

Shared mental models' impact on the onboarding process

by

Michael W. Stetzer Jr.

B.S., Pacific Lutheran University, 2006

M.A., Roosevelt University, 2011

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Psychological Sciences
College of Arts and Sciences

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2016

Abstract

The present study examined onboarding information acquisition and the mediated impact of shared mental model on newcomers' organizational commitment, job satisfaction, and intentions to quit. Onboarding is the initial stage of the socialization process that provides information pertinent to facilitating newcomers' transition into the organization. Previous research stated that a dearth in the socialization literature existed pertaining to intra-individual cognitive mediators. As a result, the present study identified and evaluated the variable, shared mental model, as an underlying mechanism through which information acquisition operated within the onboarding process. The study postulated that newcomers actively evaluated for perceived congruency their own mental models with those espoused by the organization with these perceptions influencing individual organizational commitment, job satisfaction, and intentions to quit. Data were collected via Qualtrics from 305 full-time employees who were experiencing onboarding at the time of study. Participants completed a series of scales relevant to newcomer information seeking behavior, clarity of job role and work processes, and specific organizational outcomes (e.g., organizational commitment, job satisfaction, and intentions to quit) through an online data collection hub. A confirmatory factor analysis supported the factor structures for each of the latent variables (the antecedent, mediator, three socialization outcomes) evaluated in the present study. The proposed mediated socialization process was then examined by way of structural equation modeling. Results showed that shared mental models did mediate the relationships between newcomer employee behaviors and specific socialization outcomes. Furthermore, relationships between the antecedent, newcomer employee behaviors, and two of the socialization consequences, organizational commitment and job satisfaction, appeared to be fully mediated by the presence of shared mental models in the analysis (the intentions to quit

relationship was partially mediated). Practical and theoretical implications, in addition to limitations and recommendations of the research are discussed.

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Table of Contents

List of Figures	xi
List of Tables	xii
Acknowledgements.....	xiii
Dedication	xiv
Chapter 1 - Shared Mental Models Impact on the Onboarding Process.....	1
The State of Onboarding Research	4
Theoretical Influences.....	5
Socialization Model	7
Organizational socialization program efforts.....	7
New employee characteristics.....	8
Newcomer employee behaviors.....	10
Information seeking (Reference).	11
Feedback seeking (Appraisal).....	12
Relationship building (Relational).....	13
Operations for information acquisition.....	14
Socialized Outcomes Attributed to Onboarding.....	15
Organizational Commitment.....	15
Commitment's connection to newcomer-information-seeking.....	16
Job satisfaction.....	16
Job satisfaction's connection to newcomer information-seeking.....	16
Intention to quit.....	17
Intention to quit's relationship to the antecedents.....	18
Methodological Measurement Practices in Socialization Research	19
Type of data collection (longitudinal vs. cross-sectional).	19
Measuring individual differences in socialization research.....	20
Statement of the Problem.....	22
Mental Models as a Precursor to Shared Mental Models	23
Mental models.....	23
Mental models as presently constructed.	26
Influence from cognitive psychology.	26
Influence of mental models within organizational literature.....	28
Conceptualizing Shared Mental Models.....	29

Differentiating belief structures from knowledge structures.	30
Shared cognition is not aggregated cognition.	32
Content examined via team mental models.	34
Shared mental models: research methodology and measurement.	34
Shared mental model's organizational application.	35
Purpose of the Present Study	37
Expanding SMMs conceptual application.	37
SMMs impact on onboarding.	39
Summary of objectives:	41
Incorporating the SMM construct within the socialization model.	42
New employee behaviors and socialization outcomes.	42
New employee behaviors and shared mental models.	43
Mediation of employee behavior-socialization outcomes relationship via SMMs.	43
Chapter 2 - Method	45
Overview	45
Online Data Collection	45
Sample diversity.	45
Compensation.	46
Participants.	46
System Requirements for Participation	47
Measures	47
New Employee Behaviors.	47
Shared mental models.	48
Role/goal clarity.	48
Process clarity.	48
Organizational commitment.	50
Organizational job satisfaction.	51
Intentions to quit.	52
Procedure	54
Proposed Analyses	55
Chapter 3 - Results	57
Data Screening	57
Missing data.	57
Univariate outliers.	57

Multivariate outliers.....	58
Normality: Skewness and kurtosis.....	58
Linearity.....	58
Multicollinearity.	59
Homoscedasticity.....	60
Basic Model: Confirmatory Factor Analysis	62
Measurement model.....	62
Alternative model.....	64
Reliability.....	64
Convergent validity.....	65
Discriminant validity.	65
Basic Model: Structural Equation Modeling	66
Hypothesized Model Analyses	66
Confirmatory factor analysis.....	66
Structural equation modeling.....	67
Direct effects: NEB and consequences.	67
Direct effects: SMM and latent factors.	68
Meditational interpretation.....	68
Chapter 4 - Discussion	70
Practical Implications.....	75
Theoretical Implications	78
Limitations and Recommendations.....	79
Conclusion	82
References.....	83
Appendix A New Employee Behaviors' Scale	120
Appendix B Shared Mental Model Clarity Scale	122
Appendix C Three-Component Model Commitment Survey (Commitment Scales).....	123
Appendix D Minnesota Satisfaction Questionnaire - Short Version (Organizational Job Satisfaction)	126
Appendix E Turnover Cognitions Scale (Intentions to Quit)	127
Appendix F Informed Consent.....	128
Appendix G Debriefing Form.....	129
Appendix H General Information	131

List of Figures

<i>Figure 1.</i> Bauer and Erdogan (2011) Model of organizational socialization. Replicated from "Organization Socialization: The Effective Onboarding of New Employees," by T. N. Bauer and B. Erdogan, 2011	108
<i>Figure 2.</i> Proposed adapted version of Bauer and Erdogan's (2011) model of organizational socialization. Modified from "Organization Socialization: The Effective Onboarding of New Employees," by T. N. Bauer and B. Erdogan, 2011	109
<i>Figure 3.</i> Hypothesized Structural Model: One-factor exogenous latent variable with mediated antecedent-consequence paths.	110
<i>Figure 4.</i> Normative information (independent variable) x Affective commitment (dependent variable) homoscedastic relationship identified via inspection of residual plot.	111
<i>Figure 5.</i> Normative information (independent variable) x Social feedback (dependent variable) heteroscedastic relationship indentified via inspection of residual plot.	112
<i>Figure 6.</i> Affective commitment (independent variable) x Normative commitment (dependent variable) homoscedastic relationship indentified via inspection of residual plot.	113
<i>Figure 7.</i> Affective commitment (independent variable) x Role/goal clarity (dependent variable) heteroscedastic relationship indentified via inspection of residual plot.	114
<i>Figure 8.</i> Job satisfaction-task enrichment (independent variable) x Shared mental model-process clarity (dependent variable) heteroscedastic relationship indentified via inspection of residual plot.....	115
<i>Figure 9.</i> Job satisfaction-empowerment and leadership (independent variable) x Shared mental model-process clarity (dependent variable) heteroscedastic relationship indentified via inspection of residual pot.	116
<i>Figure 10.</i> Basic model confirmatory factor analysis with correlation coefficients for the latent and observed variables.....	117
<i>Figure 11.</i> Structural equation model for basic model with direct non-mediated path coefficients.....	118
<i>Figure 12.</i> Structural equation model: Mediated model with direct non-mediated path coefficients.....	119

List of Tables

Table 1	<i>Means, Standard Deviations, and Correlations Among Observed Variables</i>	102
Table 2	<i>Goodness-of-Fit Indices for Nested Model Comparisons</i>	103
Table 3	<i>Parameter Significance Tests for Model Comparisons</i>	104
Table 4	<i>Reliability, Convergent and Discriminant Validity</i>	105
Table 5	<i>Standardized Path Estimates for the Structural Models</i>	106
Table 6	<i>Summary of results - Structural Model Coefficients</i>	107

Acknowledgements

I want to acknowledge my advisor, Dr. Patrick Knight, for his continuous guidance throughout my formal graduate experience. I would like to express gratitude to my committee for their feedback and ideas during the dissertation process. Thank you to my family and friends for always supporting my academic endeavors, while demonstrating amazing patience with me throughout this journey.

Dedication

I am dedicating this document to my lovely wife, Damaris. The unwavering support she provides is an integral part of my motivational drive to succeed. I may never be able to express my gratitude to her, but can only hope my future actions confirm my profound appreciation for what she means to me.

Chapter 1 - Shared Mental Models' Impact on the Onboarding Process

Onboarding represents the phase in the organizational socialization process by which individuals new to the organization transition from ill-informed outsiders to knowledgeable insiders (Bauer & Elder, 2006). While becoming acclimated to the new work environment, newcomers will alter their performance based on organizational influencers, both contextual- and individual-based (Reichers, 1987). Although onboarding is an important component to the retention of newly selected employees, it is all too common to encounter discussions pertaining to failings of onboarding processes using a multitude of generalized, ambiguous terms: "poor fit;" "did not fit in;" "things changed;" "the situation did not feel right." However, when parsed, what information, if any, of a substantive quality may be extracted from such descriptive terms regarding the shortcomings of failed onboarding attempts? Fortunately, not all is lost, albeit at times the dearth of quality information may lead one to such a presumable conclusion. Information pertaining to the presence of various contextual (socialization tactics; Van Maanen & Schein, 1979) and individual-based factors (proactive personality; Saks & Ashforth, 1996) exists within the socialization literature. However, there remains much in the way of identification and understanding of direct and secondary effects regarding socialization that needs to be understood.

A newcomer is not merely a blank slate for learning purposes when entering an organization. Newcomers, when transitioning into a new organization, bring with them varied experiences and modified perspectives of the position they are filling. Employees' mental models (common paradigms) represent such experiences and perspectives, partially. These mental models are organized understandings and mental representations of knowledge addressing critical elements of the work setting (Covey, 1992). If in fact onboarding is the initial

point of learning and behavioral training for newcomers entering an organization, it is also the point at which newcomers are integrating this new information into their existing mental models. Upon full integration of the new information into existing mental models, it is plausible to surmise that a synergistic relationship has developed between parties, newcomer, and organization. Shared mental models (SMM) are the best way to describe this newfound relationship based on commonly held organized mental representations. Considering that onboarding is the initial phase of the socialization process, when individuals will be required to evaluate newfound information compared to their existing models, and subsequently impacting the formation of SMMs, it is critical that organizations understand the underlying role of SMM during the socialization process.

The concept of mental models, both individual and shared, and the limited understanding of their application to the organizational setting, necessitates further examination. Such experiences, and the individual nuances that potentially exist between individual newcomers as they commence with the socialization process, are vital to ensuring that the socialization process is a successful and positive experience for all involved. Evaluating SMMs will help to strengthen the stream of organizational research that advocates on behalf of the complete individual concept.

Emphasis on the complete individual (a collective of experiences) as a point in organizational research has continued to take on more prominence as the propensity for Americans to navigate through multiple jobs during their working years continues to become the norm. As evidenced by the point that the average American having transitioned between 11 jobs on average by the age of 40 (Bureau of Labor Statistics, 2010). Furthermore, as of January 2014, the median employee tenure for men and women were 4.7 and 4.5 years, respectively (Bureau of

Labor Statistics, 2014), while 21 percent of wage and salary workers have approximately a year or less of tenure with their present employer (Bureau of Labor Statistics, 2014). This means that many employers have to deal with a workforce that is relatively new, while continuously having to integrate newcomers into this already green work setting. Additionally, this is not merely an issue regarding younger generations, as even American baby boomers are inclined to pursue multiple employment opportunities. According the Bureau of Labor Statistics (2012), the average American born in the latter years of the baby boom (1957-1964) migrated from one job to another approximately 11.3 times between the age of 18 to 46. Together, these labor statistics provide a cogent demonstration that socialization is a topic area that requires continued attention, more so than ever before.

