Extending the 8 Forces Framework of Attachment and Voluntary Turnover

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Studies in business research have begun to utilize a framework of the "8 forces" of attachment and turnover (i.e., Maertz & Griffeth, 2004) categories that purportedly capture all of the distinct motives causing voluntary turnover decisions. This model's claim of comprehensiveness will be tested through incremental validity tests on four possible value-added turnover antecedents established in the literature, in two samples of hourly factory workers. The relevant 8 forces fully-mediate the effects of organizational identification, work satisfaction, and pay satisfaction on turnover intentions. However, location attachment demonstrates incremental validity beyond relevant 8 forces variables. Thus, the findings generally support the 8 forces model as a framework to understand why people stay or quit, with one notable need for extension. In order to fulfill the model's promise of comprehensiveness, with all attendant benefits to empirical and practical turnover research, a 9th force of location attachment including community embeddedness should be added.

Voluntary employee turnover has been one of the most popular topics in organizational research over the last 50 years (e.g., Griffeth & Hom, 2001; Lee et al., 2004; Mitchell, Holtom & Lee, 2001a; Steel, Griffeth & Hom, 2002). Despite the continuing importance of turnover research and considerable theoretical progress on *how* people quit (e.g., Lee & Mitchell, 1994), few models have truly strived for comprehensiveness in understanding *why* people quit their job (cf., Mobley et al., 1979; Price & Mueller, 1981). This failure to understand all the theoretical categories

for why people quit also inhibits a greater understanding of how to study and manage voluntary turnover for a number of reasons. First, most content models would suggest job satisfaction or organizational commitment as the main initiator or central mediator of effects on turnover (e.g., Price & Mueller, 1981), but a good number of antecedents have been shown to be conceptually distinct from these traditional antecedents and have demonstrated incremental validity beyond them (e.g., Becker, 1992; Lee et al., 2004; Mitchell et al., 2001b), so comprehensiveness of traditional predictive models is questionable. Second, many other predictors also overlap conceptually with these traditional attitude antecedents (Hom & Griffeth, 1991). Third, the deficiency and overlap in turnover content models leaves practitioners without an overall framework for how to think about influencing turnover intentions and final decisions. Therefore, for researchers and practitioners, a theoretical model is needed to guide which constructs to include in models to avoid both deficiency and the confounding of distinct psychological mechanisms for attachment and withdrawal.

Such a framework, called the "8 forces," has been proposed (Maertz & Griffeth, 2004). Although this 8 forces model synthesizes many established concepts from the commitment and turnover literatures and the authors claim that these categories are comprehensive, the claim is yet untested. The main purpose of this paper is to test the claim of comprehensiveness of this increasingly visible framework, and if changes are suggested by the tests, the model will be expanded to better achieve its promise of comprehensiveness.

The Importance of Theoretical Distinctiveness and Comprehensiveness

Content turnover models attempt to integrate and differentiate the "whys" for quitting an organization. Although multiple predictor constructs have been aggregated into prominent content models (e.g., Bluedorn, 1982; Hom & Griffeth, 1991; Meyer & Allen, 1991; Mobley et al., 1979; Price & Mueller, 1981), each omits key antecedents shown to be important in other theoretical or empirical studies. To be fair, none of these content models has claimed to fully capture the proximal motives for turnover and attachment. The lack of a complete content model has left researchers and practitioners who want a full set of antecedents to idiosyncratically pick a set of constructs/predictor scales that may be deficient. Conceptual overlap is a serious problem for theory and research as well (e.g., Bozeman & Perrewe, 2001; Hom & Griffeth, 1991; Morrow, 1983). Both of these problems can lead to specification errors in empirical models and ambiguity in terms of how to intervene practically based on survey responses. Thus, measuring all the main antecedent categories for turnover with some level of parsimony, while minimizing conceptual overlap, would be highly valuable, but doing this requires explicit theoretical guidance.

The 8 Forces Framework

In response to this issue, Maertz and Griffeth (2004) synthesized the model called the "8 Forces Framework" and proposed 8 general categories of motives for organizational attachment and withdrawal (Table 1). They also mustered considerable

evidence and arguments for the distinctiveness and non-overlap of the motivational mechanisms involved in each category. However, they also claimed that their framework was comprehensive in capturing the unique proximal motivational mechanisms that led to turnover decisions. Maertz and Griffeth (2004) further claimed that all turnover predictor scales were either antecedents of these forces or indicators of these 8 forces. In either case, this implied that one or more of their mechanisms fully mediated all causal effects on voluntary turnover intentions, and therefore, on actual turnover decisions (e.g., Mobley, 1977).

Table 1: *Summary of 8 Forces Framework*

Affective Forces	At any given point in time, an employee has an overall feeling about the organization and being a member in it, which initiates a hedonistic approach-avoidance mechanism. That is, comfort or feeling good at the organization motivates attachment to it, while discomfort or feeling bad motivates withdrawal. This is purportedly the primary common turnover motive captured in affective commitment and global satisfaction.
Contractual Forces	Psychological contract obligations to the organization, through a norm of reciprocity, can imply or explicitly include staying with that organization. Conversely, perceived contract violations by the organization reduce or eliminate any such obligations to stay, and thereby, motivate quitting.
Calculative Forces	Based on future-oriented self-interest, employees calculate their chances for achieving their goals and values at the current organization. If this calculation is favorable, the person becomes more motivated to stay. If the calculation is that important goals and values <u>cannot</u> be met there, the person becomes more motivated to quit.
Alternative Forces	Good or plentiful alternative job opportunities can psychologically pull and attract employees away from their current organizations for various reasons. Conversely, an employee who believes that there are few or low quality alternatives available will be less motivated to quit the current organization, ultimately fearing unemployment.
Behavioral Forces	Behavioral forces are the perceived tangible or psychological costs incurred by leaving, like side-bets or psychological dissonance, motivating attachment to the organization. Conversely, perceiving no costs of leaving (or dissonance of staying) motivates an employee to quit.
Normative Forces	Employees perceive expectations from family or friends about their remaining or quitting. Assuming that there is some motivation to comply with these expectations, a motive force is created. If the family member or friend's expectations favor staying, there is a motive to remain. If the expectations favor leaving, there is a motive to quit.
Moral Forces	Employees may also internalize a value about turnover behavior itself. This value may hold that quitting jobs shows weak character or fickleness, implying attachment. Or, this value may hold that <u>changing jobs</u> regularly is a virtue, implying withdrawal. The psychological motive force is to do the "right thing" by acting consistently with one's internalized values about turnover behavior.
Constituent Forces	Related to foci of commitment (Becker, 1992) and on-the-job embeddedness "linkages" (e.g., Lee et al., 2004), an employee may feel attached to or want to withdraw from various constituents (e.g., leaders, friends, coworkers, team) within the organization, apart from the organization itself. Because constituents are typically seen as embedded within the organization, attachment to them would typically imply attachment to the organization as well.

