Sport Psychologist, 21, 243 – 264.*

Kacmar, K. M., Andrews, M. C., Van Rooy, D. L., Steilbert, R. C., & Cerrone, S. (2006). Sure everyone can be replaced. But at what cost? Turnover as a predictor of unit-level performance. *Academy of Management Journal, 48, 133 – 144.*

Kammeyer-Mueller, J. D., & Wanberg, C. R. (2003). Unwrapping the organizational entry process: disentangling multiple antecedents and their pathways to adjustment. *Journal of Applied Psychology, 5, 779 – 794.*

Karrasch, A. I. (2003). Antecedents and consequences of organizational commitment. *Military Psychology, 15, 225 – 236.*

- Kobasa, S. C. (1979). Stressful life events, personality, and health: An inquiry into hardiness. *Journal of Personality and Social Psychology*, 37, 1 – 11.
- Kobasa, S. C., Maddi, S. R., & Kahn, S. (1982). Hardiness and health: A prospective study. *Journal of Personality and Social Psychology*, 42, 884 – 890.
- Latchman, S. & Fang, M. (2009). *Attrition of new recruits: A cohort analysis*. Defence Research Development Canada. Ottawa, ON: Department of National Defence.
- Law, D. W. (2005). Interactive organizational commitment and hardiness in public accountants' turnover. *Managerial Auditing Journal*, 20, 383 – 393.
- Lee, T. W., Ashford, S. J., Walsh, J. P., & Mowday, R. T. (1992). Commitment propensity, organizational commitment, and voluntary turnover: A longitudinal study of organizational entry processes. *Journal of Management*, 18, 15 – 32.
- Lee, T. W., & Mitchell, T. R. (1994). An alternative approach: The unfolding model of voluntary employee turnover. *Academy of Management Review*, 19, 51 – 89.
- Maddi, S. R. (2002). The story of hardiness: Twenty years of theorizing, research and practice. *Consulting Psychology Journal: Practice and Research*, 54, 175 – 185.
- Maddi, S. R. (2007). Relevance of hardiness assessment and training in the military context. *Military Psychology*, 19, 61 – 70.
- Maddi, S. R., Harvey, R. H., Resurreccion, R., Giatras, C. D., & Raganold, S. (2007). Hardiness as a performance enhancer in firefighters. *International Journal of Fire Service Leadership and Management*, 1, 3 – 9.
- Maertz, C. P., & Campion, M. A. (1998). 25 years of voluntary turnover research: A review and critique. In C. L. Cooper & I. T. Robertson (Eds.), *International Review of Industrial Organizational Psychology*. Chichester, UK: Wiley.