Such a transitory workforce is not merely restricted to traditional non-management employees. Executives, themselves, relocate with relative frequency (Fisher, 2012). This migratory inclination within the executive ranks is further magnified within the first year-and-a-half of a newly acquired position, a period of time that directly coincides with the onboarding phase of the socialization process across organizations. Particularly, *Fortune.com* (Fisher, 2012) presented a piece that stated, "About 40% of executives who change jobs or get promoted fail in the first 18 months." The article goes on to assert one way of circumventing such problems is by laying the crucial groundwork for individual success before the newcomer's first day.

Fisher (2012) further discussed ways of navigating the early weeks of the onboarding process from the employee's perspective. These ways range from establishing relationships (e.g., meet with critical stakeholders as soon as possible) to information gathering (e.g., asking for the respective perceptions and suggestions of different stakeholders). However, such recommendations inadequately identify the underlying factors that prevent an effective

onboarding experience from occurring. If these recommendations are fulfilled, why would one assume successful onboarding would occur, or not occur? Does the information acquired have to be congruent with previously established beliefs? Based on these recommendations, which organizations often convey to newcomers, how confidently could one discern why onboarding succeeded or failed?

The State of Onboarding Research

Prior to the last decade of the 20th century, research addressing socialization in organizations could easily be described as primarily descriptive in nature, lacking the rigors of empirical testing necessary for developing and expounding upon socialization-based theories (Wanous & Colella, 1989). Such was the case, too, regarding questionable methodological approaches that were prolific during this same period of time (Saks & Ashforth, 1997). When evaluated from a general perspective, one could discern that the criticisms levied against organizational socialization research are merited. Wanous and Colella declared that organizational socialization, in comparison to other organization-based topics (e.g., realistic job previews, and recruiting sources), had "the greatest disparity between theory and data, being theoretically sophisticated yet empirically underdeveloped" (pp. 112-113), while experiencing a dearth of research.

However, near the end of the 20th century socialization began to be conceptualized as multifaceted, complex, socially- and resource-reliant processes that draw upon various individual and organizational tools for the primary purpose of ensuring that employees are effectively incorporated into an organization (Ashforth, Saks, & Lee, 1998). Moreover, Bauer and Erdogan (2011) stated that organizational socialization (onboarding) pertained to the process by which new employees must navigate from uninformed organizational outsider to informed insider.

Thus, a newcomer will acquire the prerequisite knowledge, skills, and behaviors necessary to ensure organizational success. These KSAs, however, even via an established socialization process, are not necessarily easily acquired. Navigating a work environment littered with numerous uncertainties on the path towards organizational insider and competent performer is quite typical (Anderson, 2001; Saks & Ashforth, 1997). Unfortunately, even with a supposedly effective onboarding program, each newcomer is not guaranteed to experience successful onboarding, a point that highlights the fact that socialization is a dyadic interactive relationship between the organization and newcomer.

Understanding the individual's perspective regarding organizational onboarding processes is as critical to gauging the success of a program as evaluating the organization's quantifiable gains themselves from such a program. A prominent point supported by Bauer, Bodner, Erdogan, Truxillo, and Tucker's (2007) findings is that the socialization process is important due to its effect on the adjustment of newcomers in terms of effectiveness, job satisfaction, organizational commitment, and organizational withdrawal. Individuals who experience positive socialization processes are more inclined to exhibit positive work attitudes, while remaining with the organization for longer tenures (Bauer & Erdogan, 2011). Conversely, negative experiences attributed to unsuccessful socialization experiences on the part of newcomers will result in newcomer-initiated termination, thereby forcing the organization to reinitiate the costly and time-consuming recruitment and selection processes (Bauer & Erdogan, 2011).

Theoretical Influences

Within the socialization literature, Bandura's social cognitive (1986, 1997) and self-efficacy theories became often utilized frameworks. Social cognitive theory (SCT) asserts that human behavior and psychological functioning are the result of a triadic reciprocal causation that

exists between behavior, cognitive and personal factors, and environmental events. Particularly, these three components interact and subsequently influence each other in a bidirectional manner. The elements of SCT that resonated with socialization researchers specifically were vicarious learning, mastery modeling, goal systems, and self-regulatory mechanisms, with self-efficacy being a central concept (Wood & Bandura, 1989a).

As previously identified, self-efficacy theory (SET) was another theory brought forth by Bandura that was utilized within the socialization literature. One conceptualization of self-efficacy theory is the belief in one's capacity to channel their motivation, cognitive resources, and courses of action required to accomplish a situational objective (Wood & Bandura, 1989b). Delving further into SET, there are four sources of information that impact the perception of self-efficacy (as well as behavior and psychological well-being): enactive mastery experience, vicarious experience, verbal persuasion, and physiological and affective states (Bandura, 1997).

Together, SCT and SET, were used to establish the theoretical groundwork for understanding the process of socialization. Such was the case with Ostroff and Kozlowski's (1992) findings that newcomers were able to obtain information through their interactions with role models (supervisors and colleagues); moreover, these individuals used observation and impromptu experimentation in order to acquire a sense of mastery of both work tasks and role. Ostroff and Kozlowski took these findings as further support that social cognitive theory's framework effectively maps onto elements of socialization-process based research. Regarding self-efficacy theory, several studies demonstrated that self-efficacy rooted in an individual's skill to acquire information was positively associated with newcomers' coping abilities, job satisfaction, organizational and career commitment, and job performance, while being negatively

correlated with anxiety, intentions to quit, and turnover (Bauer & Green, 1994; Laker & Steffy, 1995; Saks, 1994).

Socialization Model

Given the interactionist perspective of mutual influence (Reichers, 1987) that exists between organizations and newcomers, models have been proposed to summarize the interrelatedness of the factors that impact successful socialization of new employees. One such generalized model that strives to summarize the connectedness of these factors is Bauer and Erdogan's (2011) general model of socialization (see Figure 1). Bauer and Erdogan's summary process model of socialization identifies various factors that are involved in successful socialization experiences for both the organization and new employee. These factors (both individual and organizational) are divided among three general categories within the model: organizational program efforts, new employee's characteristics, and new employee behaviors.

Organizational socialization program efforts. As individuals vary regarding personality traits and activity levels, organizations differ in the ways they socialize and train newcomers. When organizations are employing socialization tactics (e.g., formal or informal), the level of structure provided by the organization impacts whether the employee will adhere to a very systematic approach to work, or are empowered to craft their own work environment (Van Maanen & Schein, 1979; Jones, 1986). Apart from the possible employed socialization tactics by a given organization, orientation programs are often used to assist newcomers in their understanding of the company's power structure, values, history and goals, and employee roles, while also allowing newcomers to cultivate relationships with coworkers (Bauer & Erdogan, 2011). Such programs may use a multitude of resources when attempting to convey information

the organization deems helpful for success: in-person lectures, video recordings, written materials, and computer-based programs.

Beyond the utilization of various tactics and orientation-based approaches, realistic job interviews provide another helpful tool for socializing newcomers (Wanous, 1973). Providing as much accurate information about a company's culture, as well as the targeted job, as is feasible appears to offer advantages when attempting to socialize newcomers (Kammeyer-Mueller & Wanberg, 2003; Klein, Fan, Preacher, 2006). Providing information to newcomers during the onboarding process may stifle inaccurate employee expectations that can result in unmet expectations after a period of time working. Similar to the role of job previews to dispense information; organizational insiders (mentors) are useful agents through whom information can be disseminated to newcomers (Allen, Eby, & Lentz, 2006). Mentors have the knowledge and resources to assist newcomers in a multitude of ways: teaching the newcomer about the organization, providing advice, guiding them in job instruction, and extending social support. These insiders may serve as an alternative to supervisors for newcomers who require information but are reluctant to consult with their supervisor. Furthermore, mentors can work as the bridge by which newcomers learn to assimilate into the organizational framework, both politically and socially (Ostroff & Kozlowski, 1993). Last, mentors are effectively positioned to moderate and adjust newcomer expectations, considering their own experience at having to navigate the work environment (Cawyer & Friedrich, 1998).

New employee characteristics. In general terms, new employee characteristics comprise the individual differences that potentially exist between newcomers regarding personal background and personality traits. This subgroup of factors plays a critical role in organizational socialization, given that newcomers possess a collection of characteristics (e.g., proactive

personality, Big Five personality traits, and the experience of new employees) that together, determine much of the interaction between new employees and their respective organizations (Bauer & Erdogan, 2011). Individual differences and their critical role in the onboarding process were clearly noted in Saks and Ashforth's (1996) research involving proactive personalities. Particularly, Saks and Asforth asserted that employees with particular personality traits and personal characteristics are more adept at transitioning effectively through the onboarding process. Major, Turner, and Fletcher (2006) further substantiated the role of proactive individuals within the organizational setting through establishing that an employee's need to exert control (a characteristic of proactive personality) over their environment led to them asking questions, thereby, obtaining the necessary information required for exercising effective control while on the job. In addition to proactive personality's association with onboarding, research pertaining to alternative personality models has been conducted.

Integrating the Big Five personality framework into the onboarding literature has resulted in extraversion and openness to experience garnering noteworthy attention concerning newcomers and their onboarding experience (Bauer & Erdogan, 2011). Newcomers having exhibited these two traits demonstrate higher levels of adjustment when transitioning in to a new job (Kammeyer-Mueller & Wanberg, 2003). Employees with these two traits are more prone to treat the work environment as an opportunity for growth via the accumulation of information and feedback. Similar to newcomers entering an organization with specific personality traits, a new employee's previous work and life experiences can influence the onboarding experience.

Newcomers to a company do not exist within a vacuum devoid of personal and professional experiences prior to their present employment. Employees with job-change experience are more apt to rely on their collective work history when transitioning into a new job

(Bauer & Erdogan, 2011). Precisely for this reason, more experienced workers generally go through a somewhat different adjustment period. Such is the case for individuals who transition directly from university, who, as opposed to more experienced workers who were merely changing jobs, reported that demonstrating a high level of competency while adjusting to a new team or role was paramount to successful socialization (Carr, Pearson, West, & Boyar, 2006). Whereas newcomers are strongly affected by their level of displayed competency, experienced job-changers are less impacted by this variable when adjusting to a new job.

Newcomer employee behaviors. Organizational onboarding and its intended effects are somewhat dependent on how the newcomer chooses to navigate the transition phase (Carr et al., 2006). One theory that guided efforts to understand the role of newcomers in the socialization process was Uncertainty Reduction theory (URT).

Comparable to socialization tactics described by Van Maanen and Schein (1979), URT is a theoretical framework that espouses the view that newcomers, while going through the organizational entry process, will experience high levels of uncertainty (Falcione & Wilson, 1988). These heightened levels of uncertainty will result in increased feelings of anxiety. At this juncture, URT argues that newcomers are motivated to reduce, if not completely eliminate, the uncertainty that is pervasive during the initial newcomer entry period (Saks & Ashforth, 1997). The elimination of uncertainty affords newcomers with environments that are predictable, understandable, and controllable (Saks & Ashforth, 1997). In order to achieve uncertainty reduction, newcomers will become information-seekers, using the communication channels established within the organization to enter into social interactions with superiors and peers (Morrison, 1993a). The information acquired via these interactions will enable newcomers to

become competent regarding their tasks, while becoming more satisfied with their present job, subsequently leading to higher levels of retention (Morrison, 1993).