Recently this 8 Forces Framework has begun to be utilized in the literature as a tool to understand and summarize turnover motives (e.g., Harris, Kacmar & Witt, 2005; Holtom et al., 2008; Maertz & Campion, 2004; Maertz et al., 2007). Nevertheless, this model needs to be tested before these 8 forces can be considered a comprehensive set of constructs to guide future research and practice. In fact, it is quite possible that some distinctive motives for staying or leaving may have been confounded or omitted from this framework altogether. For example, satisfaction with the work itself and off-the-job/community embeddedness have demonstrated validity in predicting turnover behavior (Griffeth et al., 2000; Lee et al., 2004), but are not included in the framework. Extending the 8 Forces Framework to include key omitted constructs would provide a fuller conceptualization and understanding of the nomological network of causes surrounding voluntary turnover and psychological attachment to an organization.

Meaningfully Testing the Model

This 8 forces model synthesizes, clarifies, and helps theoretically refine the turnover antecedent literature, but it does not introduce any completely new concepts. This creates an interesting question of how to meaningfully test such a model. The obvious answer would be to focus on predictive validity. However, because the model is a synthesis based on many past studies, there is no doubt that some approximate measures of the model's forces have predicted turnover behavior in the past and would do so again (e.g., Griffeth, Hom & Gaertner, 2000; Griffeth et al., 2005; Lee et al., 2004; Meyer, Allen & Smith, 1993; Mitchell & Lee, 2001). In fact, Maertz and Griffeth (2004) offer support for the predictive validity of all forces except their "moral forces," although they criticized the imprecision of many measures. Testing the 8 Forces Framework, then, is not primarily about whether the forces predict turnover behavior. Instead, the key question is, "Are these 8 forces complete in capturing people's distinct motives?"

For testing the modeling hypotheses, turnover intentions are the criterion used to more closely reflect the theoretical causal sequence being modeled, where all antecedent effects on turnover behavior are fully mediated by turnover intentions (e.g., Azjen, 1991; Mobley, 1977). Continuous measures of turnover intentions also do not violate the assumptions of SEM modeling techniques and provide more power to detect incremental effects. Also, potential common method bias does not seriously threaten the validity of our hypothesized comparative nested-model tests between fully and partially-mediated models, as in the case of assessing predictive validity. For these reasons, it is believed that using intentions as the criterion in our SEM model comparisons is appropriate and not a flaw for the purpose of testing comprehensiveness.

Dimensions and Scales of the 8 Forces

To understand comprehensiveness, subdimensions of these force categories must be distinguished from truly distinct motivational mechanisms representing separate categories. Maertz and Griffeth (2004) freely acknowledged that their 8 categories were likely multi-dimensional. Before testing comprehensiveness, the dimensionality of the 8 forces must be addressed and measures of any subdimensions must be introduced. In

a recent paper, Maertz and Boyar (2010) developed a multi-dimensional survey of the 8 Forces Framework. They tested the dimensionality in competitive confirmatory factor analyses, supporting 18 total subdimensions across the 8 forces. They then calculated subsequent factor analyses, internal consistency reliabilities, and regression analyses using these 18 scales. Their results generally supported the psychometric properties and predictive validity of the scales used here. See Appendix 1 for dimensions and example items for each of the 18 scales measuring the 8 forces.

Hypotheses

Considering these subdimensions, the 8 Forces Framework may have wrongly omitted key antecedent motives not reflected in any of the forces. The key question for empirical modeling is whether these omitted constructs amount to additional forces with unique motivational effects on turnover decisions, or if their effects are fully mediated by the motive categories already identified. If other antecedents demonstrate significant incremental validity beyond the mediating forces (i.e., partial mediation), this is evidence that additional motivational forces are at work, implying that the model should be expanded. All constructs cannot be tested in one study with the potential to have incremental validity beyond the 8 forces. Instead, hypotheses for four (4) important turnover antecedents from the literature will be proposed.

Organizational Identification
Organizational identification is a form of social identification where one's identity is partially defined by membership in the organization (Hogg & Terry, 2000). Positive feelings toward the organization likely result from this social identification process (e.g., Ashforth & Mael, 1989; Mowday, Steers & Porter, 1979), implying mediated effects on turnover intentions through affective forces. Further, an employee who identifies closely with the organization is more likely to feel a need to stay in order to fulfill obligations to that organization than an employee who has not identified with the organization. This relationship suggests mediation of organizational identification through contractual forces of obligation. Also, identification may make the employee see his/her future goals/values as more aligned with the organization's (e.g., O'Reilly & Chatman, 1986). This implies that employees should be motivated to stay with the organization in order to facilitate fulfillment of these goals. Thus, organizational identification effects should be mediated by calculative forces as well. Finally, leaving an organization with which one has identified implies some psychological cost (Salancik, 1977). Because behavioral forces include psychological costs of guilt/regret associated with leaving, organization identification should also be mediated by such behavioral forces.

