Applicability of Civilian Retention Theory in the New Zealand Military

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The purpose of this study was to assess the applicability of civilian retention theory in the military by exploring the relationship between established determinants of retention and intentions to remain in the NZ Army. Specific hypotheses were made based on the civilian theory and these formed the basis for a preliminary military retention model. The model was then tested on 97 individuals currently enlisted in the New Zealand Army. Regression and path modeling results indicated that work satisfaction and organisational commitment are the proximal predictors of intentions to remain in the military, and that these predictors mediate the relationship between more distal predictors and retention. The results signified the relevance and usefulness of civilian research in predicting retention in the military, and future research directions are discussed.

Since the end of the cold war, military forces worldwide have struggled to maintain required staffing levels (Greig, 2001). For instance, between 1999 and 2000 there were 4,947 enlistments compared with 6,467 separations in the Australian Defence Force. Military forces are increasingly forced to compete with civilian employers for talented individuals, and cannot offer the same career opportunities as multi-national organisations. The New Zealand Army is no exception to this trend, especially since staffing levels are maintained entirely by voluntary service. As a consequence, recruiters nationwide are involved in an ongoing campaign to attract new recruits, whilst vigorous advertising campaigns direct interested individuals to the New Zealand Army website.

Importance of Personnel Retention

All recruits must undergo initial and specialist training prior to their integration in regular force units. This training involves an initial period of 12 weeks, during which recruits are introduced and indoctrinated into the military, before they move on to trade specific training lasting anywhere between 12 weeks and one year. Due to its very nature, the recruitment and training of new personnel is extremely costly. Therefore, retention of personnel should be considered a priority, because the cost of retention initiatives are most probably less than those costs involved with continuously recruiting and training new personnel.

Modeling Retention in Military and Civilian Settings

Until now, most published studies of military retention have involved data-mining approaches designed to identify demographic (i.e., gender, race, age, marital status) and organisational characteristics (i.e., male/female ratio, length of overseas assignment) related to turnover (Walker, 2003). This is problematic for a number of reasons: 1) many demographic characteristics, such as gender, are inherent and cannot readily be changed; 2) recruiting policy based on demographics would further decrease the already diminishing source of potential recruits; and 3) although data mining can result in relatively high predictive validities, such approaches are ill-suited for building a theory of military retention/turnover. Focusing on demographics, for instance, neglects the actual cause of turnover (e.g., female soldiers may have a significantly lower retention rate than their male counterparts; however, this does not identify the underlying reason for their behaviour).

In contrast, civilian research has treated retention/turnover as an instance of motivated personal choice. To model this choice behavior, researchers have introduced and empirically tested a number of direct and indirect links between personal characteristics (i.e., personality, job affect), organisational variables (i.e., organisational support, recruitment techniques), intentions to remain, and actual turnover. As a result, there exists a relatively coherent and integrated theory of civilian retention, which can be easily presented and tested using structural equation modeling methodology (e.g., Griffeth, Hom, & Gaertner, 2000).

Regrettably, though, there has been only a limited effort to assess the applicability of civilian retention theory in the military. Notable exceptions are unpublished studies by Walker (2003),

Schreurs and Lescreve (2001), and Van de Ven (2001), who examined the relationships between retention and variables, such as "met expectations" and job satisfaction. Importantly, they found that these variables were highly predictive in military settings, which suggested that other traditionally "civilian variables" should also be explored. In our view, the exploration of theoretical retention models for military contexts is essential to identifying the sources of voluntary turnover and developing effective intervention strategies.

Proposed Military Retention Model

In this study, we proposed, tested, and subsequently revised a preliminary "personal choice" military retention model. The model contained a number of distal and proximal antecedents of retention that were derived from several streams of civilian research. The initial list of antecedents was intentionally broad to reflect the breadth of the current approaches. Each antecedent was hypothesised to exert either a direct or indirect effect on intentions to remain in the Army. Note that our model uses "intentions to remain" as a criterion variable, because it correlates highly with actual decisions to re-enlist (Griffeth et al., 2000). A graphical representation of our initial model is shown in Figure 1. Because this is a conceptual model, each variable is effectively a latent construct and according to the structural equations modeling conventions appears as an oval.