Uncertainty reduction theory has become one of the most frequently utilized frameworks guiding socialization research (Saks & Ashforth, 1997). Mignerey, Rubin, and Gordon (1995) expound upon this with their assertion that socialization tactics impact the availability and attainment of information that new employees require to experience a reduction in their high levels of anxiety. Additionally, other models of socialization (e.g., Miller and Jablin's, 1991, model of newcomer behavior) have their conceptual underpinnings firmly based in URTs basic premise of uncertainty reduction.

When considering the organizational setting, onboarding does present newcomers with an environment that facilitates adjustment (e.g., team acceptance), while simultaneously providing them with a learning environment (e.g., culture, values, and beliefs of the organization). Although Bauer and Erdogan (2011) noted that more research is needed on relevant behaviors that impact newcomer adjustment, the following subsections will address several of the more prominent behaviors exhibited by newcomers:

Information seeking (Reference). Information seeking behaviors are critical to a newcomer's effective transition into an organization. When individuals ask questions, they are attempting to make sense of the work environment via the information they receive in reference to organizational procedures and policies, various aspects of the job itself, and the components of the job that take priority (Bauer et al. 2007). Additionally, new employees may decide to take a more passive approach when gathering information. Passive information seeking is primarily reliant on sources of information that do not necessitate human interaction: monitoring the environment, viewing the company website, reviewing the employee handbook, reading

company-based documents (Bauer & Erdogan, 2011). Although these sources provide insight in to the more formal aspects of the company, such passive sources generally do not provide clarity on the more nuanced aspects of organizational setting: culture, norms, and other unwritten expectations of employees (Gruman, Saks, and Zweig, 2006). Thus, it behooves newcomers to incorporate some element of active information seeking (e.g., conversing with supervisors and coworkers) when accumulating knowledge. Considering those individuals who demonstrate an inability to engage in active information seeking, Gruman et al., 2006 stated that institutionalized approaches to socialization are best for the passively inclined. Such findings also imply that active information seekers will acquire the information they desire regardless of whether the socialization process is structured.

Active information seeking may be the more effective method of acquiring information. However, an individual's overt efforts to acquire information are directly related to newcomer adjustment, work attitudes, and behaviors (Bauer et al., 2007; Morrison, 1993a). Depending upon the circumstances and period, newcomers will vary the type of organizational insider (e.g., coworkers and supervisors) they rely upon for information. Chan and Schmitt (2000) noted that new employees would gravitate towards coworkers for their technical proficiencies early during their tenure. As the new employee's knowledge and core job competencies emerge, they will redirect their focus to the supervisor level. At this point during the newcomers transition they require feedback of a more performance-based nature (e.g., work expectations, performance evaluation criteria).

Feedback seeking (Appraisal). Information without clarity and understanding is as useless as having no information at all. Beyond merely seeking out information, one must obtain feedback to interpret this information. Without quality feedback, a new employee's job

performance and social etiquette may be riddled with errors that subsequently result in a negative onboarding experience (Bauer & Erdogan, 2011). For instance, a previous employer may deem an employee's quality of work acceptable; however, the present job demands work of a higher caliber. Without feedback, the employee would persist in a manner that is not inherently poor, but failing to match expectations for the role, which they were, hired to fill.

Similar to a more active demeanor when seeking information, an active approach to receiving feedback is advantageous for a newcomer who desires an effective onboarding process. Wanberg and Kammeyer-Mueller (2000) demonstrated that new employees who were active feedback seekers reacted quickly by internalizing the newly acquired information, thereby modifying their behavior to best coincide with company expectations. Furthermore, active feedback seekers, through having to integrate newfound information into their existing knowledge structures, are forced to think critically about the information that is being internalized. The process through which information is internalized facilitates a greater comprehension of the culture that permeates the organizational setting, ensuring a better person-organization fit. Gruman et al.'s (2006) research expounds upon the previous point by demonstrating that active feedback seekers, similar to active information seekers, are quite skillful at navigating the onboarding phase when there is an absence of institutionalized socialization. However, the need for active feedback seekers has lessened considering many organizations have adopted more formal and structured onboarding programs that provide many of the answers to questions newcomers have when entering a company (Gruman et al., 2006).

Relationship building (Relational). Similar to being an active participant when seeking information and feedback, relationship building via networking requires one to adopt an active disposition to ensure successful relationship building. Beyond the acquisition of organizational

information and feedback (either of a formal or informal nature), it is vital that newcomers establish relationships with new colleagues and employees. As noted by Fisher (2005), 35% of new managers will fail in their new position, and will either self-terminating or being fired within one and a half years. Moreover, 60% of these managers identify their inability to establish effective relationships as a prominent reason for their resultant failure. In view of these grave statistics, newcomers should strive to establish a quality network of individuals via formal (e.g., consistently participating in company functions) and informal (during lunch and coffee breaks) job contexts. Such efforts have been found to be significant antecedents of socialization outcomes, chief among which are performance and satisfaction (Ashford & Black, 1996; Bauer, Erdogan, Liden, & Wayne, 2006; Kim, Cable, & Kim, 2005; Wanberg & Kammeyer-Mueller, 2000).

Operations for information acquisition. From an active perspective, the three types of new employee behaviors operate similarly at the employee level. New employees sought information pertaining to norms, expectations, and the daily operations that ensured a positive socialization process. Furthermore, the three behavioral forms of information acquisition are integrated concerning when they are used by the new employee, as during the onset of onboarding. Early during their adjustment, new employees seek information pertaining to the cultural norms and technical aspects of their working environment (Morrison, 1993a). As time increases, the need for technical information subsides as the newcomer begins to engage supervisors on performance expectations and the appraisal process. Additionally, the relational component is an underlying constant that is present whether a new employee is obtaining information or feedback.

Socialized Outcomes Attributed to Onboarding

Important outcomes related to socialization include organizational commitment, job satisfaction, and intentions to quit (Ashford & Black, 1996; Bauer & Green, 1998; Kammeyer-Mueller & Wanberg, 2003). Bauer et al. (2007) provided further empirical support through meta-analyzing the relationship between variables known to influence the socialization process (e.g., newcomer employee behaviors and organizational socialization tactics) and organizational commitment, job satisfaction, and intentions to quit.

Organizational Commitment. Mowday, Steers, and Porter (1979) conceptualized organizational commitment as an affective attachment to an organization. Said attachments are traditionally characterized as shared values, a desire to remain in the organization, and a willingness to exert effort on behalf of the organization. Organizational commitment additionally gauges the relative strength of an individual's identification with, and involvement within, a specific organization (Mowday et al., 1979). Meyer and Allen's (1991) conceptualization of commitment similarly identified an affective component that reflected an employee's desire to maintain membership in a given organization. However, unlike Mowday et al., Meyer and Allen posited that organizational commitment consisted of two additional commitment themes: continuance and normative. Continuance commitment defines as a need to remain with the organization. The concept of continuance commitment further embodied the consequences from the recognition of the costs (e.g., lack of alternatives) affiliated with leaving the organization. Normative commitment defines as an obligation to remain, attributed to the internalization of a loyalty norm, or the desire to repay favors the organization had given to you. Last, Kanter (1968), when describing the relationship that exists between an individual and the organization, highlighted the need for inter-individual cohesion. Specifically, Kanter advocated

that someone's commitment is rooted in the cohesion a given individual develops via affective involvement with their particular group.

Commitment's connection to newcomer-information-seeking. There exists evidence suggesting that commitment relates to multiple characteristics of organizations. A meta-analysis conducted by Bauer, Bodner, Erdogan, Truxillo, and Tucker (2007) evaluated newcomer information-seeking and its respective relationships to some of the more routinely researched outcomes (e.g., organizational commitment, job satisfaction, and performance) associated with newcomer adjustment during the organizational socialization process. Findings confirmed that newcomer information was significantly correlated with organizational commitment ($r = .21, p < 0.05$).

Job satisfaction. Based on a wide selection of studies, job satisfaction has traditionally been conceptualized to represent an employee's affective attachment to the job via holistic or specific elements of the organization (Tett & Meyer, 1993). Beyond the object of attachment, and from a general standpoint regarding the construct, Locke (1983) stated that the satisfaction an employee garners from a job may have its conceptual underpinnings in the basic pleasure or positive emotional state an employee obtains from the appraisal of the job or job experiences (e.g., work characteristics, social interactions, job rewards). Essentially, regarding job satisfaction, the question can be simply asked, "To what extent does someone like (satisfaction) or dislike (dissatisfaction) their job?" (Spector, 1997).

Job satisfaction's connection to newcomer information-seeking. Studies (e.g., Ostroff & Kozlowski, 1992; Morrison, 1993) have demonstrated that a positive relationship exists between newcomer information-seeking behavior and work attitudes, which encompass factors such as job satisfaction. For example, Ostroff & Kozlowski found that the acquisition of

information from the observation of others, supervisors, and coworkers were positively associated with job satisfaction over time. Furthermore, individuals who believed they were more informed about aspects of the job possessed positive levels of job satisfaction. The relationship between newcomer information seeking and job satisfaction was further supported by Morrison's findings that showed newcomer information seeking accounting for 12 percent of the variance pertaining to job satisfaction.

Intention to quit. Maertz and Campion (1998) conceptualized an individual's desire to quit as the precursor to the act of physically exiting the job. Maertz and Campion's conceptualization draws heavily from the general theory of planned behavior, for which behavioral intentions are good predictors of actual behavior. Furthermore, quitting, as a behavior, has long been an interest of both organizations and organizational researchers. From this stream of research, a person's inclination towards quitting as an idea has become a more informative explanatory predictor of actual quitting behavior (e.g., Firth, Mellor, Moore, & Loquet, 2004; Kalliath & Beck, 2001; Saks, 1996; Sager, 1991) than directly examining amount of turnover. Compared to actual turnover statistics, intention to quit data provided by the actual employee contemplating quitting, thereby, the information provide more insight into factors that influence quitting (Firth et al., 2004). Turnover, which is the actual quitting action, researchers' have traditionally been unable to collect because of privacy acts (e.g., Privacy Act of 1974, 5 U.S.C. § 552a; Overview of the Privacy Act of 1974, 2015 Edition) that do not permit the dissemination of employee information to third parties (e.g., academic researcher, independent research institute). Moreover, the nature of the information being collected is quite complex, considering that an individual's intention to quit is partially associated with their job satisfaction and organizational commitment levels (O'Fallon & Rutherford, 2009). The conclusion is that

researchers can understand how an employee's present level of job satisfaction and organizational commitment, combined with viable alternative employment opportunities, will impact their decision to eventually quit.

Intention to quit's relationship to the antecedents. The primary goal of newcomer information-seeking behavior is adjustment. Additionally, information-seeking behavior maps onto three indicators of adjustment (Miller & Jablin, 1991): referent (role clarity), appraisal (self-efficacy), and relational (social acceptance). All three are dependent on the social interaction that exists between newcomers and organizational insiders (e.g., management, mentors, and peers). Such interactions provide newcomers with clarity regarding what is needed to function on the job. From these exchanges, one gathers information on how well they are functioning compared to specified role requirements. These information-seeking exchanges provide newcomers with insight into the quality of relationships they possess with organizational insiders. Together, all three forms of adjustment, when effectively achieved, ensure that newcomers experience a working environment devoid of ambiguity and opaque job expectations.

Kramer, Callister, and Turban (1995) evaluated the relationship that existed between knowledge and expectation regarding the job setting and intentions to quit. Kramer et al. found that receiving unsolicited information from organizational insiders was associated with positive outcomes (i.e., job satisfaction and organizational information) and reductions in sentiments of quitting. The unsolicited information provided by organizational insiders directly reflects the organization's position on such matters, while monitoring is reliant upon individual interpretations that potentially lack the accuracy of more direct methods for gathering information (Morrison, 1993b).