Despite these likely mediated effects, we argue that organizational identification may still have incremental direct effects on turnover intentions beyond these mechanisms. This is because loss of one's identity (or part of it) could transcend simple negative affect, any conscious recognition of a "cost of leaving," or other proposed mediator effects. This potential threat could create a distinct motivation to protect one's self-concept through continued membership at a subconscious level that is not

reflected in any of the force constructs (Figure 1). Thus,

> *Hypothesis 1: Organizational identification effects on turnover intentions will be partially rather than fully mediated by affective, contractual (obligations), calculative, and behavioral (psychological costs) forces.*

Figure 1: *Representation of Hypothesis 1*
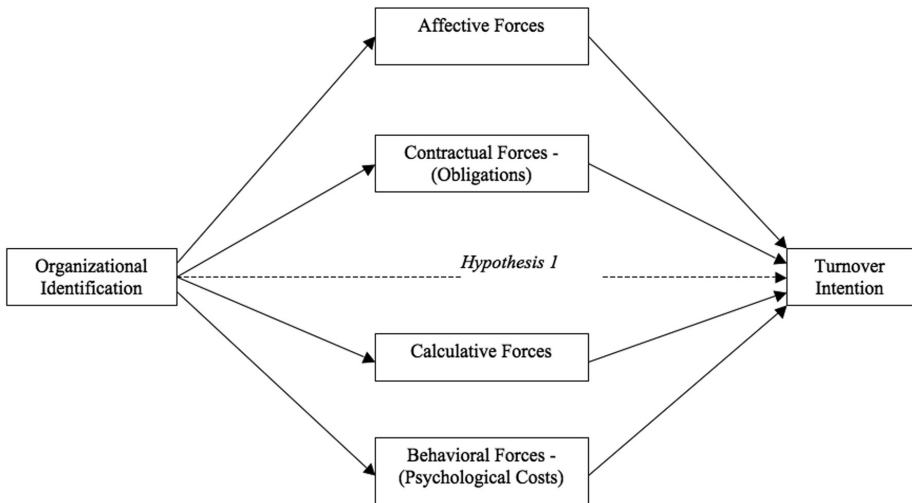
Work Satisfaction and Pay Satisfaction

Work satisfaction and pay satisfaction have both been among the most consistently significant predictors of turnover behavior (Griffeth et al., 2000). Yet, Maertz and Griffeth (2004) do not mention these factors. Nevertheless, they would certainly link both of these constructs to turnover through several of their forces. First, work and pay cause emotion associated with the organization through attribution that the organization itself causes key work type and pay decisions. Thus, work and pay satisfaction effects on turnover decisions should be mediated through affective forces. Second, out of reciprocity for receiving satisfying work assignments and compensation, work and pay satisfaction could also be seen as creating some obligation to stay with the organization. This implies potential mediation of both these satisfaction effects through contractual forces as well. Current satisfaction with work or pay may act as a signal to the employee that his/her work goals can also be met in the future through continued membership in the organization. This also suggests that work and pay satisfaction would be mediated through calculative forces of attachment. Also, work satisfaction and pay satisfaction may translate into greater attachment by causing an employee to see other alternative jobs as relatively less attractive (i.e., mediated by alternative forces). Employees with high work and pay satisfaction would also likely experience some psychological dissonance cost that must be resolved whenever they

contemplate quitting (Salancik, 1977). This may cause them to reject or revise thoughts of leaving, thereby increasing psychological attachment. This implies that behavioral forces can mediate these two satisfaction effects on turnover intent. Finally, because the supervisor is often seen as controlling work assignments and pay decisions to some extent, work and pay satisfaction can create positive feelings toward the supervisor and thereby influence turnover intentions (Maertz et al., 2007). This means mediation through supervisor constituent forces in the form of positive affect.

Despite these likely mediated effects, it is suggested that a person's satisfaction with the work itself and compensation satisfaction may be so central to employee conceptions of organizational membership that these attitudes themselves have an independent influence on turnover decisions not portrayed in the 8 forces. That is, these mental categories concerning the work itself and compensation may be so ingrained in turnover cognitions that they become part of scripts, schemas, and implicit theories of staying and leaving. In this way, these aspects may operate as separate motive categories, exerting direct effects on turnover intentions beyond those mediated through the forces proposed above (Figure 2).

Hypothesis 2: Work satisfaction effects on turnover intentions will be partially rather than fully mediated by affective, contractual (obligations), calculative, alternative, behavioral (psychological costs), and supervisor (affective) forces.

Hypothesis 3: Pay satisfaction effects on turnover intentions will be partially rather than fully mediated by affective, contractual (obligations), calculative, alternative, behavioral (psychological costs), and supervisor (affective) forces.