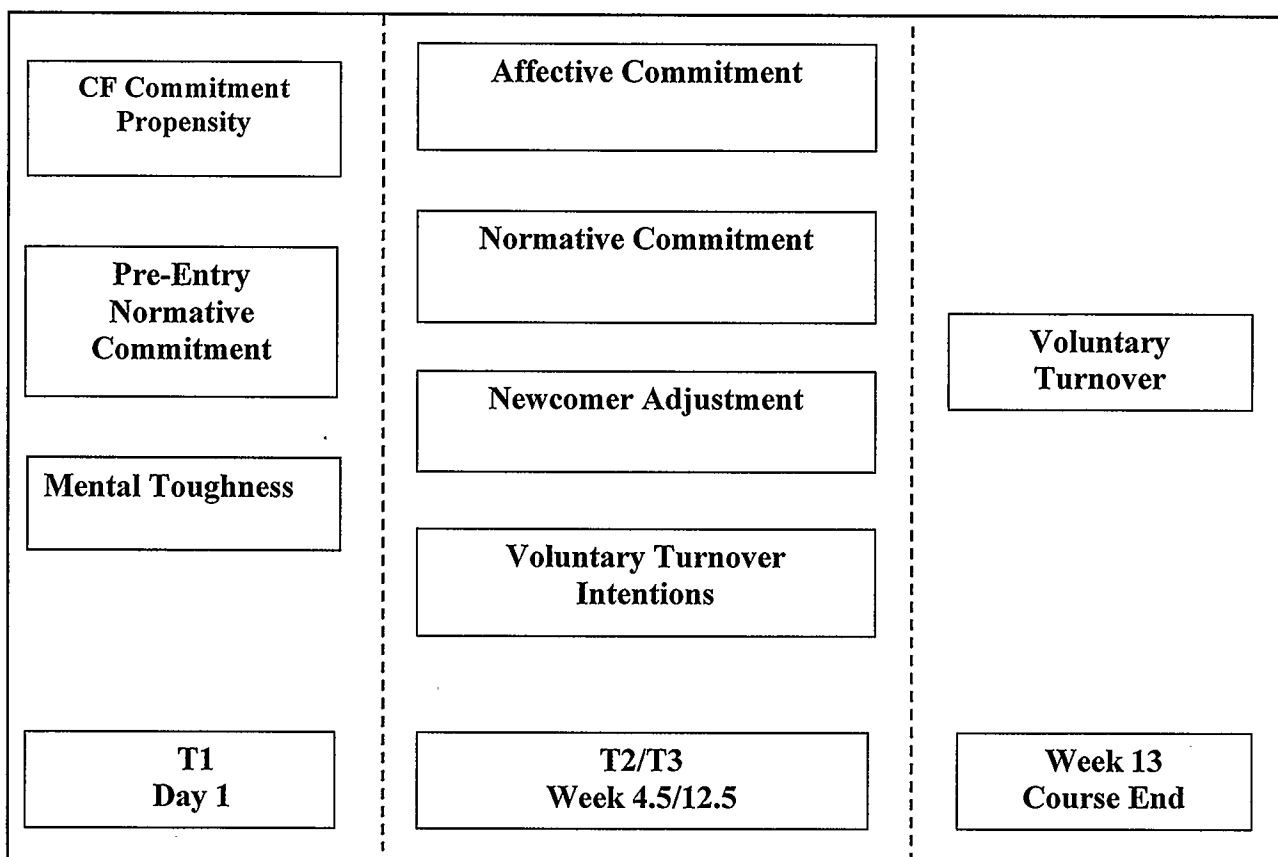
- Maertz, C. P., & Campion, M. A. (2004). Profiles in quitting: Integrating process and content turnover theory. *Academy of Management Journal*, *47*, 566 – 582.
- Maertz, C. P., & Griffeth, R. W. (2004). Eight motivational forces and voluntary turnover: A theoretical synthesis with implications for research. *Journal of Management*, *30*, 667 – 683.
- Marchant, D. C., Polman, R. C., Clough, P. J., Jackson, J. G. Levy, A. R., & Nicholls, A. R. (2009). Mental toughness: Managerial and age differences. *Journal of Managerial Psychology*, *24*, 428 – 437.
- Mathieu, J. E., & Zajac, D. (1990). A review and meta-analysis of antecedents, correlates, and consequences of organizational commitment. *Psychological Bulletin*, *171* – 194.
- Meyer, J. P., & Allen, N. J. (1984). Testing the “side-bet theory” of organizational commitment: Some methodological consideration. *Journal of Applied Psychology*, *69*, 372 – 378.
- Meyer, J. P., & Allen, N. J. (1987). A longitudinal analysis of the early development and consequences of organizational commitment. *Canadian Journal of Behavioral Science*, *19*, 199 – 215.
- Meyer, J. P., & Allen, N. J. (1988). Links between work experience and organizational commitment during the first year of employment: a longitudinal analysis. *Journal of Occupational Psychology*, *61*, 195 – 209.
- Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. *Human Resource Management Review*, *1*, 61 -89.
- Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace: Theory research, and application*. Thousand Oaks, CA: Sage Publications.