It can be seen that our initial retention model contained 4 proximal predictors of retention (community involvement, work satisfaction, organisational commitment, and job involvement) and 4 distal predictors (dispositions, perceived organisational support, work-family conflict, and met expectations). The influence of distal predictors was assumed to be mediated fully by proximal predictors (except the work-family conflict variable, where, as explained later, a direct link was also hypothesized). Each variable in the model and its hypothesized link with voluntary turnover was based on the civilian literature to which we allude briefly below.

Why Focus on Intentions to Remain?

Until recently, little research has focused on the decision to remain in an organisation, and it has simply been considered the absence of a decision to quit (Maertz & Campion, 1998). That is, amongst other factors, employees either leave because they are dissatisfied and have attractive alternatives, or they are satisfied and the alternatives, if any, are unattractive. As a consequence, retention has almost always been defined in terms of its relationship with turnover.

Turnover can be defined as "the number of workers who leave their place of employment during any given period, whether they have to be replaced or not" (NZ Department of Labour, 1972 at p.7). However, such a definition is insufficient for an accurate examination of retention because it fails to distinguish between voluntary and involuntary turnover (Dalton, Krackhardt & Porter, 1981). Voluntary turnover occurs when individuals leave of their own volition, and common labels include 'quits' and 'resignations.' Such a distinction is necessary because previous research has shown that job attitudes of individuals forced to leave an organisation are more similar to those who remain than to those who leave voluntarily.

The rate of turnover in any organisation is most often expressed as the percentage of total employees who sever their organisational membership during a standard period, usually 12 months. This formula can be expressed as:

Labour Turnover =

$$\text{Labour Turnover} = \frac{\text{Total Separations (over 12 months)}}{\text{Average \# of Employees over the 12 Months}} \times 100$$

However, this is a deceptive measure of turnover because there exist a multitude of explanations for this percentage, and it fails to make the distinctions outlined above (NZ Department of Labour, 1972). Therefore, more sophisticated methods are required to adequately measure the turnover phenomenon. Skill wastage or survival indexes assume that employees require a certain amount of time to become proficient in a job, and represent the extent to which the numbers of trained operators are maintained within an organisation. Skill wastage can be expressed as follows:

$$\text{Skill Wastage} = \frac{\text{Total Separations with 12+ Months Experience (over 12 months)}}{\text{Total \# of Employees with 12+ months Experience}} \times 100$$

While these definitions are useful, it is often difficult to study the attitudes

Figure 1. Hypothesized "Personal Choice" military retention
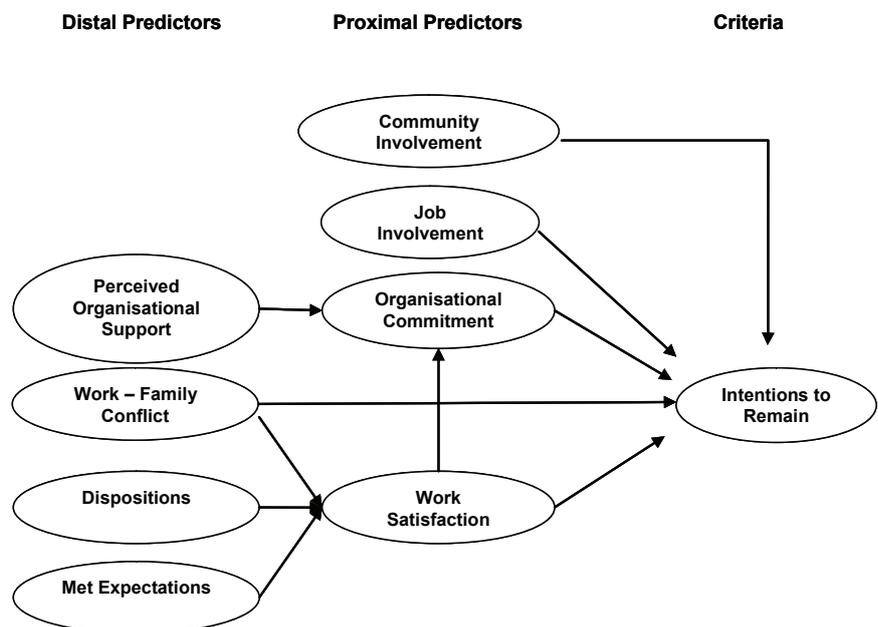
of individuals who have already left. Specifically, they are either difficult to contact, or they may be reluctant to participate in research conducted by their previous employer. As a result, researchers often turn to current employees, in order to evaluate their intentions to remain in the organisation.