**Figure 2:** *Representation of Hypotheses 2 and 3*
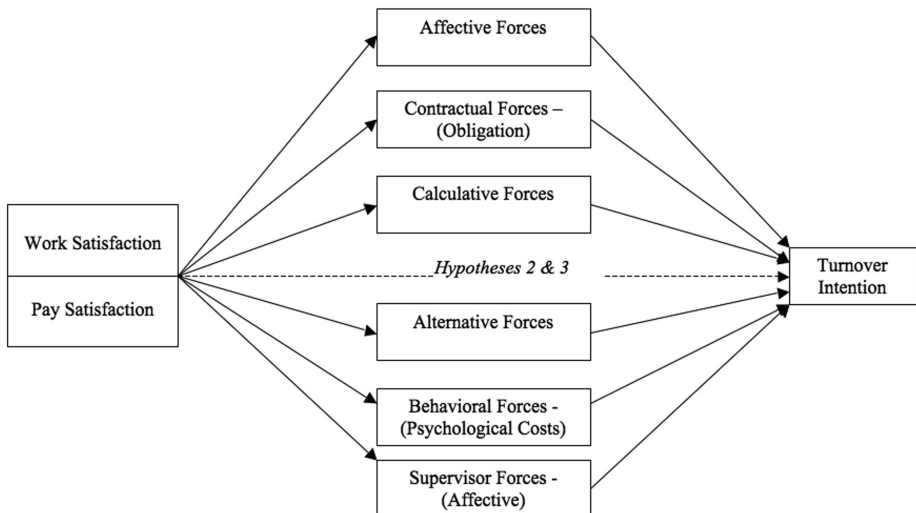
Location Forces

There is considerable anecdotal evidence that geographic location matters significantly in people's job choices and turnover decisions. Moreover, Mitchell et al. (2001) found that embeddedness variables had incremental effects in explaining turnover behavior beyond established predictors. However, Maertz and Griffeth (2004) did not mention location attachment within the 8 Forces Framework, although they did claim that several of their forces mediate location effects. First, being attached to the location may also involve attachments to the organization itself, if it is only located within the same community or if it is the main employment opportunity that allows one to remain there. In this way, being attached to the community could cause positive feelings to spill over toward the organization (i.e., mediation by affective forces). Second, the general location where one works and resides is likely relevant to the employee's calculations about the likelihood of attaining key goals (e.g., working in a top corporation in a big city). If the current location allows goals to be met, this should increase calculations that goals can be met by staying at the current organization. This suggests mediation through calculative forces. Third, attachment to the community implies thinking about what could be sacrificed by leaving it (Mitchell & Lee, 2001). This creates behavioral inertia costs against movement from both the community and organization (e.g., company benefits providing access to country club), which reflects mediation through these behavioral forces. Finally, whether an employee leaves or stays within the current location is certainly relevant to both family members and friends of the employee, who form expectations about his/her staying or leaving the location. If the employee's own attachment to the location is shared by friends or family, these people are likely to have salient expectations for the employee about turnover in the form of normative forces. Thus, normative forces involving both family and friends could also mediate location attachment effects on the employee's turnover decision.

As with work and pay, community/geographic location is so central to many employees' concept of their life and work that it may be endemic to turnover deliberations (e.g., Campion, 1991; Mitchell & Lee, 2001). Employees may even rule out or accept job offers primarily on the basis of the location. Thus, the location of a job opportunity may be considered so naturally and so readily in turnover deliberation that it constitutes a separate category of motivation from the mediating forces proposed above (Figure 3).

> *Hypothesis 4: Location effects on turnover intentions will be partially rather than fully mediated by affective, calculative, behavioral (inertia), and normative (family and friends) forces.*

Figure 3: *Representation of Hypothesis 4*
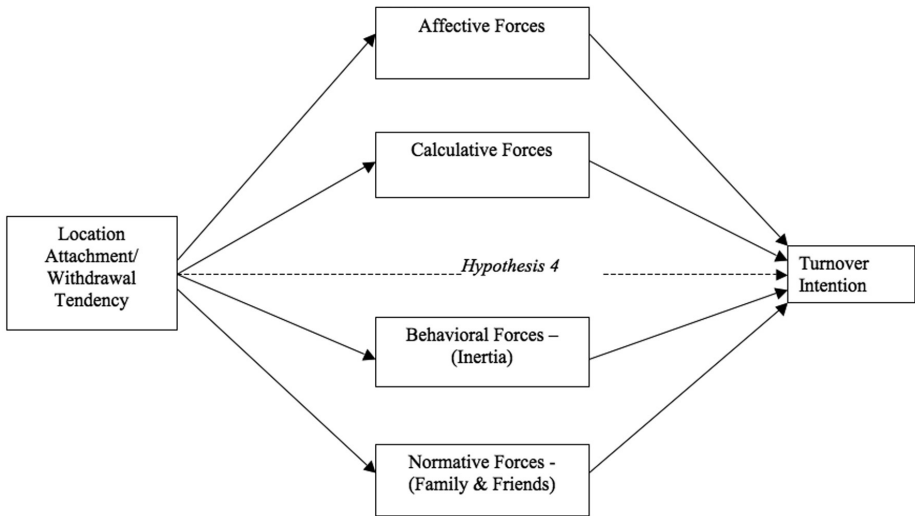
Method

Surveys were distributed to two samples of semi-skilled workers from two different organizations: a furniture manufacturing plant and a poultry processing plant (both in the southern United States). In each sample, surveys with all scales were distributed in common break rooms during work hours and respondents were entered into a drawing for 3 prizes of $100 for their participation. They were also assured that no responses would be shared with management.

For the furniture plant workers, 550 surveys were distributed and collected 434 for a response rate of 78.5%. The average age was 37 years ($sd = 10.5$). Twenty-two percent (22.6%) of respondents had not graduated from high school, 58.5% were high school graduates, 13.8% graduated from junior college or technical school or had some 4-year college, and 5.1% were 4-year college graduates; they were 38% African-American, 54% White, 2.5% Latino, and 5.2% Native American, 68.8% female, and 64.4% married.

For the poultry processing workers, 350 surveys were distributed (a very small unknown number were lost) and 175 were collected for an approximate response rate of 50%. The average age was 34 ($sd = 9.96$). Nineteen percent (19.2%) had not graduated from high school, 45.3% were high school grads, 25% graduated from junior college or technical school or had some 4-year college, and 10.4% were 4-year college graduates; they were 84.8% African-American, 11.7% White, 1.2% Latino, and 2.3% Native American, 69.8% female, and 33.1% married.

Measures

All responses to items on the 8 forces and the other scales were given in the following response format: 1=Strongly disagree;   2=Disagree; 3=Slightly disagree; 4=Neither agree nor disagree; 5=Slightly agree; 6=Agree; 7=Strongly agree. The 18 different scales, number of items, and example items from Maertz and Boyar's (2010) scales are depicted in Appendix 1. Besides the 18 forces, the 5 other scales on the distributed survey were:

Turnover intentions. Turnover intentions were measured with 4 items on a 7-point Likert-type scale. Example items were "as soon as I get another acceptable job I will quit" and "I intend to quit this organization someday soon."

Organizational identification. This construct was measured with 5 items on a 7-point, disagree, Likert-type scale. Example items were "I belong at ____(the company name) more than at other organizations" and "I see myself as an important part of _____ (the company name)."

Work satisfaction. This was measured with 6 items on a 7-point, Likert-type scale. Example items were "I like the activities I do at work" and "I am satisfied with the work I do."

Pay satisfaction. Pay satisfaction was measured with 6 items on a 7-point, Likert-type scale. Example items were "I am satisfied with the pay level that _____ (the company name) offers" and "I am satisfied with the amount of benefits that _____ (the company name) offers."

Location attachment. This construct was measured with 4 items on a 7-point, Likert-type scale. Items were phrased in terms of withdrawal tendency and were recoded such that higher scores reflect attachment. Example items were "I do not like the city where I live now" and "I would like to move away from this place."