- Meyer, J. P., Allen, N. J., & Smith, C. A. (1993). Commitment to organizations and occupations: Extension and test of the three-component conceptualization. *Journal of Applied Psychology, 78*, 538 – 551.
- Meyer, J. P., Allen, N. J., Topolnytsky, L. (1998). Commitment in a changing world of work. *Canadian Psychology, 39*, 83 – 93.
- Meyer, J. P., Stanley, D. J., Herscovitch, L., & Topolnytsky, L. (2002). Affective, continuance, and normative commitment to the organization: A meta-analysis of antecedents, correlates, and consequences. *Journal of Vocational Behavior, 61*, 20 – 52.
- Mitchell, T. R., Holtom, B. C., & Lee, T. W. (2001). How to keep your best employees: The development of an effective retention policy. *Academy of Management Executive, 15*, 96 – 108.
- Mobley, W. H. (1977). Intermediate linkages in the relationship between job satisfaction and employee turnover. *Journal of Applied Psychology, 62*, 237 – 240.
- Mowday, R. T., Porter, L. M. & Steers, R. M. (1982). *Employee-organizational linkage*. New York: Academic Press.
- Mowday, R. T., Steers, R. M. & Porter, L. M. (1979). The measurement of organizational commitment. *Journal of Vocational Behavior, 14*, 224 – 247.
- O'Reilly, C. A., & Chatman, J. (1986). Organizational commitment and psychological attachment: The effects of compliance, identification, and internalization on pro-social behavior. *Journal of Applied Psychology, 71*, 492 – 499.
- Podsakoff, P.M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*, 531 – 544.

- Porter, L. W., Steers, R. M., Mowday, R. T., & Boulian, P. V. (1974). Organizational commitment, job satisfaction, and turnover among psychiatric technicians. *Journal of Applied Psychology, 59*, 603 – 609.
- Rousseau, D. M. (1989). Psychological and implicit contracts in organizations. *Employee Rights and Responsibilities Journal, 2*, 121 – 139.
- Rousseau, D. M. (1995). *Promises in action: Psychological contracts in organizations*. Newbury Park, CA: Sage.
- Schneer, J. A. (1993). Involuntary turnover and its psychological consequences: A theoretical model. *Human Resources Management Review, 3*, 29 – 47.
- Shaw, J. D., Delery, J. E., Jenkins, D. G., & Gupta, N. (1998). An organizational-level analysis of voluntary and involuntary turnover. *Academy of Management Journal, 41*, 511 – 525.
- Statistics Canada (2009). Retrieved from <http://www.statcan.gc.ca/subjects-sujets/labour-travail/lfs-epa/lfs-epa-eng.htm>
- Steel, R. P., & Griffeth, R. W. (1989). The elusive relationship between perceived employment opportunity and turnover behavior: A methodological or conceptual artifact? *Journal of Applied Psychology, 74*, 846 – 854.
- Steel, R. P., & Lounsbury, J. W. (2009). Turnover process models. Review and synthesis of a conceptual literature. *Human Resource Management Review, 19*, 271 – 282.
- Sumer, H., & van de Ven, C. (2008). *A Proposed Model of Military Turnover*. Retrieved from: <http://ftp.rta.nato.int/public//PubFullText/RTO/TR/RTO-TR-HFM-107///TR-HFM-107-04B.pdf>

- Takeuchi, N., & Takeuchi, T. (2009). A longitudinal investigation on the factors affecting newcomers' adjustment: evidence from Japanese organizations. *The International Journal of Human Resource Management*, 20, 928 – 952.
- Taormina, R. J. (1997). Organizational socialization: A multi-domain, continuous process model. *International Journal of Selection and Assessment*, 5, 29 – 47.
- Taormina, R. J. (2004). Convergent validity of two measures of organizational socialization. *Human Resources Management*, 15, 76 – 94.
- Van Breukelen, W., Van Der Vlist, R., & Steensma, H. (2004). Voluntary employee turnover: Combining variables from 'traditional' turnover literature with the theory of planned behavior, *Journal of Organizational Behavior*, 25, 893, 914.
- Vandenberg, R. J., & Nelson, J. B. (1999). Dissaggregating the motives underlying turnover intentions: When do intentions predict turnover behavior? *Human Relations*, 52, 1313 – 1336.
- Wanous, J. P. (1992). *Organizational entry: Recruitment, selection, orientation, and socialization of newcomers* (2nd ed.). Reading, MA: Addison-Wesley.
- Westman, M. (1990). The relationship between stress and performance: The moderating effect of hardiness. *Human Performance*, 3, 141 – 155.
- Wiener, Y. (1982). Commitment in organizations: A normative view. *Academy of Management Review*, 7, 418 – 428.