Intentions measures are often employed in organisational research as a substitute for retention or turnover, and there is considerable theoretical and empirical support for their use as a proxy measure of turnover. Fishbein and Ajzen's (1975, in Hulin, 1991) 'theory of reasoned action' asserts that behaviour is the outcome of intentions to behave, and that intentions are governed by attitudes and subjective norms. This behavioural intentions model has been widely applied in retention research, and the intention to leave is established as the proximal cause of turnover (Griffeth, Hom & Gaertner, 2000, Tett & Meyer 1993). In fact, Hom, Caranikas-Walker, Prussia and Griffeth (1992) meta-analytic results suggest that military samples show even closer correspondence between intentions and subsequent enlistment decisions. Furthermore, the measurement of intentions is convenient, since researchers are not required to wait a standard period, usually one year, after collecting their data, in order to measure actual turnover behaviour.

Proximal Predictors of Retention

Work satisfaction (WS) is one's affective attachment to his/her work role. WS consistently emerges as the best job attitude predictor of intentions (Griffeth et al. 2000; Hulin, 1991). Therefore, it was hypothesized to have a direct path to retention in our preliminary model. Because military jobs tend to pay less than similar roles in civilian settings, it is reasonable to assume that work in the military provides more intrinsic satisfaction. Consequently, WS might be even more predictive of turnover in military settings than in the private or public sectors, with those experiencing even moderate levels of dissatisfaction being more likely to leave voluntarily.

Organisational commitment (OC) is defined as "the relative strength of an individual's identity with, and involvement in, a particular organisation" (Steers, 1977, p.46). Allen and Meyer (1990) conceptualise three different types of OC; affective, normative and continuance. Among these, *affective OC* has been established amongst the best predictors of both 'intention to remain' and actual retention (Hom, Caranikas-Walker, Prussia, & Griffeth, 1992, Mathieu & Zajac, 1990; Steers, 1977; Tett & Meyer, 1993). Therefore, only affective component of OC is included in our model. Although work satisfaction and OC are correlated, many studies have found that OC provides prediction of retention beyond work satisfaction (Tett & Meyer, 1993). Hence, in our model, OC has not only a direct path to retention, but also a path from WS to account for the likely causal link between the predictors.

Job involvement (JI) is defined as psychological identification with one's work (Lawler & Hall, 1970). For a job-involved person, his/her entire work situation is a very important part of life. Research suggests that employees who are highly job-involved are less likely to have intentions of leaving (Brown, 1996). Because Lodahl and Kejner (1965) have argued that a job-involved person is not necessarily more satisfied with, or more committed to, his/her job, we expected JI to be independent of WS and OC, and to contribute uniquely to prediction of retention.

Community involvement (CI) has been recently recognized as one of the most important, external environment variables involved in determining whether an individual stays or leaves an organisation. For instance, Cohen (1995, in Mitchell & Lee, 2001) asserted that attachments to one's church and community positively influenced job attitudes and attachment. Based on this research, Mitchell and Lee (2001) argued for a direct link to retention: individuals who have many links to their community, feel compatible with their community, and would have to sacrifice a great deal if they left their community, are more likely to remain in their job. Such a construct may be particularly relevant

to retention in the NZ Army, where community involvement initiatives are prevalent.