Analyses

The SEM measurement and structural models were estimated using maximum likelihood in LISREL 8 (Joreskog & Sorbom, 1996) and covariance matrices. All scales except alternative forces and location forces were coded positively, in the direction of attachment to the organization. That is, negative relationships were expected between all the forces scales and turnover intentions/behavior except for these. A structural model where items representing the latent construct were averaged to create a scale (i.e., a single indicator) was tested. This practice is used with small samples that have numerous items and variables. Research suggests that such adjusted single indicators produce similar structural results to estimated measurement models (Netemeyer, Johnston & Burton, 1990). The manifest variable loadings were set to "1" (Hayduk, 1987) and the error terms set to = (1- reliability) x item variance. We used SEM chi-square difference tests of nested models and *t*-tests on path coefficients to compare partially- vs. fully-mediated models to test the 4 additional antecedents.

Because the purpose was to test incremental validity beyond the 8 Forces Framework, and because turnover base rates were low as in many turnover studies (lowering power), the Type II error was a relatively bigger threat in this study than

Type I. After all, it is difficult to statistically demonstrate incremental validity at all with many other proven predictors in a single equation. It is more likely that potentially important additions to the model would be missed than erroneous relationships found. This latter possibility is further diminished through our variables all being included based on theory and past findings. Thus, to maximize power to detect incremental effects, path coefficients for significance at the $p<.10$ level in this early stage of modeling (see Hosmer & Lemeshow, 1989) were evaluated.

Results

Table 2 shows all scales' alpha reliabilities. Only two of the 18 scales did not meet the typical .80 standard for new scales in at least one sample. Tables 3a and 3b reflect scale means, standard deviations, and correlations for study variables in both samples. All turnover predictor scales were significantly correlated with turnover intentions (p < .05) in both samples in the expected direction.

Table 2: *Alpha Internal Consistency Reliabilities for All Study Scales*

Scale	Alpha Coefficient: Poultry Plant	Alpha Coefficient: Furniture Plant
Affective	.94	.93
Contractual-Obligations	.89	.90
Contractual-Violations	.87	.89
Calculative	.95	.94
Alternative	.84	.89
Behavioral-Tangible costs	.79	.76
Behavioral-Inertia	.84	.81
Behavioral-Psychological costs	.88	.81
Normative-Family	.81	.87
Normative-Friends	.86	.91
Moral-Attachment	.80	.80
Moral-Withdrawal	.74	.80
Supervisor-Affective	.92	.92
Supervisor-Continuance	.92	.87
Supervisor-Normative	.89	.90
Coworker-Affective	.90	.89
Coworker-Continuance	.75	.76
Coworker-Normative	.90	.89
Turnover intentions	.88	.90
Organization identification	.87	.83
Work satisfaction	.90	.90
Pay satisfaction	.93	.91
Location attachment	.84	.82

Table 3a: *Means, Standard Deviations, and Correlations among Study Variables for Furniture Sample*

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Affective	5.40	1.28																							
2 Contractual--ob	4.22	1.51	.59																						
3 Contractual--vio	4.79	1.56	.31	.39																					
4 Calculative	4.45	1.58	.61	.62	.41																				
5 Alternative	3.99	1.52	-.38	-.38	-.33	-.39																			
6 Beh.--tangible	4.58	1.33	.34	.41	.07	.33	-.21																		
7 Beh.--Inertia	4.59	1.46	.49	.53	.22	.47	-.42	.57																	
8 Beh.--psych	4.94	1.30	.65	.63	.25	.60	-.37	.44	.59																
9 Norm--family	5.18	1.28	.17	.15	.32	.17	-.32	.04	.21	.18															
10 Norm--friends	5.29	1.41	.31	.24	.36	.35	-.50	.16	.30	.27	.51														
11 Moral--attach	5.37	1.15	.41	.43	.14	.39	-.17	.34	.43	.50	.20	.16													
12 Moral--withdraw	5.33	1.11	.31	.28	.41	.29	-.34	.17	.28	.35	.51	.46	.35												
13 Cons. Sup. Aff	4.87	1.52	.43	.48	.31	.40	-.20	.19	.25	.39	.17	.15	.26	.14											
14 Cons. Sup. Cont	4.04	1.65	.42	.53	.27	.40	-.25	.18	.26	.38	.13	.10	.22	.13	.79										
15 Cons. Sup. Norm	4.14	1.60	.46	.60	.21	.47	-.24	.24	.40	.39	.07	.12	.26	.08	.66	.74									
16 Cons. Cow. Aff	5.05	1.31	.28	.36	.14	.25	-.03	.17	.17	.33	.06	.05	.28	.21	.28	.28	.25								
17 Cons. Cow. Cont	4.18	1.42	.28	.41	.11	.27	-.08	.21	.25	.28	-.07	-.01	.19	.12	.24	.34	.40	.60							
18 Cons. Cow. Norm	4.01	1.52	.30	.46	.12	.34	-.16	.24	.33	.32	-.04	.04	.23	.14	.21	.32	.46	.56	.79						
19 Location	5.15	1.47	.30	.26	.25	.28	-.23	.20	.21	.30	.27	.26	.21	.30	.12	.06	.06	.14	.01	.06					
20 Pay Satisfaction	4.59	1.57	.61	.52	.32	.55	-.39	.24	.40	.50	.15	.33	.29	.22	.35	.42	.41	.19	.20	.25	.24				
21 Work Satisfaction	5.20	1.33	.68	.55	.35	.58	-.32	.37	.47	.56	.16	.30	.29	.39	.35	.30	.26	.27	.30	.48			.48		
22 Org. Indent.	3.94	1.49	.63	.59	.28	.56	-.34	.38	.43	.56	.11	.19	.38	.19	.41	.45	.51	.30	.36	.38	.17	.55	.54		
23 Intent to Quit	2.56	1.46	-.58	-.42	-.39	-.46	.50	-.23	-.46	-.46	-.38	-.49	-.30	-.50	-.31	-.30	-.33	-.15	-.11	-.20	-.35	-.40	-.44	-.38	

n = 406
p < .05 for *r* > .09; *p* < .001 for *r* > .13

Table 3b: *Means, Standard Deviations, and Correlations among Study Variables for Poultry Sample*