Methodological Measurement Practices in Socialization Research

The transitional process one experiences via onboarding can be quite complex, depending upon the individual and contextual factors that may be operating at varying levels of the organization, either sequentially or simultaneously. These relationships, and the avenues through which they operate, have been of keen interest for socialization researchers (e.g., Socialization Process model; Bauer & Erdogan, 2011). Although the methodological approaches instituted to acquire such desired insight vary, a few select approaches have gained prominent usage within the socialization literature.

Type of data collection (longitudinal vs. cross-sectional). Considering that socialization processes have been examined from both concurrent and retrospective standpoints, questions over appropriateness have developed. For the most part, it is understood that correlations have a propensity to decline in magnitude as the time between the measurements of variables increases (Nunnally & Bernstein, 1994). Considering this point, Bauer et al. (2007) examined the relationship between some of the most prominently utilized variables in socialization onboarding research. Specifically, they conducted exploratory moderator analyses of effect sizes in order to comprehend the impact of longitudinal versus cross-sectional data collection. The socialization variables involved both antecedents (i.e., newcomer information seeking and organizational socialization tactics) and outcomes (i.e., performance, job satisfaction, organizational commitment, intentions to remain, and turnover). Beyond merely examining the impact of time, Bauer and his colleagues were curious as to which relationships were susceptible to the effects of varying data collection types.

Everything considered, findings indicated that larger correlations were identified for data collected from cross-sectional samples compared to longitudinal approaches (Bauer et al., 2007).

These findings only reinforced the understanding that correlations decrease over time, whereas data obtained at one point in time tend to reflect stronger associations. However, considering that onboarding and the greater organizational process develops and evolves over time, the longitudinal method of collecting data holds merit. For the most part, most studies in the area of organizational socialization hold firm to this stance with their continued use of longitudinal designs (Bauer et al., 2007). However, Bauer explicitly stated that even though studies may be gathering data across time, a substantial proportion of the individual relationships examined are reliant on cross-sectional data.

Measuring individual differences in socialization research

Individual difference variables have figured prominently in the organizational socialization literature. Furthermore, considering the relevance of general research variables that are heavily reliant on differences (e.g., personality characteristics, affective dispositions, values, beliefs, needs and motives, and demographic information), it is easily understood why individual difference measurements are routinely included in data collection (Saks & Ashforth, 1997). The use of individual differences has only increased as researchers highlight the ways in which such differences influence behavior. Saks and Ashforth specifically highlighted areas in the literature where individual differences usage has become quite pervasive. First, organizational and group socialization factors have an impact on individual difference variables, and the subsequent impact individual differences have effects on newcomer proactive strategies. Second, individual difference variables are commonly used to affect cognitive sense-making. Third, individual differences moderate the relationship that socialization factors have on information and learning, as well as the effects of information and learning on outcome variables.

Beginning in the 1980s, a shift occurred in which researchers began to utilize individual difference variables in their studies beyond focusing primarily on organizational actions. Saks and Ashforth (1997) noted that these individual difference variables, although limited in their initial focus (e.g., examining the impact of motivation in socialization: motivation to learn and motivation to transfer), were able to provide abundant information regarding newcomers' socialization experiences. Unfortunately, examining inherent differences between individuals has become quite common to the exclusion of other approaches (e.g., mediation variables) when understanding the relations between variables.

Criticisms have been levied against socialization research for not adequately addressing the psychological processes that mediate the connections between socialization programs and outcomes (Wanous & Colella, 1989). Such a dearth in the socialization literature was further noted by Saks and Ashforth (1997), who encouraged future research to explore the role of mediation variables with respect to the range of socialization programs being implemented in organizations. Unlike individual difference variables and moderators (variables that affect the direction/or strength of the relationship between predictor and criterion variables), both of which have been used extensively in socialization research (e.g., Saks, 1994, 1995; Major & Kozlowski, 1997; Laker & Steffy, 1995), minimal effort has been extended to the understanding and impact of mediation within organizational socialization (Saks and Ashforth, 1997). Mediation directs one's attention to how or why particular effects occur (Baron & Kenny, 1986). Such information would be invaluable to understanding the organizational socialization process. The previous statement does not mean that researchers are not striving to rectify the scarcity of mediation research in the literature. As early as 20 years ago, Saks and Ashforth (1996) sought to rectify such a deficiency in the socialization literature, given their efforts to understand

information acquisition as a mediator in the socialization process. Unfortunately, there still exists a need for more empirically rigorous mediation-based studies to further expand our understanding.

Statement of the Problem

The relationships between antecedents and outcomes regarding newcomer onboarding within the socialization literature have been evaluated in a multitude of ways. Such relationships have traditionally been tested directly or using moderators with minimal attention directed towards more mediation-based approaches (Saks, Uggerslev, & Fassina, 2007). Although the field has started to correct the lack of empirical information regarding mediation, shortcomings still exist. Particularly, there is a need to further expand upon the quality and type of mediators examined within socialization designs.

In 2006, Saks et al. (2007) conducted a meta-analysis that evaluated the relationships between socialization tactics and newcomer adjustment outcomes. Upon completion of their research, Saks et al. identified a major shortcoming in the literature: a failure to examine the underlying mechanisms through which correlations between socialization tactics and newcomer adjustment were established. It is critical that research and models pertaining to socialization are developed and tested that provide insight into the relationships that exists between socialization tactics, newcomer behavior, and newcomer adjustment outcomes (e.g., job satisfaction, organizational commitment, and intentions to quit). An explanatory mechanism that may provide additional insight into the nature of these relationships that is of specific interest to the present study is shared mental model.

Mental Models as a Precursor to Shared Mental Models

Mental models. Before understanding the nature and implications of shared mental models, it is critical to understand the foundational concept of mental models. These models are the mechanisms through which individuals develop descriptions of system purpose and form, explanations of system functioning and observed system states, and prediction of future system states (Rouse & Morris, 1986). Mental models provide us with an explanatory conceptual tool regarding human cognitive processes of interpreting reality and transforming reality into internal representations, subsequently allowing one to utilize these newly formed internal models for problem solving and sense-making (Park & Gittleman, 1995). These cognitive structures help to facilitate the continued interpretation and interaction between an individual and their given environment. Moreover, Mayer (1992) asserted that mental models are the knowledge structures that may be relied upon to identify, interpret, and react to situations and problems through a mental representation or analogical process. From Mayer's conceptualization, along with Morris' (1986) and Park and Gittleman's (1995) respective descriptions, it becomes quite clear that there exists no single definition of what constitutes a mental model. However, as a collective body of literature, definitive characterizations of what a mental model is and how it functions begin to emerge.

Glaser and Bassok (1989) define mental models as changing schema-based runnable simulations that individuals construct of situations and systems they aspire to understand. This notion is shared by Gagne and Glaser (1987), who stated that mental models are a vital facet of one's inference capacity due to the schema-based knowledge structures that include perceptions of task demands and performance. Collectively, after sifting through the literature, a defining characterization of mental models is one of a cognitive process that facilitates comprehension of

external reality, which is then transferred into internal representations for future problem-solving purposes (Park & Gittleman, 1995).

Furthermore, it is important to note that a mental model is a distinct construct from other knowledge phenomena. For example, object schemas (Anderson, 1980; Thorndyke, 1984) convey wide-ranging categorical, prototypical information accompanied by relational information (i.e., to other schemas and memory structures) that is encoded into memory. Mental models, however, exist for entirely different functional purposes. A mental model is a mechanism that manipulates schema-related knowledge (Canon-Bowers & Salas, & Converse, 1990). Specifically, an individual can actualize the model for the purpose of predicting outcomes of various combinations of model parameters. Such is the case for a tennis player who needs to combine their knowledge of the force effect required to strike the ball, the rotation and velocity characteristics of the tennis ball (i.e., topspin and backspin), the physical effects of body placement on striking, and a rudimentary knowledge of gravity to visualize the trajectory of the tennis ball after striking it. Furthermore, mental models are not limited by a singular event for evaluative information. Mental models facilitate a person's attempted application of a system in various situations (e.g., the use of various forms of common tennis equipment).

Establishing further construct distinction, Lipshitz and Shaul (1997) stated that mental models are different from other knowledge phenomena, including schemas (which are often included in many definitions of mental models). These researchers posited that schemas are related to specific situational representations, while mental models dictate decisions pertaining to these circumstances. Lipshitz and Shaul assert that, unlike schemas, a defining characteristic of mental models is that one could *wargame* potential outcomes based on multiple possible decisions by running an iterative-based model. Such a critical characteristic establishes the

evaluative component (comparing multiple options and outcomes) that is critical to decision-making. Gagne and Galser (1987) further supported this distinction by stating that mental models (like other knowledge structures) are schema-based, yet, are not schema due to the inclusion of perceptions of task demand and performances and the capability to support inference. Such an assertion implies that mental models are essentially more robust than schemas, thus allowing one to frame mental models as *meta-schemas*, of sorts (Gagne & Glaser, 1987).

The decision-making component of mental models was further supported by Jonassen and Tessmer's (1996) position that mental models contain knowledge of fundamental principles, processes, and skills that facilitate the prediction and inference of situational circumstances. Simply stated, individuals are adept at processing information pertaining to a system and making subsequent predictions of the system that it models. Case in point, an automotive manufacturer executive's understanding of the greater market environmental effects (e.g., regional competitive environments, new vehicle concepts, new client demands, market risks, impact of regulatory demands) allows them to effectively foresee changes in anticipated profit margins for the future. Beyond utilizing mental models for the purpose of assisting in the interpretation of, and reaction to, a familiar situation, they provide a paradigmatic cognitive processing function (a blueprint guide) for individuals when engaging new situations. Johnson-Laird (1983) eloquently summarized mental models' place within our cognitive processes: the psychological core of understanding is partly based on having a working model of the phenomenon in your mind. By understanding economic principles, how a machine works, a scientific theory, you have a mental representation that provides a model of an entity in a similar fashion that a clock would be symbolic of the earth's rotation. Moreover, Johnson-Laird states that when anticipating events,

making decisions, understanding phenomena, and controlling activities, people utilize mental models to infer or predict the likely occurrence of events, actions, and results.

Beyond the functional underpinnings of mental models as conceptualized by Johnson-Laird (1983), he believed that mental models are communicable. That is, the successful description or explanation from one person to another is inherently the transference of a blueprint of a working model. One caveat to effective communicative transference necessitates that the recipient possess a working knowledge and ability to understand the model.

Mental models as presently constructed. Researchers such as Johnson-Laird (1983) helped to facilitate the emergent literature pertaining to mental models. However, modifications to the theory have made it more accessible from an explanatory perspective regarding how mental models are formed and utilized for knowledge purposes (e.g., model modification and environmental evaluation). Since the 1980s various disciplines have addressed the potential impact of mental models. Although separate in nature, together, these disciplines have helped to form a coherent understanding the fundamental characteristics of mental models.

Influence from cognitive psychology. As previously alluded to, mental models pertain to the structuring of knowledge within a clearly defined system that facilitates recall (Kraiger, Ford, and Salas, 1993). Within the area of cognitive psychology, mental models have primarily been explored and evaluated from the perspective of novice versus expert problem-solving behavior (Glasser & Bassok, 1989). However, albeit still under the guise of problem-solving, Hong and O'Neil (1992) studied the distinction between mental models and *relevant* mental models. Whereas the mental model construct's element of knowledge can range from detailed/specific/concrete to global/general/abstract (Rouse, Cannon-Bowers, & Salas, 1992), many individuals hold the perspective that mental models encompass a specific list of

characteristics (Park & Gittleman, 1995): dynamic, abstract, generalizable, and without firm boundaries. Hong and O'Neil (1992) chose to research mental models from a more definitive perspective: an internal domain-specific representation that is relevant and useful in an individual's ensuing comprehension and problem-solving capacity with the domain.