Distal Predictors of Retention

There has been an increasing interest in using *dispositions* (a.k.a., personality traits) as predictors of attrition. In civilian research, dispositions have been studied mainly as predictors of Work Satisfaction, and, hence, only as indirectly influencing intentions to remain with an organization. Judge, Heller and Mount's (2002) meta-analysis involving 163 independent samples and 334 correlations reported appreciable correlations between job satisfaction and neuroticism ($r = -.29$), extraversion ($r = .25$) and conscientiousness ($r = .26$). In connection, Judge, Erez, Bono, and Thoresen (2003) found that a combination of several dispositions (self esteem, generalised self efficacy, neuroticism and locus of control), which they called core self evaluations (CSES), had the highest correlation with job satisfaction. Based on these findings, we hypothesized that CSES would be important for predicting intentions to remain, but this effect would be fully mediated by work satisfaction.

With the increasing numbers of dual-career and single parent families, there has been an expansion of interest in the degree to which *work and family* domains *conflict* (O'Driscoll, 2003); yet, interestingly, most models of turnover still neglect inter-role conflict (Hom & Kincki, 2001). Conflict between work and family can create negative outcomes for individuals and organisations, especially when periods of separation from family due to work commitment are frequent. In fact, Castro and Huffman's (2001) study of US military personnel stationed in Europe found a direct relationship between work family conflict (WFC) and intentions to leave, as well as a relationship mediated by job satisfaction. Based on these findings, we hypothesized similar links in our model.

Another important distal antecedent of retention is p*erceived organisational support* (POS*)*. Employees develop perceptions about the extent to which their organisation

values their contributions and cares for their well-being (Rhoades, Eisenberger, & Armeli, 2001). This perceived organisational support (POS) has been the focus of a great deal of research and forms the basis for organisational support theory. Organisational support theory asserts that POS should produce OC. That is, when an organisation displays a caring and supportive attitude towards its employees, the employees are likely to care more about the organisation's welfare, and believe that good performance will be recognised and rewarded. Rhoades and Eisenberger's (2002) meta-analysis of 166 consequent-variable classifications in 73 independent samples identified many consequences of POS, including organisational commitment, job satisfaction, and desire to remain with the organisation. Thus, in our model, we hypothesized only an indirect link between POS and intentions to remain (the relationship is fully mediated by organizational commitment).

The final distal variable in our model is concerned with soldiers' expectations about military life. Porter and Steers (1973) proposed the "met expectations" model, which asserts that not meeting initial expectations of a recruit will result in dissatisfaction and, subsequently, turnover. This model forms the basis for realistic job previews (RJP; Wanous, 1975), which are widely used by recruiters to give potential employees a balanced picture of their future job roles. Following Porter and Steers' logic, we hypothesized that the relationship between met expectations and intentions to remain would be mediated by work satisfaction.

Note that the destinction between distal and proximal predictors is somewhat arbitrary. In path modeling terminology, proximal predictors are usually designated for variables exerting direct influence on the criterion (i.e., job attitudes and behaviors). In contrast, distal predictors are either contextual variables (e.g., work climate, work-family conflic), primary abilities (dispositions or intelligence) or past events/cognitions (i.e., expectations). Their influence on the criterion is typicall mediated by proximal predictors. By CFA conventions, direct predictors are often called exogenous

variables, while proximal predictors called endogenous. In our preliminary model, however, Job and Community Involvement variables do not appear to be mediators, but we still designated them as proximal predictors. That is because distal variables believed to be mediated by Job and Community Involvement (i.e., job variety) were not included in the survey due to space constraints.

Method

Participants and Measures

With assistance from the staff of the NZ Army Field Psychological Service and Human Resources Executive, 97 Army personnel participated in the study. Eighteen percent of participants were female and 82% were male. The age of respondents ranged from 18 to 55 years, with a mean age of 29.5 years. Participants' tenure in the NZ Army ranged from 4 months to 28 years, with a mean of 10.04. The ethnic composition of the sample was as follows: 71% European, 21% Maori, 1% Pacific Islander; and 7% of participants chose the option of 'other'.

The survey consisted of several demographic items, employment status questions, and nine measurement instruments that assessed the psychological variables presented in Figure 1.