	Mean	s.d.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1 Affective	4.61	1.85																							
2 Contractual--ob	3.63	1.81	.63																						
3 Contractual--vio	4.21	1.97	.18	.14																					
4 Calculative	4.32	1.93	.74	.72	.17																				
5 Alternative	4.51	1.58	-.18	-.14	-.25	-.16																			
6 Beh.--tangible	4.19	1.62	.46	.48	.01	.46	-.09																		
7 Beh.--Inertia	3.95	1.80	.52	.50	.05	.53	-.20	.68																	
8 Beh.--psych	4.30	1.82	.68	.68	.16	.64	-.24	.46	.57																
9 Norm--family	4.14	1.64	.06	.01	.37	.11	-.32	-.21	-.15	.03															
10 Norm--friends	4.47	1.72	.25	.16	.31	.25	-.31	-.07	-.01	.19	.54														
11 Moral--attach	5.12	1.46	.34	.46	.06	.37	-.08	.28	.26	.34	.13	.16													
12 Moral--withdraw	4.94	1.33	.20	.07	.30	.21	-.29	.00	.03	.17	.41	.46	.26												
13 Cons. Sup. Aff	4.70	1.82	.45	.51	-.01	.54	-.11	.29	.33	.49	.04	.03	.35	.09											
14 Cons. Sup. Cont	4.08	2.02	.40	.53	-.01	.53	.00	.29	.35	.48	-.03	-.02	.35	.01	.84										
15 Cons. Sup. Norm	4.23	1.84	.43	.59	.04	.61	.00	.33	.40	.53	-.02	.06	.38	.04	.72	.81									
16 Cons. Cow. Aff	4.99	1.64	.53	.43	.03	.46	-.12	.43	.43	.49	-.04	.13	.39	.18	.42	.37	.41								
17 Cons. Cow. Cont	4.16	1.71	.43	.52	-.08	.47	-.07	.39	.43	.52	-.18	-.01	.39	.07	.40	.55	.54	.59							
18 Cons. Cow. Norm	4.08	1.77	.49	.61	-.05	.53	-.14	.35	.43	.58	-.06	.12	.46	.11	.37	.47	.56	.63	.80						
19 Location	4.75	1.79	.12	-.04	.21	.06	-.19	-.08	-.05	.06	.21	.28	.03	.21	-.04	-.04	.01	-.03	-.03	.06					
20 Pay Satisfaction	3.76	1.91	.71	.59	.21	.61	-.24	.36	.40	.58	-.01	.16	.22	.08	.33	.31	.35	.34	.35	.36	-.04				
21 Work Satisfaction	5.30	1.61	.63	.41	.04	.47	-.19	.40	.37	.52	.03	.19	.29	.13	.45	.32	.31	.45	.31	.36	.08	.41			
22 Org. Satisfaction	3.64	1.82	.73	.68	.13	.72	-.10	.34	.42	.66	.06	.21	.34	.12	.46	.50	.54	.43	.47	.56	.07	.57	.52		
23 Intent to Quit	3.60	1.90	-.51	-.40	-.35	-.50	.32	-.23	-.35	-.57	-.33	-.36	-.24	-.33	-.32	-.29	-.31	-.41	-.37	-.41	-.19	-.35	-.32	-.39	

n = 164
*p* < .05 for *r* > .12; *p* < .001 for *r* > .20

Hypothesis Tests

To test the hypotheses, fully- vs. partially-mediated models were compared for each additional construct in each sample (Table 4). In general, the hypothesized mediated effects were supported. All paths between the 4 antecedent constructs and their hypothesized force mediators were significant in both samples with only 2 exceptions. Namely, location attachment was not significantly related to calculative forces, nor to behavioral forces (inertia) in the poultry plant sample. See Figure 4 for coefficients in furniture plant sample.

Table 4: *Model Comparisons to Assess Incremental Validity of Four Additional Variables*

Hypothesis/ Additional Variable	Fully-Mediated Model		Partially-Mediated Model			Non-mediated Path Coefficient w/Intent
	χ^2	df	χ^2	df	$\Delta\chi^2$	
Hypothesis 1: Organization identification-Poultry sample	178.5	7	170.1	6	8.4**	.29
Hypothesis 1: Organization identification-Furniture plant	438.8	7	432.5	6	5.3**	.15
Hypothesis 2: Work satisfaction-Poultry plant	453.7	16	452.3	15	1.4	.09
Hypothesis 2: Work satisfaction-Furniture plant	387.3	16	387.3	15	0	.01
Hypothesis 3: Pay satisfaction- Poultry plant	391.4	16	383.7	15	7.7**	.19
Hypothesis 3: Pay satisfaction- Furniture plant	743.0	16	738.0	15	5.0**	.11
Hypothesis 4: Location attachment-Poultry plant	267.2	11	265.9	10	1.3	-.06
Hypothesis 4: Location attachment-Furniture plant	536.3	11	524.1	10	12.2**	-.11*