Appendix A: Design of the Study



Appendix B: Ethics Approval – University of Calgary



CERTIFICATION OF INSTITUTIONAL ETHICS REVIEW

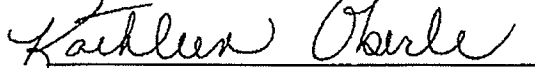
This is to certify that the Conjoint Faculties Research Ethics Board at the University of Calgary has examined the following research proposal and found the proposed research involving human subjects to be in accordance with University of Calgary Guidelines and the Tri-Council Policy Statement on "*Ethical Conduct in Research Using Human Subjects*". This form and accompanying letter constitute the Certification of Institutional Ethics Review.

File no: **6477**
Applicant(s): **Theresa J. Kline**
Renata Godlewski
Department: **Psychology**
Project Title: **Canadian Forces Recruit Attitudes and Experiences**
Sponsor (if applicable):

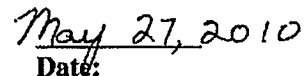
Restrictions:

This Certification is subject to the following conditions:

1. Approval is granted only for the project and purposes described in the application.
2. Any modifications to the authorized protocol must be submitted to the Chair, Conjoint Faculties Research Ethics Board for approval.
3. A progress report must be submitted 12 months from the date of this Certification, and should provide the expected completion date for the project.
4. Written notification must be sent to the Board when the project is complete or terminated.



Kathleen Oberle, PhD
Chair
Conjoint Faculties Research Ethics Board


Date:

Distribution: (1) Applicant, (2) Supervisor (if applicable), (3) Chair, Department/Faculty Research Ethics Committee, (4) Sponsor, (5) Conjoint Faculties Research Ethics Board (6) Research Services.

Appendix C: Ethics Approval –
Canadian Forces Social Science Research Review Board (CFSSRRB)

SOCIAL SCIENCE RESEARCH REVIEW BOARD (SSRRB) DECISION

Date: 7 July 2010

Authorization number: **883/10**

Title: CF Recruit Attitudes and Experiences

Researcher: Major Renata Godlewski

Organization: University of Calgary

Review and Discussion:

1. Your research proposal has been reviewed and SSRRB approval is granted to proceed. Your project is assigned the following authorization number 883/10.
2. This approval is valid for approximately 800 Regular Force CF Members within CFLRS, St Jean, QC. This approval is granted for the period of 1 July 2010 to 31 March 2011. Distribution must be complete by this date; otherwise, the protocol will require further review. In order to ensure that participants' language rights are respected, these surveys must be distributed in bilingual format.
3. The following text shall be displayed on the front page of your surveys and consent form(s):

Director General Military Personnel Research and Analysis authorizes the administration of this survey within DND/CF in accordance with CANFORGEN 198/08 CMP 084/08 271214Z Oct 08.
Authorization number 883/10

"The opinions expressed in this document are those of the author and are not necessarily those of the Department of National Defence or the Canadian Forces"

Direction générale – Recherche et analyse (Personnel militaire)
autorise l'administration de ce sondage dans le MDN/FC en accord avec le
CANFORGEN 198/08 CMP 084/08 271214Z Oct 08.
Numéro d'autorisation 883/10

« Les points de vue exprimés dans le présent document sont ceux de l'auteur et ne reflètent pas nécessairement ceux du ministère de la Défense nationale et des Forces canadiennes. »

4. You are reminded that any changes to the approved protocol or any untoward incidents or injuries arising as a result of any subject's participation in the study shall be brought to the attention of the Social Science Research Review Board Coordinator, Louise Soucy.
5. Please forward the following documentation upon completion of the research and prior to publication:
 - a. an electronic copy of any research reports arising out of this request/project, and
 - b. electronic copies of data used to produce the reported results.
7. Please accept our acknowledgements for your contribution to research within the Canadian Forces and the Department of National Defence.