Job involvement. A six-item, shortened version of Lodahl and Kejner (1965) Job Involvement Scale was used to measure job involvement. The scale measured the degree to which individuals psychologically identify with their jobs (Brown, 1996). A sample item was "I live, eat, and breathe my job." Response options ranged from 1= strongly disagree to 7= strongly agree. The scale's internal consistency reliability in this study was .72

Organisational commitment. A nine-item, shortened version of the Organisational Commitment Questionnaire (OCQ, Mowday, Steers & Porter, 1979) was used to measure affective component of OC. Sample items included, "I am proud to tell others that I am part of the Army", and "For me this is the best possible of all

organisations for which to work". All items were presented using the same format as for the Job Involvement scale. In this study, the internal consistency reliability estimate for the OCQ was .84.

Perceived organisational support was measured by an 8-item shortened scale from Eisenberger, Huntington, Hutchison, & Sowa (1986). A sample item was, "The army really cares about my well-being." All items were answered on a 7-point Likert-type format ranging from strongly disagree to strongly agree. The internal consistency reliability estimate for the measure was .84.

Work satisfaction was measured by a 10-item scale from the Illinois Job Satisfaction Index (IJSI, Chernyshenko, Stark, Crede, Wadlington, & Lee, 2003). The scale was comprised of short sentences describing cognitive and affective responses to one's work such as "I am proud of my work." A 4-point Likert format is used for this scale with response options being 1= strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. The internal consistency reliability estimate for this scale was .88.

Work-family conflict was assessed by Netemeyer, Boles, and McMurrian's (1996) 5-item scale. A sample item was, "The demands of my work interfere with my home and family life." Responses were collected using a 7-point Likert-type format; internal consistency reliability in this study was .94.

Community involvement was measured by a 7-item scale constructed using the community variables in Mitchell and Lee's (2001) paper. Sample items included, "I think of the community that I live in as home", and "Leaving this community would be very hard." For this scale, a 5-pont Likert scale was used and its internal consistency reliability estimate was .80.

Dispositions. Due to survey length constraints, we selected core self evaluations to represent personality influences in our model. This variable has been shown to have the highest correlation of job satisfaction among many possible temperament variables. The 12-item core self evaluation scale

(CSES, Judge et al., 2003) was used to assess individuals overall core self image, and incorporates generalised self efficacy, self esteem, locus of control, and neuroticism. A sample item is "I question my ability to do my work properly." Respondents were asked to rate how accurate/inaccurate each item was in terms of describing them. Response options ranged from 1= very inaccurate to 5= very accurate; internal consistency reliability was .83.

Met expectations were measured by a 5-item Met Expectations Scale. This scale was designed specifically for this study using classical test theory and factor analytic methodology. Examples of items included, "I thought that I would get more accurate information about the initial training and future job", and "I had a good idea about what life in the Army would be like before I enlisted". Each item was rated on a 5-point scale from 1 = very inaccurate to 5 = very accurate. The scale was found to be unidimensional and its reliability estimate was .73.

Intentions to remain were measured by a 7-item scale also designed specifically for this study. Examples of items included, "I intend to stay in the Army until my retirement", and "I have made plans to leave the Army." Each item was rated on a 5-point scale from 1 = very inaccurate to 5= very accurate. The scale was found to be unidimensional and its reliability estimate was .77.

Analyses and Results

In this study, our initial model of military retention was examined using path modeling. The advantages of this technique over mediated multiple regression were 1) the relationships between all variables in the model could be tested **simultaneously**, and 2) the strength and direction of the relationships could be represented graphically, which eased the interpretation of results. The LISREL8.3 computer program (Joreskog & Sorbom, 1999) was used to estimate path coefficients and evaluate the overall fit of the model presented in Figure 1. Because the fit of the model was only marginally acceptable, several revisions were made based on modification indices provided in the LISREL output.