Hong and O'Neil (1992) posited that a sub-class of mental model is a relevant mental model that specifically assists one in problem comprehension and solving within a specific domain. The defining characteristic of this sub-class is its completeness regarding capacity of task and stability being evident within the skill level of the individual using the model for problem-solving purposes. Such a definition recognizes that mental models may be incomplete or unstable given individual capacity and stability issues. However, Hong and O'Neil (1992) contend that relevant models are initially only partially formed. Furthermore, such models will remain incomplete without effective referents and knowledge. Regardless of the notion of completeness, these researchers argue that the concept of relevance when forming mental models is a significant point of interest when identifying the core elements of mental models.

White and Frederikson (1986), in lieu of studying a particular type of mental model, chose to create a set of notions pertaining to the nature of mental models. The first of these notions is that mental models integrate declarative and procedural knowledge in addition to a managing control structure. The second notion is more domain-specific, whereby several mental models can be related to the same domain (Glaser & Bassok, 1987), although each model represents differing conceptualizations of the domain phenomenon. Beyond creating beliefs with regard to mental models, White and Frederikson (1986) designed a three-level description of mental models. First, a *zero-order* model addresses dichotomous reasoning without relational perception. Second, a *first-order* model enables someone to discriminate based on perceived

change. The final level, *second-order*, permits discrimination based on rate of change (Glaser & Bassok, 1987). White and Frederikson's characterization of mental models allows for an individual to develop multiple models relevant to a single domain, while customizing the level of complexity to necessary levels.

Another cognitive-based conceptualization of mental models addresses their functionality within a system (such as those present within organizations). Young (1983) attempted to categorize different functions and types of mental models. Specifically, the researcher proposed that mental models should contain characteristics (i.e., information about the system's performance, requirements for learning the system, elements of reasoning relevant to decision rules) comprising information that assists understanding of a specific object system. Young, like the previous cognitive psychologists mentioned, adheres to the idea that different types of models (e.g., analogical, mapping, coherence producing, and generalizations) are required for various situations.

Influence of mental models within organizational literature. Beyond cognitive psychology, there have been applications of mental models within the organizational development literature. Covey (1992) prominently emphasized the value of mental models, or common paradigms, when articulating the importance that every individual within the organization possesses a common understanding of the direction and process through which the organization will achieve future goals. Most important within his characterization is the idea that mental models are internal maps for being successful. However, within the organizational behavior literature, intra-individual cognitive processes are of less interest than social processes (Bennett, Wheatley, Maddox, & Anthony, 1994; Anthony, Bennett, Maddox, & Wheatley, 1993). Mental models, or as conceptualized within the social processes field, mental imagery,

focus on the relation-structures necessary for perceiving and interpreting the organizational environment while charting operational paths.

In the field of organizational management, Eden (1992) espoused a view of mental models more in alignment with those of cognitive psychology. Principally speaking, mental models are cognitive maps that permit an employee to understand contextual variables present in their working environment, thereby, allowing workers to simulate mental scenarios that will subsequently lead to preferred outcomes (Eden, 1992). Present within Eden's modeling characterization is the belief that the response elicited by employees regarding the situation impacts their modeling simulations. Employees who are able to model adequately employee behavior while regulating their own reactions increase the likelihood of obtaining better decision outcomes. Unfortunately, notwithstanding Eden's (1992) contribution, there seems to be a dearth of organizational development, organizational behavior, and management literature that adds to our understanding of mental models.

When the various disciplines and conceptualizations are considered, mental models can be described as cognitive knowledge structures that facilitate an individual's environmental interaction based upon domain-specific mental simulations that are dynamic and interactive in form. In consideration of this definition, and accounting for the ability of mental models to become more interactive regarding others' respective models as an individual gains experience (Kraiger, Ford, and Salas, 1993), understanding inter-individual model relationships is necessary.

Conceptualizing Shared Mental Models

A shared mental model (SMM), or team mental model (TMM), as often deemed interchangeable in the literature (Mohammed, Ferzandi, and Hamilton, 2010), represents team members' shared, organized understanding and mental representation of knowledge concerning

key elements of the team's relevant environment (Klimoski & Mohammed, 1994). Rouse, Cannon-Bowers, and Salas (1992) specified that SMMs execute several functions, enabling team members to: interpret information in a common fashion (description); share expectations regarding future events (prediction); and establish analogous causal accounts for a situation (explanation). Essentially, teams operating under highly developed shared mental models tend to possess a common view of what is occurring, what is subsequently going to happen, and why the occurrence is happening (Cannon-Bowers, Salas, Converse, 1993). Klimoski and Mohammed, along with additional researchers (e.g., Kraiger & Wenzel, 1997; Rentsch & Hall, 1994), have espoused the view that SMMs are precursors to effective team processes and performance. This position is consistent with Cannon-Bowers et al.'s (1993) early works in which they proposed that having an understanding of what to expect, anticipating the needs of fellow members, and articulating what has been observed facilitates coordinated team actions through adaptive behavior towards task demands. Such behavior serves to increase decision-making quality and performance within the team.

Differentiating belief structures from knowledge structures. Although research presented in the literature has sought to understand the functions of SMMs (i.e., description, prediction, explanation), such findings have primarily been achieved by focusing on the knowledge structures of teams (descriptive states of nature that individuals know to be true; Jonassen, Beissner, & Yacci, 1993; Walsh, 1995). However, very little of the present literature has examined the belief structures (the desired states that someone prefers, expects, or demands) that exist within the SMM framework (Jonassen et al., 1993). Mohammed, Klimoski, and Rentsch (2000) echoed such a sentiment while arguing that the SMM construct should permit for or contain the view of shared, evaluative belief structures.

Delving further into belief structures, Ward and Reingen (1990) pointed out that theoretical work pertaining to attitudes and social cognition noticeably included characterized group evaluative belief sets as shared cognitive structures. Such shared cognitive structures are represented by means of associative networks. Specifically examining SMM belief structures, these networks of relationships are best defined along three concepts: attributes, inferences, and goals (Ward & Reingen, 1990).

The first of these concepts, *attributes*, involves the features of an experience that are acknowledged as being meaningful by individuals. Attributes, as presently constituted via Ward and Reingen's (1990) perspectives, exist along a continuum from like to dislike when mapping evaluative belief structures. Attributes, given their conceptualization, have valence and the possibility to evoke affect.

Ward and Reingen (1990) defined *inferences* as underlying elaborations or projections relevant to an attribute that generally do not accompany the official description. For example, imagine two individuals are seeking to attend a social gathering in hopes of indentifying someone to date. They are both subsequently invited to attend a nightclub featuring loud electronic dance music. The first individual infers that, if the club is playing loud electronic dance music, the likelihood of finding a quality person is minimal, since quality people are unlikely to prefer such music. However, the second individual, evaluating the same nightclub, infers that the quality and volume of music being played would make it difficult to talk to people, thus making it unlikely to identify the quality people in attendance. Inferences are formed out of the assumptions or knowledge a person has regarding an attribute. Additionally, similar to attributes, inferences have their evaluative foundation based in whether someone likes or dislikes an attribute. When an individual is actually processing information, inferences can reflect or

draw meaning from cognitive processes concerning consequences or potential effects of attributes (Ward & Reingen, 1990). It is appropriate to conclude from such a stance that an attribute will be processed differently depending on the inferences that have been drawn.

The last concept espoused by Ward and Reingen (1990) related to belief structures are *goals*. Goals within the present framework are desired states or ends. During the cognitive process of decision-making or assessment of choices, goals represent the evaluation of alternatives. Evaluation of alternative goals is partially impacted by the attributes, inferences drawn, and the nature of the associations between the attributes and specified goals (at a particular time).

Together these three concepts and their relationships to one another (i.e., inferences connected to attributes, attributes' relationship to goals) are viewed as beliefs (Ward & Reingen, 1990). As noted, such beliefs encapsulate cognitive structures (the knowledge structures team members possess about a phenomenon), but are equally adept at characterizing how individuals feel about a phenomenon (evaluative belief structures). Thus, cognitively speaking, team members engage in a knowledge-belief-structure cycle. This means that team members develop common knowledge structures prior to the formation of belief structures. Once belief structures are formed, the knowledge structures are used to support and strengthen these belief structures. However, belief structures may possibly influence, to a great extent, the acquisition, storage, organization, and integration of knowledge (Ward & Reingen, 1990).

Shared cognition is not aggregated cognition. Although SMMs characterize one of many constructs that together form the general area of team cognition (Salas & Fiore, 2004), SMMs are not merely aggregated knowledge structures. Instead, they are the collective experience of multiple individuals' cognitions (Kozlowski & Klein, 2000). When identifying the

taxonomic aspects of team variables, Marks, Mathieu, and Zaccaro (2001) classified shared mental models as emergent states. Such a state can best be described as representing cognitive properties of a team that are dynamic in form, while differing as a function of team context, inputs, processes, and outcomes. Similar to Kozlowski and Klein (2000) noting that SMMs are not aggregated knowledge structures, Mathieu, Heffner, Goodwin, Cannon-Bowers, and Salas (2005) argued that sharedness should not be viewed as the aggregation of individual mental models to a team mental model. Shared knowledge, in fact, reflects the degree to which members' mental models are consistent or converge with one another, although not connoting identical mental models (Kang, Yang, & Rowley, 2006; Rentsch, Small, Hanges, 2008). Moreover, Rentsch and colleagues emphasized cognitive similarity when conceptualizing sharedness of knowledge. In this instance, cognitive similarity is described as the meanings and understandings that are similar among individuals and used for sense-making, attributing meaning to, and interpreting internal and external events (which can include affect, behavior, and thoughts) concerning the self and others.

Beyond the convergence of mental models into a SMM, accuracy is an additional characteristic that helps to differentiate SMMs from merely aggregated models (Edwards, Day, Arthur, & Bell, 2006). Solely framing SMMs through the teamwork and task-work categories may potentially result in erroneous outcomes, whereas combining highly convergent mental models that are high in quality will result in improved team performance benefits (e.g., Edwards et al., 2006; Mathieu et al., 2005). A thorough understanding of the impact of SMMs on individual and team relationships and outcomes requires accuracy, and not simply a reliance on similarity, if overestimates are to be avoided (Smith-Jentsch, 2009).

Content examined via team mental models. Rouse et al. (1992) formally declared that individuals within the team might simultaneously hold multiple mental models. Cannon-Bowers et al. (1993) identified four distinct models: an equipment model (knowledge concerning tools and technology), a task model (comprehension of work procedures, strategies, and contingency plans), a team interaction model (awareness of member responsibilities, role interdependencies, and communication patterns), and a team model (mindfulness of teammates' preferences, skills, and habits). However, when actually examined for the purposes of conducting research, the SMM content is generally collapsed into teamwork and task-work categories (e.g., Cooke, Kiekel, & Helm, 2001; Mathieu et al., 2000). The first of these collapsed categories, teamwork mental models, pertain to the interpersonal interaction requirements and skills of the other team members. The task-work mental model category reflects work goals and performance requirements (Cooke et al., 2001).

Shared mental models: research methodology and measurement. Given the context-dependent nature of SMMS, there exists no singular methodological approach for measuring SMMS (Mohammed et al., 2010). Empirical studies have examined SMMS in various environments, including student teams performing PC-based command and control simulations (e.g., Marks et al., 2001; Mathieu et al., 2000), military teams (Lim & Klein, 2006; Smith-Jentsch, Cannon-Bowers, Tannenbaum, & Salas, 2008), nuclear power plant control room crews (Waller, Gupta, & Giambatista, 2004), and government employee teams (e.g., Rentsch & Klimoski, 2001; Smith-Jentsch, Campbell, Milanovich, & Reynolds, 2001).