Appendix D: Survey Introduction

Survey Introduction

Welcome to the Canadian Forces Recruit Attitudes and Experience Survey. As part of a University of Calgary study, we are interested in your input, perceptions, and attitudes towards your Recruiting Centre experiences and the Canadian Forces in general. The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.

This is an opportunity for your voice to be heard and to affect positive changes in future applicants' recruitment, selection, and training experiences. You will be asked specific questions about your knowledge of the military and your attitudes towards various aspects of military life, as well as some personality related questions. The results of the study will be used to identify where changes are needed to the CF recruitment, selection, and training processes. The information collected shall be kept strictly confidential and used only the purposes of the research project. Only the researcher shall have access to the information. At no time shall any of the CFLRS staff have access to your data nor will it have any impact on your training success.

This survey should take no more than 30 – 45 minutes to complete. You will be asked to what extent you agree with various statements and indicate your response by clicking on the button that best represents your answer. You are not required to complete any questions that make you uncomfortable.

You have been provided with a copy of the informed consent form stating your agreement to participate in the study. If you have any questions with regard to the study, you may reach the researcher at RGodlews@ucalgary.ca. If you are still interested in contributing to the study, please click on the **BEGIN SURVEY** button below.

Appendix E: Measures

Measures at Time 1**Pre-Entry Normative Commitment (7)** (Meyer & Allen, 1991) $\alpha = .62$

1. I think that people these days move from company to company too often.
2. I do not believe that a person must always be loyal to his or her organization. (R)
3. Jumping from organization to organization does not seem unethical to me. (R)
4. If I got another offer for a job elsewhere, I would feel it was wrong to leave the organization I was currently working for.
5. I was taught to believe in the value of remaining loyal to one organization.
6. Things were better in the days when people stayed with one organization for most of their careers.
7. I do not think that wanting to be a “company man” or “company woman” (i.e. staying with one organization) is sensible anymore. (R)

CF Commitment Propensity (Adapted from Lee, et al., 1992). $\alpha = .77$ *Desire for a military career (8)*

1. I have a strong desire to be a soldier, sailor, or airman/airwoman.
2. I think I will enjoy participating in military ceremonies such as marching and parades.
3. I regret my decision to join the Canadian Forces (CF). (R)
4. I feel very committed to a military career.
5. I am interested in a military career but if it doesn't work out I will probably be just as happy doing something else. (R)
6. A military career is really the only career I can imagine for myself.
7. I can't imagine staying in the military until retirement. (R)
8. I see the military as my life's work.

Familiarity with the military (4)

1. I have spent a great deal of time on or around military bases before enrolment.
2. I have spent a great deal of time around military people before enrolment.
3. I do not know very much about the military lifestyle. (R)
4. I have done a considerable amount of research on the military prior to enrolment?

Expectations (3)

1. I know a great deal about what it means to be a soldier, airman/airwoman, or sailor.
2. I think I have a pretty good idea about what basic training will be like.
3. I think I have a pretty good idea about what the military is really like.

Choice in Selection of Organization

Volition (5)

1. I always carefully weigh costs and benefits when making decisions that affect my life.
2. I often make quick decisions which have a lot of implications for my life. (R)
3. I never make major decisions quickly.
4. I am a somewhat impulsive person. (R)
5. I am comfortable making major decisions according to “gut” feel. (R)

Sacrifice (6)

1. I turned down other job offers to enroll in the CF.
2. I did not pursue alternative opportunities outside the military.
3. The CF was the only organization that accepted me. (R)
4. The CF was my only organization of choice.
5. The CF was only one alternative from among many opportunities.
6. When I selected the CF, I had many other job opportunities.