Table 1 contains means, standard deviations, inter-correlations and reliability estimates for the variables included in the study. It can be seen from the table that the four hypothesized proximal antecedents generally had higher correlations with *Intentions to Remain* (these ranged from .20 for community involvement to .42 for organizational commitment). The only exception was the perceived organizational support scale which, although being a distal predictor, correlated .28 with intentions to remain. The size of that correlation, however, may have been due to its relatively high associations with both work satisfaction and organizational commitment (the latter was hypothesized to be a mediator of relationships between perceived organizational support and intentions

to remain).

Note also that all variables in the study were measured with high precision; the internal consistency reliability estimates (alphas), which are known to be lower bounds of reliability, ranged between .72 to .94. This was important, because path analysis assumes that variables in the model are measured without error (see Mueller, 1996). Observing low reliabilities would have necessitated more complex multivariate analyses for which samples larger than 100 would be required.

The results of the path analysis of our initial model of military retention provided support for the applicability of civilian retention theory in military contexts. Overall, goodness of fit statistics indicated a reasonable fit. Both the Goodness-of-Fit Index (GFI) and the Root Mean Square Error of Approximation (RMSEA) showed good fit (.93 and .077, respectively), but the Normed Fit Index (NFI) was only .80 suggesting a need for some model revision. The examination of standardized path coefficients indicated that three proximal predictors (community involvement, work satisfaction, and organizational commitment) had the strongest effects on intentions to remain in the NZ Army. Also, as expected from the civilian literature, relationships between three distal predictors (dispositions, met expectations, and perceived organizational support) and intentions to remain were fully mediated by the hypothesized proximal predictors.

Table 1. Means, Standard Deviations, Reliabilities, and Inter-correlations for the 9 Measures

Variable Name	# of Items	Mean	SD	1	2	3	4	5	6	7	8	9
1. Intentions to Remain	7	3.59	1.02	**.77**								
2. Work Satisfaction	10	2.92	.47	.40	**.88**							
3. Organisational Commitment	9	3.70	.66	.42	.51	**.84**						
4. Job Involvement	6	2.97	.70	.24	.27	.39	**.72**					
5. Community Involvement	7	3.10	.67	.20	.15	.11	.10	**.83**				
6. Core Self-evaluations	12	3.55	.58	.15	.49	.38	.08	.11	**.83**			
7. Work and Family Conflict	5	4.62	1.48	-.11	-.08	-.02	.16	-.15	-.19	**.94**		
8. Perceived Organisational Support	8	3.97	1.16	.28	.36	.43	.11	.11	.45	-.17	**.84**	
9. Met Expectations	5	2.86	.83	.14	.27	.14	.02	.11	.20	.03	.25	**.73**

Note: N = 97. Values on the diagonal are reliability estimates for the respective measures.
Correlations greater than .20 are significant at *p* < .05.

Specifically, core self evaluations and met expectations were significantly related to work satisfaction, while perceived organizational support was significantly related to organizational commitment. Yet, direct paths from these three distal antecedents to intentions to remain were insignificant (separate regression tests for mediation were also conducted and supported the full mediation hypothesis).

Contrary to civilian research, however, the direct effect of job involvement and work-family conflict variables on intentions to remain was not significant. This suggested that these links might have been mis-specified in our initial model. Examination of modification indices revealed that job involvement should have had a direct path to organizational commitment instead of to intentions to remain, while work-family conflict should have had a direct path to job involvement, rather than to intentions to remain and work satisfaction.

Our revised "personal choice" military retention model is presented in Figure 2 (Note that all variables are presented as rectangles in accordance with path analysis conventions). It provided a considerably better fit to the data than our initial model. The chi-square fit statistic was 18.02 (df = 22, p = .70) and the 90% confidence interval for RMSEA was (.00; .069), both indicating very good fit. Other goodness of fit indices were also above .90 (i.e., GFI = .96, CFI = .99, NFI = .89, and AGFI = .92). The resulting path coefficients are shown in Figure 2. It can be seen that work satisfaction, organizational commitment and community involvement were immediate predictors of intentions to remain. Estimated path coefficients for these variables were .50, .48, and .22, respectively. The influences of other predictors on intentions to remain were mediated by either organizational commitment or work satisfaction.