The measurements utilized to evaluate SMMS have varied quite extensively, including, but not limited to, verbal protocol analysis, repertory grids, card sorting, ordered tree, multidimensional scaling (MDS), distance to ratio formula, and Pathfinder (PF) (Langan-Fox,

Code, & Langfield-Smith, 2000). Direct measurement of SMMs remains an area for further development, considering the first published articles directly measuring SMMs did not appear until the early 2000s, approximately 10 years after the creation of the construct (Mathieu et al., 2000). In addition, the context-dependent nature of SMMs allows for the emergence of new innovative ways by which to measure SMMs across a multitude of dynamic environments.

Regardless of the methodological approach employed, when it comes to the integral elements of SMM measurement, two components are widely accepted as being valuable to measuring SMMs (Langan-Fox et al., 2000): content (knowledge that comprises cognition) and structure (how concepts are organized in the minds of individuals). Measurements that intend to assess both content and structure require the use of elicitation (documenting mental model content) and representation (identifying the relational structure that exists between elements) techniques (Mohammed et al. 2000). Moreover, the representation technique that permits analysis of the relational structures present within a SMM is the main aspect that differentiates SMMs from other team-cognition constructs.

Shared mental model's organizational application. Traditionally, the attention of shared mental models as an explanatory mechanism has been directed towards effective team performance in organizations. However, the present study posits that shared mental models as an explanatory mechanism can be applied at a more macro level of the organization, specifically the initial socialization phase newcomers experience when entering an organization. Such an idea carries merit when viewed through the correct prism: the organization at a macro level is a singular group or team.

A group constitutes a social entity, or collective, based on individual members' thoughts, perceptions, beliefs, and expectations (Klimoski & Mohammed, 1994). However, the collective

group phenomenon is more than the sum of the individual parts, in that the cognition is shared socially between individuals (Damon, 1991; Resnick, 1991). The thoughts, perceptions, beliefs, and expectations of these groups are not organically grown in the isolated confines of the group or team. Newcomer behavior to an extent is guided by the cultural beliefs that are present within the company (Schein, 1990), which are both communicated to, and actively sought out by, newcomers through the onboarding process (Tedeschi & Melburg, 1984; Ashford & Black, 1996; Cable & Judge, 1996).

Through social interactions, the sharing, transference, and retention of information alters the cognitive facilities of individuals when operating within the organizational environment (Klimoski & Mohammed, 1994). This point was substantiated by Van den Bossche, Gijsselaers, Segers, and Kirschner (2006), who established a theoretical framework for sociocognitive processes leading to cognitive development between group members, while providing insight to the interpersonal dimensions of teamwork. Additionally, such collective cognition founded in the synergized belief structures that exist among group members have been known to affect the efficiency (i.e., speed, flexibility, and implementation of decisions) of groups when making decisions (Walsh & Fahey, 1986). Moreover, shared meanings and understandings provide form and coherence to group member's experiences, which works as a catalyst for coordinated action (Smircich, 1983).

Daft and Weick (1984) extended group shared meanings to the organizational level by explicitly positing that unified organizational interpretation evolved out of shared meanings, preceded by individual learning and action. Daft and Weick's position can easily be mapped onto the newcomer socialization onboarding process. Particularly, Bauer and Erdogan (2011) stated that onboarding is a process that facilitates new employees' transition from organizational

outsiders to insiders. Considering the point that newcomers transition to organizational insiders via the socialization process, it is reasonable to identify the socialization process as the initial catalyst for organizational learning and behavioral actions newcomers will experience during their progression toward organizational insider (eventually impacting the shared meanings at the organizational level). Utilizing Baur and Erdogan's conceptualization of onboarding, while applying Daft and Weick's position, the present study presents a relationship that merits additional attention.

As has been established, group- and team-based research has utilized shared meanings to understand further the sociocognitive relationship that operates at the group level (e.g., Damon, 1991; Resnick, 1991). Additionally, Daft and Weick (1984) put forth the concept that shared meanings can be applied to the organizational level, thereby establishing the foundation for evaluating the role of shared meanings that are present within the individual-organizational relationship.

Purpose of the Present Study

Expanding SMMs conceptual application. Shared mental models as a construct, and measurement, have traditionally focused on the team dynamic (Klimoski & Mohammed, 1994; Kraiger & Wenzel, 1997; Rentsch & Hall, 1994). However, as noted by Mohammed et al. (2010), the field lacks adequate conceptual development. This may be somewhat attributed to many of the presently well-known direct measures of SMMs not appearing in peer-reviewed publications until the early 2000s (Mathieu et al., 2000). The scope of SMM research may need expanding if such inadequacies are to be rectified. Therefore, considering this deficiency, the overarching conceptual goal of the current study is to expand the boundaries of SMM research

beyond that of the traditional team setting via its integration into the onboarding phase of the organizational socialization process (see Figure 2).

From a functionality perspective, the present study strives to understand the nature of SMMs within the individual-organizational dynamic during the onboarding process. Specifically, this study seeks to address a significant limitation in the organizational socialization literature: failure to examine the underlying mechanisms through which correlations between socialization tactics and newcomer adjustment were established. The interest in the *why* that underlie these relationships is the aim of the present study.

Shifting SMMs' construct orientation from the team to organizational socialization is completely plausible. Broadly defined, organizations are structured social groups with a defined purpose (Denison & Spreitzer, 1991). Such a broad definition is commonly accepted across various organizational development models, from the socio-technical and work design models of Trist and Bamforth (1951), Hackman and Oldham (1980), and Pasmore (1988) to the clinical perspectives on groups and individuals espoused by Argyris (1964), Schein (1969), Levinson (1972), or Zalesnick and Moment (1964). Denison and Spreitzer (1991) noted that by adhering to this traditional broad definition of an organization, researchers could concentrate on the underlying values as the base of an organization's design and form. The flexibility that exists within such a broad definition of an organization as stated by Denison and Spreitzer allows SMMs to be examined as a potential explanatory mechanism for the onboarding process, and for outcomes associated with socialization.

Similar to organizations, a work team/group is defined as interdependent individuals who share responsibility for specific outcomes for their organizations (Sundstrom, 1999). The conceptual overlap between the general organization definition and Sundstrom's definition of

work teams is abundantly clear. Both are innately linked by the identification of individuals coming together to work towards a goal through interdependent work. This means that organizations exist as a meta-team that focuses on macro objectives (e.g., production, socialization of newcomers). Such a perspective garners further veracity when work teams/groups are defined as "individuals who see themselves and who are seen by others as a social entity, who are interdependent because of the tasks they perform as members of a group, who are embedded in one or more larger social systems, and who perform tasks that affect others" (Guzzo & Dickson, 1996, p. 308-309). Guzzo and Dickson's position on individuals comprising multiple social systems (smaller work teams are simply subunits of the greater organizational team), combined with Denison and Spreitzer's (1991) organization and Sundstrom's (1999) work team definitions, establishes the position that individuals, teams, and the organization, are interdependent units operating within the organizational environment. Each work team feeds into higher-order teams with the eventual result being the organization, a meta-team.

SMMs impact on onboarding. Beyond expanding the application of SMMs via organizational socialization, the present study seeks to evaluate SMMs' role as a possible underlying mechanism through which individuals experience onboarding.

Newcomers entering the initial stages of organizational socialization are not merely blank slates ready to be indoctrinated with the skills necessary to perform adequately in their new job environment. Moreover, companies have come to realize this point as well. In light of the competitive world companies must operate within, they are actively selecting and recruiting people in order to benefit from their competencies and the specialized knowledge they possess, which is especially pertinent in knowledge intensive firms (Starbuck, 1992). Thus, inducting an

individual into the company is also an opportunity for the company to learn. This interaction can be characterized as a generative dance between the individual and company for mutual learning and evaluative purposes (Sprogoe & Rohde, 2009). Such a learning exchange substantiates the notion that newcomers are not merely passive, blank slates, readily malleable for transforming into the ideal worker. On the contrary, newcomers enter the organizational socialization process with prior knowledge and experiences that form their worker identity (Cable, Gino, & Staats, 2013). Newcomers have unique perspectives and signature strengths, and an understanding of how to display them in the work environment (Cable et al., 2013).

During the socialization process, organizations attempt to develop pride in the newcomer, while also ensuring they accept the norms, values, behaviors, attitudes, and skills required to perform adequately in their new role as a new organizational member (Fisher, 1986, Van Mananen, 1976, & Cable et al., 2013). In addition to the knowledge and skills a newcomer is bringing into an organization, previous organizational socializations experienced throughout a person's career have an impact on the newcomer as well (Bauer et al., 2007). Thus, newcomers actively orient their focus towards aspects of the organization that may or may not make them proud to be a part of the organization (Cable et al., 2013). Approaching onboarding through traditional enculturation approaches (organized process for transferring the company's culture) has even be known to lead to conflict with an individual's self-expression and sustainable onboarding (Cable et al., 2013).

Collectively, these findings demonstrate that a successful onboarding process is dependent on both the newcomer and the organization. Unfortunately, all previous research pertaining to onboarding has woefully failed to address the issue identified by Saks et al. (2007) in their meta-analysis regarding organizational socialization. Specifically, research has failed to

examine the underlying mechanisms through which correlations between socialization tactics and newcomer adjustment variables are established. Understanding these relationships requires empirically-driven efforts that, according to Saks et al., have been miniscule as of the first decade in the 21st century.

By establishing the conceptual understanding that the organization is a meta-team, it is possible to evaluate the role of SMMs during the newcomer's onboarding experience. Particularly, SMMs address the shared, organized understanding concerning the mental representation of knowledge pertaining to the team's relevant work environment (Klimoski & Mohammed, 1994). Therefore, conceptualizing the organization as a meta-team allows the present study to evaluate the perceived congruency that newcomers may or may not be experiencing with their respective meta-teams (organizations) during the onboarding phases of the socialization processes. As noted, newcomers arrive to their new organizations with previously acquired information (gathered via previous jobs, prior socialization programs, and life experiences) that impact their present onboarding perceptions and behaviors (Cable et al., 2013). Utilizing SMMs as an explanatory variable will permit the direct evaluation of the newcomer's active comparison of their own work-based mental models with those perceived to be representative of the meta-team they are entering (the process of forming shared mental models).

Summary of objectives:

1. Integrate the SMM construct and socialization literature for two purposes:
 - a) Expanding the boundaries of SMM research beyond that of the traditional team setting via its integration into the onboarding phase of the organizational socialization process.
 - b) Understand the nature of SMMs within the individual-organizational dynamic during the onboarding process from an applicative and functionality perspective.

2. Evaluate SMMs as a potential explanatory variable of the underlying mechanism through which individuals evaluate the onboarding process.

Incorporating the SMM construct within the socialization model. An abbreviated version of Bauer and Erdogan's (2011) socialization model specifically targeting the relationship between newcomer information-seeking behaviors and select socialization outcomes (i.e., organizational commitment, job satisfaction, and intentions to quit) was selected as the guiding model for testing purposes. This particular socialization model was selected because it is an empirically examined summary process model of socialization factors involved in socialization experiences present at newcomer levels with organizational-level outcomes (see Figure 2 for proposed modified component to socialization model). The modified model seeks to understand the role of SMMs as a potential mediating variable between new employee behaviors and well-established socialization outcomes (i.e., organizational commitment, job satisfaction, and intention to quit). Studies by Bauer et al. (2007) and Bauer and Erdogan (2011, p. 51-64) provided empirically-based references and meta-analytic support for a one-factor solution of newcomer employee behaviors. Prior to formal hypotheses testing, the present study seeks to substantiate the one-factor structure of newcomer employee behaviors via factor analytic support.