Figure 4: *Coefficients in the furniture plant sample*
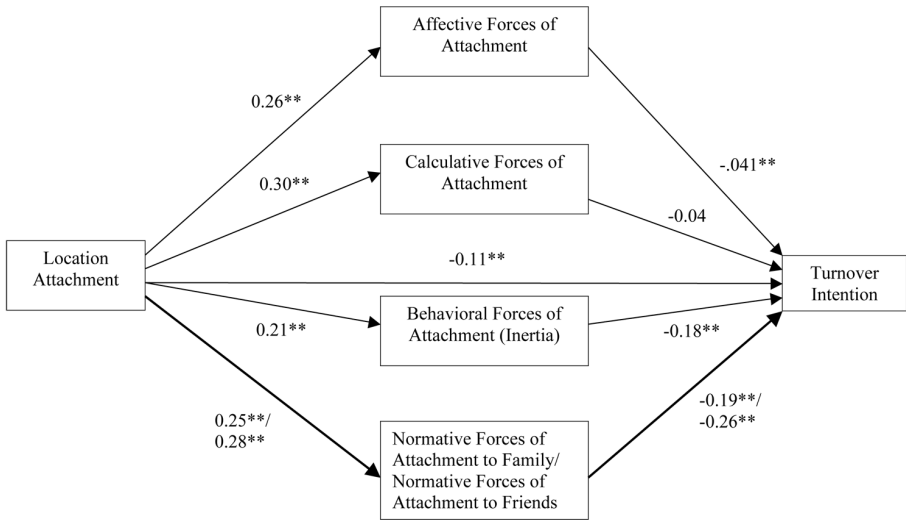
All hypothesized mediators to turnover intention paths in the 4 models were significant in at least one of the samples, with two exceptions. In the models of work satisfaction and pay satisfaction effects, paths from contractual forces (obligations) and from supervisor affective attachment to turnover intentions failed to achieve significance, and thus, were not supported as mediators of work and pay satisfaction. To demonstrate incremental validity beyond the relevant force mediators and to justify adding a new construct and associated scale to the forces framework, we required that the chi-square difference between the models be significant at the $p < .05$ level, favoring the partially-mediated model and that the direct path coefficient from the additional construct to turnover intentions be significant in at least one sample. Only location attachment met these criteria. Thus, location attachment successfully demonstrated incremental validity beyond the 8 forces scales and Hypothesis 4 was supported.

In contrast, it appears that organizational identification, work satisfaction and pay satisfaction's negative effects on turnover intent may be fully mediated through a subset of the 8 forces, failing to support Hypotheses 1, 2, and 3. Although chi-squared change was significant in both samples for organizational identification and for pay satisfaction, in all cases apart from location attachment, coefficients were positively related to turnover intentions. These effects run contrary to all theory and past empirical findings. These findings add to our confidence that these other constructs do not add incrementally beyond the 8 forces in explaining variance in turnover intentions.

Discussion

Overall this study provides support for the 8 Forces Model as a promising

framework for understanding why employees stay with and quit organizations. In particular, these forces can be thought of as central mediators and the proximal causes of turnover intentions, and thereby, subsequent turnover behavior. Here the hypothesized mediated effects for the four antecedents were largely supported, adding to our understanding about how the 8 forces are engaged and operate to produce turnover intentions.

First, organizational identification effects on turnover intention were fully mediated by affective, contractual (obligations), calculative, and behavioral (psychological costs) forces motives. It seems that perceiving that one's identity is linked with that of the organization causes positive feelings toward the organization and feelings of obligation to stay, as well as simultaneous positive cognitions/beliefs regarding future opportunities there. This, in turn, creates the perception that costs would be incurred to their psychological well-being by quitting. Future research should investigate whether there are other mediating mechanisms that may help further explain how organizational identification can influence turnover decisions. Studies should also address when organizational identities are activated during turnover deliberations vs. other identities linked to the organization (e.g., team, union, function/division) or non-work identities.

Work satisfaction and pay satisfaction effects on turnover intentions each appear to be fully mediated by affective, calculative, and behavioral (psychological costs) forces. Both attitudes evidently operate to create turnover intentions through feelings toward the organization and through a signal sent by the organization that the employee has opportunities to fulfill future goals there. Less familiar is the idea that work and pay satisfaction could induce psychological costs of leaving. Reporting high satisfaction by itself could create behavioral commitment to staying (e.g., Salancik, 1977). Contractual forces were not a mediator though. This seems to indicate that pay and work content satisfaction do not translate into feelings of psychological contract obligation, as much as they do into a signal of future opportunity, sense of leaving costs, and affective attraction. The affective supervisor attachment was also not a mediator, contrary to our hypothesis. Perhaps, in the large 'factory-type' organizations from where our samples are drawn, it is likely that the organization itself was seen to control pay and work content to a large extent rather than the supervisor. There may be other relevant mediators of these forms of satisfaction depending on how work content and pay decisions are made and attributed for the employee sample in question. For example, in other settings it would be expected that immediate supervisors would be more in control of pay and coworkers would be more in control of work content. Thus, future research should investigate whether supervisor or coworker constituent forces may mediate these satisfaction effects on turnover decisions elsewhere.

Regarding the two manufacturing settings, these were particularly appropriate and relevant partly because of the long tradition of research on turnover in manufacturing (e.g., Slichter, 1919). This intense interest is largely because turnover has been seen to be particularly high and disruptive for manufacturing organizations. For example, according to Arthur (1994), high employee turnover can result in worse overall manufacturing performance. High turnover also negatively impacts performance and the ability of manufacturers to remain agile (Quintana, 1998). Additionally, turnover

was found to be lower in manufacturers that increased commitment levels rather than enhancing control mechanisms (Arthur, 1994). Thus, voluntary turnover is particularly important to study within manufacturing, and also possible to impact using humane methods in such settings.

However, the findings are not necessarily automatically generalizable to other industry sectors. Low to semi-skilled manufacturing jobs are different from many others in the economy. This study is only a single, preliminary test and the results must be replicated before any can be taken as definitive. In sum, before this model and the incremental validity findings can be readily accepted, they must be validated and expanded if necessary, in other types of jobs, organizations, and industry sectors.

The "9th Force"

The findings do indicate that the 8 Forces Framework needs expansion to include at least one new force category. Specifically, the framework is deficient in that it fails to fully consider location/community attachment, reflected in the currently popular community embeddedness construct (e.g., Mitchell & Lee, 2001). The short location scale demonstrated incremental validity in explaining variance in turnover intentions beyond the hypothesized force mediators. The findings supplement the current research by countering some null findings of community embeddedness in predicting turnover decisions (i.e., Mitchell & Lee, 2001) and by bolstering other significant findings (Lee et al., 2004). It seems clear now that measures of attachment to location/community can predict variance in employee withdrawal propensity, even beyond and controlling for multiple other categories of motives.