Discussion

The purpose of this study was to assess the applicability of civilian retention theory in the military, by exploring the relationships between established determinants of retention in civilian settings and intentions to remain in the NZ Army. Traditionally, civilian research has treated retention as an instance of motivated personal choice that is largely influenced by one's dispositions, attitudes and feelings (Walker, 2003). In contrast, military retention research has focused primarily on the relationships between personnel demographic and organisational characteristics and enlistment outcomes (i.e. retention) with relatively little emphasis on the possible contributions of affective predictors and personality traits. As such, this study represents an important attempt to amalgamate the two bodies of research.

Figure 2 displays the revised retention model. Not only does it provide valuable information about the determinants of retention in the NZ Army, but it also establishes the relevance of civilian retention theory and research methods in the military. Firstly, consistent with predictions, the results of this study confirmed previous civilian research, which suggests that work satisfaction, community identification, and organisational commitment are the leading predictors of intentions to remain. Further, the results of the study indicate that work satisfaction and organisational commitment fully mediate the relationship between other predictors of intentions to remain, such as dispositions, job involvement, perceived organizational support and met expectations. However, contrary to previous civilian findings, our study suggest that individuals experiencing work family conflict are no more dissatisfied with their jobs, nor more likely to display intentions to leave the Army. This may indicate an increased acceptance, or tolerance, of work-family conflict in the military. This assertion is reasonable, since a career in the Army involves acceptance of long hours and periods of separation from family (Schreurs & Lescreve, 2001). Despite the relatively small sample size and cross-sectional research design, this study was an important step towards the development of a robust military retention model. We believe that the study provides valuable information about key predictors of retentions and also identifies areas that require further research.

In sum, this study indicated that several aspects of civilian retention theory may be useful in military settings. In a practical sense, this research also offered an opportunity for enlisted personnel to communicate their feelings and opinions about life in the NZ Army, which provided a wealth of valuable information for future research. In particular, the results emphasise the importance of organizational interventions targeting work satisfaction and commitment. As indicated by our resulting model, creating realistic expectations about a military career or providing consistent levels of organizational support are some of the strategies for increasing retention that should be considered. The

Figure 2. Revised "Personal Choice" military retention model and its path coefficients
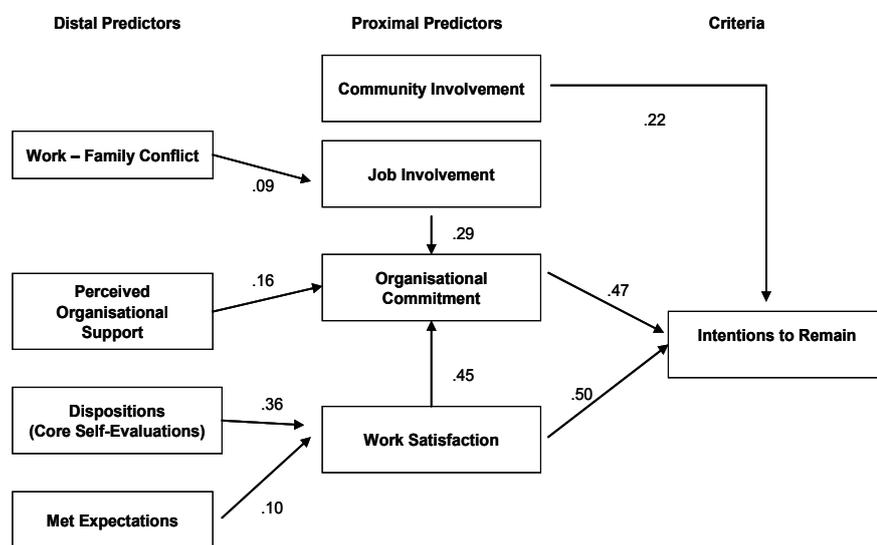
NZ Army may also wish to examine the important effect that community has on an individual's intentions to remain. It may be beneficial from the retention standpoint to help Army personnel to better integrate into the community they live in and to facilitate the development of 'links' that would need to be 'sacrificed' in order to leave.

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