New employee behaviors and socialization outcomes. The first set of hypotheses serve to empirically reinforce the formal non-mediated antecedent-outcome relationships between newcomer employee behaviors and socialization outcomes previously supported in the literature (e.g., Bauer et al., 2007; Bauer & Erdogan, 2011; Miller & Jablin, 1991). Newcomer employee behaviors (i.e., information seeking, feedback seeking, and relationship building) are associated with organizational commitment and job satisfaction, and intention to quit (Kramer et al., 1995).

H1: Newcomer employee behaviors will have direct non-mediated relationships with organizational commitment (*Hypothesis 1a*), job satisfaction (*Hypothesis 1b*), and intention to quit (*Hypothesis 1c*).

New employee behaviors and shared mental models. The current study posits that shared mental models mediate the relationship between new employee behaviors and specific socialization outcomes (i.e., organizational commitment, job satisfaction, and intention to quit). This assumption is based on the understanding that both new employee behaviors (i.e., information seeking, feedback seeking, and relationship building) and SMMs are reliant on knowledge acquisition for work-related adjustment. Through the utilization of new employee behaviors, newcomers will seek to navigate successfully the onboarding experience via the acquisition of information necessary for proper socialization adjustment (e.g., demonstrating expected behaviors, norm congruency, and positive social relationships). From a macro conceptualization, it is reasonable to conclude that new employee behaviors (i.e., need for information to relieve employee uncertainties) is highly associated with the formation of SMMs (reliant on information for the purpose of evaluating mental model synergy between entities). For example, information-seeking behaviors (e.g., conversing with supervisors, coworkers, and referencing manuals) provide new employees with the information necessary for developing or altering work-based mental models (feedback-seeking and relationship building operate similarly).

H2: Newcomer employee behaviors will have a relationship with SMM.

Mediation of employee behavior-socialization outcomes relationship via SMMs. Proper socialization is not guaranteed simply by partaking in such behaviors. Until now, many studies have examined the individual (e.g., Crant, 2000; Saks & Ashforth, 1996; Thompson, 2005) and

contextual (e.g., Jones, 1986; Saks & Ashforth, 1997; Van Maanen & Schein, 1979) variables that are associated with socialization outcomes. Unfortunately, the underlying mechanisms individuals use to decide whether information received adequately satiates their informational demands have been minimal (Bauer & Erdogan, 2011).

The present study hypothesized that newcomers will actively evaluate their newfound organizational information (provided via the onboarding process) through comparison with their own individual mental models relevant to the job. Perceived congruency or lack thereof will influence workers' socialization outcomes. Explicitly stated, perspectives of shared mental models between the newcomer and organization (meta-team) will mediate the relationships between newcomer employee behaviors and organizational commitment, job satisfaction, and intention to quit.

H3: SMM will have relationships with organizational commitment (Hypothesis 3a), job satisfaction (Hypothesis 3b), and intentions to quit (Hypothesis 3c).

H4 (mediation): The indirect mediated paths between NEB and each of the organizational consequences (i.e., organizational commitment, job satisfaction, and intentions to quit) via the mediator, SMM, will be significant.

Chapter 2 - Method

Overview

Data collection occurred via an online survey administered by Qualtrics. Instructions were provided for how to appropriately respond to the scales prior to their commencement. Individuals identified as being within the first year of employment for their respective organizations or companies were classified as newcomers for the purpose of the study. A newcomer and the organization (i.e., meta-team) were identified as a shared mental model dyad for the present study. Upon review the general instructions for the study; participants completed a demographic/present employment survey. Thereafter, participants were required to provide responses to a battery of scales. The newcomer, using the SMM scale, provided their perspective on the nature of the relationship experienced with their organization. Newcomer responses are stored on the online data collection website and manually retrieved by the researcher.

Online Data Collection

Sample diversity. Comparable to the other data collection websites (e.g., Mechanical Turk and SurveyMonkey), Qualtrics enables survey creation, participant recruitment, compensation, data collection, and data storage from a centralized online location. Research pertaining to the quality of data obtained via online sources has identified multiple strengths when using such an approach. Gosling, Vazire, Srivastava, and John (2004) examined the diversity of samples acquired through online vendors as opposed to standard internet samples. The researchers concluded that vendor-based samples reflected more diversity across a multitude of criteria. Regional affiliation encompassed individuals from all 50 U.S. states and over 50 different countries. The vendor samples reflected greater racial and ethnic diversity with non-white (36%) and non-American (31%) participants, in comparison to standard internet samples

(23% and 30%, respectively). The vendor-based samples were older ($M = 32.8$ years, $SD = 11.5$) than the standard internet samples ($M = 24.3$ years, $SD = 10.0$). Overall, online vendor samples are more demographically diverse than standard internet samples, while being significantly more diverse than typical American college samples (Buhrmester, Kwang, & Gosling, 2011).

Compensation. Although analyses by Buhrmester et al. (2011) indicated that survey takers possess high levels of internal motivation (e.g., for enjoyment), they did note that participation rates decreased as a function of both decreasing payment amount (2, 10, and 50 cents) and survey length (lowest for 30 minute surveys compared to 5 and 10 minute versions). Considering participatory compensation will be \$6.50 with survey time being approximately 15-20 minutes, the present study should not experience the deleterious effects associated with monetary compensation and survey time.

Participants

The participants were 305 full-time working adults presently experiencing onboarding within their first year of employment. A traditional, actively managed market research panel obtained the sample (Qualtrics Development Company, 2009). Qualtrics ensured a randomly selected sample from populations that were highly likely to meet the study's qualifications. Sixty-three percent were females and the average age was 32 years ($SD = 9.6$). Respondents had an average of seven months ($SD = 3.24$) of full-time work experience with the average workweek being 42.5 hours ($SD = 5.04$). Seventy-five percent of these newcomers experienced a formal orientation program. Approximately 53 percent of these newcomers worked within five general industries: education, healthcare, retail, information technology, and hospitality. In exchange for their responses, participants compensated monetarily for an amount of \$6.50.

System Requirements for Participation

The present study used an online commercial vendor to administer surveys, collect responses, and store the corresponding data. The necessary technological requirements required for participation were a computer or tablet with internet access, basic computer skills, and a modern web-browser with JavaScript enabled. Individuals using an updated browser version of Mozilla Firefox, Google Chrome, Apple Safari, and Internet Explorer should have been able to navigate the website with minimal or no hindrances. Respondents using Microsoft Edge were instructed to use an alternate web browser considering Microsoft Edge does not enable the use of Java software (required to use Qualtrics survey software).

Measures

New Employee Behaviors. Morrison's (1993) Information-Seeking Scale was used to measure new employee behaviors for the study (See Appendix A for Information-Seeking Scale). The scale evaluated an individual's tendencies to gather feedback information: normative (information about expected behaviors and attitudes; Comer, 1991), technical (information about how to perform required job tasks; Miller & Jablin, 1991), referent (information about role demands and expectations; Miller & Jablin, 1991), performance (information about how others are perceiving and evaluating their job performance; Ashford, 1986), and social (information about the acceptability of their non-task behavior; Miller & Jablin, 1991).

During Morrison's (1993) development of the scale, the five information-type factor structures were stable (minimum loadings of .70) with no ambiguity attributed to high cross-loadings (never exceeding .40, with most being closer to .30). The information subscales had alpha coefficients ranging from .66 to .95. For each of the five information scales, participants will be required to indicate the frequency with which they have engaged in a mixture of

information-seeking activities, from inquiry (directly asking for information) to monitoring (observing the environment for informational cues) to written (consulting written materials), during an average month. Social feedback, considering its conceptualization, does not include an item for written activities (previous pilot testing indicated a lack of written activities oriented towards social feedback). Responses for each scale use a 7-point Likert scale format (1 = never; 2 = once a month; 3 = a few times a month; 4 = once a week; 5 = a few times a week; 6 = once a day; and 7 = a few times a day).

Shared mental models.

Role/goal clarity. Rizzo, House, and Lirtzman's (1970) 5-item measure of role clarity was used to measure the transparency of role and goal expectations from a SMM perspective (See Appendix B for the full version of the SMM survey). The role/goal clarity component of the SMM measurement addresses the employee's perceived congruency among various criteria present in the work setting: job objectives/goals, job role, performance evaluation, level of job autonomy, and job responsibilities. Mukherjee and Malhotra (2006) when examining the antecedents and consequences of role clarity in explaining employee-perceived service quality, demonstrated that the scale's items were indicating reliability (construct reliability = 0.851; Cronbach's $\alpha = 0.82$). Mukherjee and Malhotra also stated that the scale has a well-established record of demonstrating discriminant validity and reliability (e.g., Kelloway and Barling, 1990; Boshoff and Tait, 1996; de Ruyter, Wetzels, & Feinberg, 2001). Each of the role/goal clarity items will be evaluated using a 1 (strongly disagree) to 5 (strongly agree) Likert scale format.

Process clarity. The second component of the SMM measurement is process clarity. The process clarity items (4-items; Sawyer, 1992) evaluated the employee's perceived congruency between their own mental model and the organization's mental model. The

organization's mental model was based on procedural and temporal standards espoused to newcomers during the onboarding process (e.g., task management, daily schedule, and appropriateness and correctness of procedures). The newcomer would use this information provided to form a mental model representative of the organization for direct comparison against his or her own previously established mental model. For the present study, the questions were written intentionally in a generic form to ensure general applicability across various work roles.

The present study used the role clarity scale that was originally subscale of Sawyer's two-factor (process and goal clarity) role ambiguity measurement. Sawyer used the composite reliability estimates (analogous to coefficient alpha, Fornell & Larcker, 1981; Netemeyer, Johnson, & Burton, 1990) for both subscales to provide support for reliability. The composite reliability estimate for process clarity, $\alpha = .904$, indicated respectable reliabilities for a short research measure. Additionally, all standardized item loadings were large as evidenced by *t*-test values for all loadings having ranged from 11.83 to 20.54 ($p < .01$), providing support for the convergent validity of items on their respective scales. The chi-square difference test comparing the one- and two-factor solutions, $\chi^2(1, N = 402) = 42.68, p < .01$, was evaluated for offering support for discriminant validity between the two scales that formed the role ambiguity measurement. The goodness-of-fit (GFI) and the adjusted goodness-of-fit (AGFI) statistics provided additional support for discriminant validity. Specifically, the GFI and AGFI indices substantially increased for a two-factor model (GFI = .939, AGFI = .898) as opposed to a one-factor model (GFI = .881, AGFI = .808). Sawyer used an additional test of discriminant validity employed by Netemeyer et al. (1990) that compared the variance extracted (VE) estimates for the scales with the square of the correlation between the scales. Discriminant validity is indicated if the VE estimates are greater than the square of the correlation between the two

factors (process and goal clarity). Inspection of Sawyer's confirmatory analysis indicated that the interfactor correlation was .677, which was significantly less than 1 ($SE = .047$; confidence interval = .584 - .770). The square of the correlation was .458, less than the VE estimates for the process clarity ($VE \cong .656$) scale.

Organizational commitment. The original 24-item version of the Three-Component Model (TCM) Commitment Survey was used to measure the job commitment construct in the present study (See Appendix C for the full version of the TCM survey). The TCM measures three forms of organizational employee commitment (Meyer & Allen, 1991; 1997): the desired-based affective commitment scale (ACS), obligation-based normative commitment scale (NCS), and the perceived cost continuance commitment scale (CCS). The primary difference between the original and revised TCM is in the normative commitment scale (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). The original version measures an employee's sense of social obligation to remain in an organization through a heightened level of emphasis being placed upon an internalization of values (Allen & Meyer, 1990). This sense of obligation, according to Allen and Meyer, develops out of an employee's socialization experiences and the receiving of benefits from the organization that require reciprocation on the part of the employee. Considering the present study's focus on the socialization process via the employee-organization relationship, the original scale's NCS items were deemed more appropriate for the present study. The NCS items for the revised TCM focus more on the feeling of organizational obligation without identifying the source that is causing those feelings within the employee. The inability to establish a connection between the organization, as the source of obligation, and the employee's onboarding experiences, limited the usefulness of the revised NCS items for the present study.