Mental Toughness Questionnaire (MT18) (Clough, Earle, & Sewell, 2002) $\alpha = .83$

1. Even when under considerable pressure I usually remain calm.
2. I tend to worry about things well before they actually happen. (R)
3. I usually find it hard to summon enthusiasm for the tasks I have to do. (R)
4. I generally cope well with any problems that occur.
5. I generally feel that I am a worthwhile person.
6. “I just don’t know where to begin” is a feeling I usually have when presented with several things to do at once. (R)
7. I usually speak my mind when I have something to say.
8. When I make a mistake I usually let it worry me for days. (R)
9. In discussions, I tend to back-down even when I feel strongly about something. (R)
10. I generally feel in control.
11. Often I wish my life was more predictable. (R)
12. When I feel tired I find it difficult to get going. (R)
13. I am generally able to react quickly when something unexpected happens.
14. However bad things are, I usually feel they will work out positively in the end.
15. I generally look at the bright side of life.
16. I generally find it hard to relax. (R)
17. I usually find it difficult to make a mental effort when I’m tired. (R)
18. If I feel someone is wrong, I am not afraid to argue with them.

Measures at Time 2 and 3.

Affective Commitment (8) (Meyer & Allen, 1991) T2 $\alpha = .82$ and T3 $\alpha = .80$

1. I would be very happy to spend the rest of my career in the CF.
2. I enjoy discussing the CF with people outside the organization.
3. I really feel as if the CF's problems are my own.
4. I think I could easily become as attached to another organization as I am to this one. (R)
5. I do not feel "part of the family" in the CF. (R)
6. I do not feel emotionally attached to the CF. (R)
7. The CF has a great deal of personal meaning for me.
8. I do not feel a sense of strong belonging to the CF. (R)

Post-Entry Normative Commitment (Revised) (6) T2 $\alpha = .82$ and T3 $\alpha = .80$

1. I do not feel any obligation to remain with the CF. (R)
2. Even if it were to my advantage, I do not feel it would be right to leave the CF now.
3. I would feel guilty if I left the CF now.
4. The CF deserves my loyalty.
5. I would not leave the CF right now because I have a sense of obligation to the people in it.
6. I owe a great deal to the CF.

Turnover Intentions T2 $\alpha = .90$ and T3 $\alpha = .91$

1. I intend to stay with the CF as long as I can.
2. I intend to leave the CF as soon as I can. (R)
3. I intend to leave the CF as soon as another job becomes available.
4. I intend to leave the CF as soon as I complete Basic Training.
5. I intend to leave the CF as soon as my initial contract is completed.

The Organizational Socialization Inventory (Taormina, 2004) (15)

(Affective Newcomer Adjustment) T2 and T3 $\alpha = .93$

1. The CF has provided excellent job training for me.
2. I know very well how to get things done in the CF.
3. Other members and instructors have helped me on training in various ways.
4. There are many chances for a good career in the CF.
5. The training in the CF has enabled me to do my job as a soldier very well.
6. I have a full understanding of my duties in the CF.
7. My instructors are usually willing to offer their assistance or advice.
8. I am happy with the pay, benefits, and rewards offered by the CF.
9. The CF offers thorough training to improve my soldier skills.
10. The goals of this organization have been made very clear to me.
11. Most of the instructors have accepted me as a member of the CF.
12. Opportunities for advancement in the CF are available to almost everyone.

13. Instructions and feedback given by my instructors has been valuable in helping me perform better.
14. I feel I have a good grasp of the way the CF operates.
15. My instructors have done a great deal to help me adjust to the CF.
16. I can readily anticipate my prospects for promotion in the CF.
17. The type of training provided by the CF is highly effective.
18. The CF's objectives are understood by almost everyone here.
19. My relationships with the other recruits and instructors are very good.
20. I expect the CF will continue to employ me for many more years.

Newcomer Socialization Questionnaire (Haueter, et al., 2003).

(Cognitive Newcomer Adjustment) T2 $\alpha = .89$ and T3 $\alpha = .91$

1. I know the history of the CF.
2. I know the structure of the CF.
3. I understand how the CF operates.
4. I understand the CF's objectives and goals.
5. I understand how my job contributes to the larger CF organization.
6. I understand how to act to fit in with what the CF values and believes.
7. I know the CF's overall policies, rules, and dress codes.
8. I understand the chain of command.
9. I understand how things are managed in the CF.
10. I understand the acronyms and abbreviations used in the CF.
11. I understand the leadership style used in the CF.

Demographical information

1. Gender
2. Age
3. Marital Status