These findings suggest that location is so central to turnover deliberations that it represents a separate category of motivation distinguishable from key mediating forces. It seems that, considering where one will be living geographically and around what people and institutions, is endemic to most any careful consideration of employment change. Still, location attachment would not be as relevant to turnover decisions, where organizational turnover does not require relocation. This is perhaps the case for those living within large metropolitan areas that support many companies with many employment opportunities all within commuting distance. In such cases, location attachment to an organization should largely be a function of commute times and convenience rather than community embeddedness. Empirical research should look to measure and expand investigation of the full effects of this motive category to include these more geographic location-specific aspects influencing turnover decisions, along with the attachments to people and institutions in the location captured in community embeddedness. Nevertheless, our findings and some findings on embeddedness suggest that location forces are pervasive and salient for employment decisions. Thus, the 8 forces should be theoretically expanded to include location forces as the "9th force" (Figure 5).

Figure 5: *Revised 9 Forces model of attachment and withdrawal*
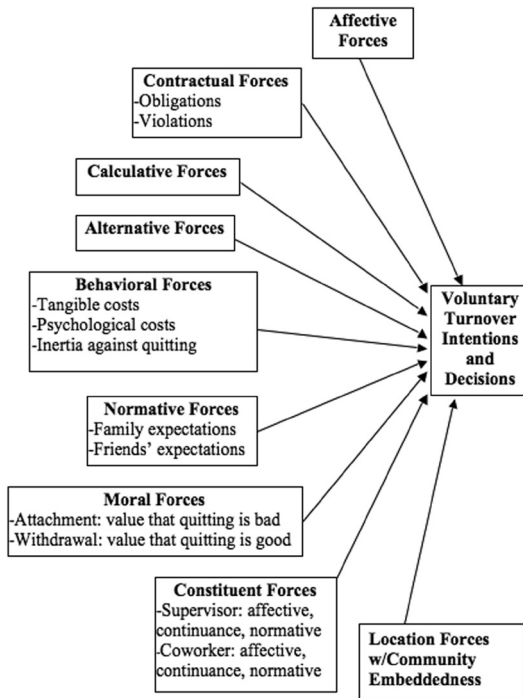
The overall implication of this study for empirical researchers is that to have fully-specified models, they should measure the subdimensions of the 8 forces and explicitly add location forces measures in models going forward. Even though many of these foundational findings were from U.S. samples, there is reason to believe that location forces may be more salient to turnover decisions. Specifically, in countries where collectivism is the norm, this force category may take on even more significance. The country, geographic region, community, or one's extended family and social network within a community may act as important in-group identities that have a relatively higher influence on behavior than in individualist cultures such as the U.S. (Triandis, 1989). We expect that normative and constituent forces along with community influences would be more salient for turnover decisions in collectivist cultures. More generally, future international research should test the comprehensiveness and relative predictive strength of the expanded 9 forces across countries and cultures.

Practical Implication

The advice for practitioners from this study is that they need to include all such measures in regular morale surveys to ensure that major motivations are not overlooked. Good comprehensive information on why employees are attached or considering turnover will certainly help managers design more effective interventions

to promote retention. With respect to the 9th force of location attachments, management can facilitate attachments to the community. This could include offering country club memberships as perks, introducing employees to organizations such as the Rotary, sponsoring a softball team in a community league, or having joint organization-community social events. In some cases where applicants are plentiful and the organization highly values retention, managers can even include selection/placement criteria that indicate attachment to the location. This might mean adding application blank or structured interview questions to tap such attractions to the perceived culture of the area, leisure activities available, natural wonders nearby, weather, or other location-based factors. For organizations in locations not seen as "destinations," the emphasis should be more on building attachment to local people as in community embeddedness.

Limitations and Conclusion

Common method bias is typically seen as a threat for models involving turnover intention. However, any inflation of path relationships would not have affected our hypothesis results in a meaningful way. This is because competitive nested model tests are not directly susceptible to consistency and priming biases and because there is already empirical and theoretical evidence that variants of all the 8 forces constructs relate to turnover behavior. Still, the data clearly did not allow assessment causation. Some would criticize our intended purpose of seeking a comprehensive content turnover model in the first place. They may see this as unrealistic, reasoning that no parsimonious set of constructs can capture the motive effects in the multitude of turnover predictors. If turnover theory-building focuses on proximal motives instead of thinking in terms of predictors, forming a parsimonious set of theoretical categories is possible. The main limitation is that this study does not completely accomplish this objective. It is only one step in a process of carefully refining, and if necessary, expanding the forces framework to ensure that all the distinct motives are represented in theoretical models and empirical studies. Despite these limitations, this study does meaningfully expand the emerging 8 forces to formulate the most theoretically comprehensive framework to date in the literature.

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Appendix 1

Example items from Maertz and Boyar's (2010) Scales

1.) Affective Forces (5 items)
I feel good about working at "the company name".

2.) Contractual Forces

Obligations (4 items)
I owe "the company name" my loyalty for what it has given to me.

Violations (3 items)
"The company name" has broken promises to me about assignments.

3.) Calculative Forces (6 items)
At "the company name" I can achieve my career goals.

4.) Alternative Forces (6 items)
I could easily find another job as good as mine.

5.) Behavioral Forces

Tangible Costs of Leaving (6 items)
It would be costly for me to leave "the company name" now.

Behavioral Inertia (4 items)
Leaving "the company name" would take too much energy.

Psychological Costs (5 items)
I freely chose "the company name" instead of other organizations.

6.) Normative Forces

Family (5 items)
My family wants me to find a different job where I can spend more time at home.

Friends (5 items)
A friend at another organization wants me to go work with him/her.

7.) Moral Forces

Attachment (4 items)
I believe that it is bad when people move from job to job.

Withdrawal (5 items)
Staying at one organization hurts a person's career.

8a.) Constituent - Supervisor

Affective (4 items)
I like my supervisor a lot.

Continuance (3 items)
I would lose a valuable relationship with my supervisor by quitting.

Normative (4 items)
I feel obligated to stay with my supervisor at "the company name".

8b.) Constituent - Coworkers

Affective (4 items)
I like my coworkers a lot.

Continuance (3 items)
I feel I would lose valuable relationships with the people at work by quitting.

Normative (4 items)
I feel obligated to keep working with my coworkers at "the company name".

Appendix 2

Location Scale to Supplement Maertz and Boyar's (2010) Scales

9.) Location Attachment/Withdrawal Tendency
I do not like the city where I live now.
The city where I live is boring.
I would like to move away from this place.
I hate living in this part of the country.