There are eight statements for each of the three commitment scales. The internal consistency reliability for affective, normative, and continuance were .82, .73, and .76, respectively (Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Upon reading each item, participants indicated the strength of their agreement by choosing a number from 1 (strongly disagree) to 7 (strongly agree). Each of the three commitment scales were scored separately (items within a scale are averaged to produce a general score). Together, these three scales identified the commitment profile of the participants. Furthermore, these three scales established the latent commitment variable presented in the present study's model of organizational socialization.

Organizational job satisfaction. Job satisfaction was measured using a modified version of the Minnesota Satisfaction Questionnaire (MSQ) - Short version (Weiss, Dawis, England, Lofquist, 1967). The MSQ-short is an established, widely studied, and validated measure of job satisfaction with coefficient alpha values ranging from .85 to .91 (Fields, 2002). The original MSQ-short (20 items) is a general measurement of job satisfaction established on the underlying theory that work-fit is based on the correspondence between the individual's skills and the reinforcements that exist in the work environment (Weiss et al., 1967).

The modified MSQ-short used in the present study utilized 10 of the 20 items from the MSQ-short (Martins & Proença, 2012). A principal component analysis with oblique rotation (oblimin) was conducted on the original 20 items with 10 items being eliminated that demonstrated low communalities or multiple component loadings. The remaining 10 items clustered on two components: (1) satisfaction with task enrichment (6 items), $\alpha = .87$; and (2) satisfaction with leadership and empowerment (4 items), $\alpha = .78$. The *task enrichment* latent construct items focus on how interesting and useful the job is to the employee (Martins &

Proença, 2012). The *satisfaction with empowerment and leadership* latent construct addresses how empowered and happy employees are given their supervisor's competency (items pertaining to the supervisor/boss and employee empowerment clustered together on one of the two identified components). The global scale for the modified MSQ-short showed good internal consistency as well ($\alpha = .87$). Martins & Proença subsequently conducted a confirmatory factor analysis using Weighted Least Squares estimation to assess the fit between the data and the hypothesized two-factor model. The fit indices obtained for the two-factor modified MSQ-short displayed satisfactory values: AGFI = .886, CFI = .969, RMSEA = .065.

The modified MSQ-short version consisted of 10 items using a 5-point Likert scale: 1 “very dissatisfied with this aspect of my job”; 2 “dissatisfied with this aspect of my job”; 3 “can’t decide if I’m satisfied or dissatisfied with this aspect of my job”; 4 “satisfied with this aspect of my job”; and 5 “very satisfied with this aspect of my job”. Item responses were summed to create a total score with the lower the score being indicative of lower levels of job satisfaction (See Appendix D for a full version of the MSQ-short scale).

Intentions to quit. This construct was measured using Bozeman and Perrewé’s (2001) five-item Turnover Cognition scale (TC) based on items from the Organizational Commitment Questionnaire (OCQ) (Mowday, Koberg, & MacArthur, 1984). The OCQ is a 15-item self-report questionnaire that assesses an individual's commitment to their organization using three organizational commitment dimensions: (a) a strong belief in and acceptance of the organization's goals and values, (b) a willingness or motivation to exert considerable effort on behalf of the organization, and (c) a strong desire to maintain membership in the organization. There have been noted conceptual difficulties for the OCQ, particularly the membership retention sub-dimension (e.g., Hom & Griffeth, 1995). One such limitation is the intention

content evaluated in the OCQ retention items is not exclusive to organizational commitment; instead, constructs like job satisfaction contaminate the measure (Bozeman and Perrewé's (2001). Furthermore, Bozeman and Perrewé' stated that the organizational commitment dimension has also produced multiple behavioral intentions (e.g., intentions to engage in prosocial behaviors) beyond its identified purpose of retention and turnover. Given such limitations, Bozeman and Perrewé created (presented in the OCQ) by ensuring such cognitions are measured once. The TC is a simpler measurement of turnover intentions that avoids the conceptual overlap of scale content present in the OCQ.

The scale consists of two negatively worded items (e.g., I will probably look for a new job in the near future) and three positively worded items (e.g., I am not thinking about quitting my job at the present time). All items measuring intentions to quit will use a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree). A single score representing an employee's intentions to quit will be derived by aggregating the five items (See Appendix E for a full version of the Turnover Cognition scale). Bozeman and Perrewé's (2001) scale development analysis indicated a satisfactory coefficient alpha reliability estimate for the turnover cognition scale, $\alpha = .94$, when using working samples (largely business administration and hospitality management).

In order to substantiate the construct that underlies the intention to quit scale (TC scale), convergent validity between specific commitment items and the TC scale will be examined. The affective commitment subscale of Meyer and Allen's (1984, 1997) OCQ reflects a retention-related item (i.e., I would be very happy to spend the rest of my career in this organization; Morrow, 1993) that is conceptually similar to the turnover cognition scale items. Additionally, items from both the continuance commitment scale (i.e., If I had not already put so much of myself into this organization, I might consider working elsewhere) and normative commitment

scale (i.e., I would not leave my organization right now because I have a sense of obligation to the people in it) of the OCQ appear to demonstrate similarities to items present in the turnover cognition scale.

Procedure

Data collection occurred during a single five-day period. Each participant was allowed to complete the survey once. The survey vendor, using sophisticated digital fingerprinting technology and verifying individual IP addresses, ensured this parameter was maintained (Qualtrics Development Company, 2009). After the sample finder software identified a sample of qualified participants based on specific criteria (i.e., full-time employment and working within the first year of their present organization/company), they were permitted to begin the survey session through a hyperlink presented via their personal email. The email invitation included general information pertaining to the study (i.e., research purpose, length of survey, and available incentives) without the inclusion of specific details regarding survey content. The standard survey session was approximately 21 minutes. However, no explicit time restraints were implemented during the individual survey sessions.

Participants were informed that they would need to respond to a series of scales pertaining to aspects of their current onboarding experience (the corresponding definition were presented on the informed consent form). The survey sessions began once participants reviewed and granted approval for their responses to be used in the present study via an informed consent (See Appendix F for the complete informed consent form). During the survey session, corresponding instructions for each scale were presented prior to proceeding with that particular portion of the survey. Once participants completed the entire survey, they were presented with debriefing information. After reviewing the debriefing information (See Appendix G for the

complete debriefing form), participants exited the survey session. All of the demographic (See Appendix H for the complete General Information form) and survey response information were then stored via the survey-based vendor's website until retrieved by the researcher. For their participation, participants were monetarily compensated with a single payment of \$6.50.

Proposed Analyses

For the first stage of analysis, a confirmatory factor analysis (CFA) was conducted to verify the assignment of items within each scale and subscale used in the model to their identified common factors (i.e., new employee behaviors, SMM, organizational commitment, job satisfaction, and intentions to quit).

The second stage was a formal testing of the structural model. The structural equation modeling (SEM) program, AMOS 18, using bootstrapped confidence intervals were used to examine the hypothesized direct non-mediated pathways (see Figure 3 for hypothesized mediated model) between new employee behaviors and the socialization outcomes of organizational commitment, job satisfaction, and intention to quit (Hypothesis 2). Additionally, the relationship between new employee behaviors and the hypothesized mediating latent variable, shared mental models, was examined (Hypothesis 3). The final set of relationships examined were between the hypothesized mediating latent variable, shared mental model, and the socialization outcomes identified in the model (Hypothesis 4).

The indirect mediated pathways were evaluated via bootstrapped confidence intervals using AMOS 18. Bootstrapping is a computer intensive, robust analysis technique that can be applied to both normally and non-normally distributed data (Hesterberg, Monaghan, Moore, Clipson, & Epstein, 2003). Specifically, for the purposes of the present study, bootstrapping was used to test the significance of the indirect effect of new employee behaviors on organizational

commitment, job satisfaction, and intention to quit, through SMM (Hypothesis 5). Testing for mediation using SEM permits all of the pathways (i.e., direct non-mediated, indirect mediated) present in the model to be tested concurrently in comparison to each other.

Chapter 3 - Results

The data were analyzed using SPSS/PC for Windows (Version 10) and AMOS (Version 18) adhering to the two-stage procedural approach for conducting structural equation modeling (SEM) prescribed by Anderson and Gerbing (1988): first stage represents the confirmatory measurement model with the second stage necessitating formal testing of the structural model. All observed factors were entered into the initial measurement model and allowed to correlate.

Data Screening

Missing data. The dataset contained no missing values. All values present in the dataset adhered to their respective scale's endorsement range.

Univariate outliers. Inspection for univariate and multivariate outliers were performed using ungrouped data. Examination of the data for the presence of univariate outliers was achieved via the use of standardized z -scores (> 3.29 , $p < .001$, two-tailed). No outliers were identified for data associated with the scales pertaining to the antecedent (i.e., NEB) and two of the consequences, organizational commitment and ITQ. The presence of possible univariate outliers were identified for data relevant to the proposed mediator (e.g., SMM) and one of the consequences, job satisfaction. Specifically, upon examination of the data connected to the observed scales (i.e., role/goal clarity and process clarity) that formed the latent variable, SMM, four outliers pertaining to the role/goal clarity variable exceeded the 3.29 criterion. These particular cases, along with the remainder of the responses connected to these four respondents were eliminated from future analyses.

For the latent variable, job satisfaction, three outliers were identified across its two observed variables (i.e., task enrichment, 2; empowerment leadership, 1). As with SMM-role/goal clarity, these cases and the remainder of the response sets belonging to the respondents

identified as having one of these outlier responses were eliminated from subsequent analyses. It is worth noting that two respondents had multiple outliers present within their response sets. One respondent had identified outliers for both the SMM-role/goal clarity and task enrichment scales (z-score = -3.66 and -3.41, respectively). The second respondent had one outlier on each of the job satisfaction observed variables' scales, task enrichment (-3.66) and empowerment leadership (-3.45). The sample size was reduced to an $N = 309$ following the elimination of univariate outliers.

Multivariate outliers. Identification of possible multivariate outliers in the dataset used Mahalanobis distance (impacted by the patterns of variances and covariances among the variables) and were evaluated via χ^2 distributions. Mahalanobis distance values (MD) with a probability value (p -values) of less than .001 were identified as potentially abnormal, and those individuals were eliminated from subsequent analyses of structure. Four multivariate outliers had p -values less than .001 (i.e., MD = 47.610, $p = .000$; MD = 43.496, $p = .000$; MD = 34.820, $p = .000$; MD = 33.424, $p = .000$). The majority of the Mahalanobis distance values ranged between 2 to 32 ($p > .001$, $N = 305$).

Normality: Skewness and kurtosis. For sample sizes greater than 300 ($N = 305$), it is recommended that histograms and absolute values of skewness (> 2.1) be used for evaluative purposes (West, Finch, & Curran, 1995). Similarly, for the evaluation of kurtosis, it is recommended that histograms and absolute values of kurtosis (> 7) be inspected. First, the variables composing the latent variable, NEB, were examined. All of the observed variables satisfactorily met the assumptions for skewness and kurtosis required for establishing normality.

Linearity. The linear relationship between the antecedent, mediator, and consequences were evaluated using the deviation from linearity test provided via an ANOVA test in SPSS. If

the significance value for deviation from linearity is less than .05, the relationship between the two variables is linear. First, the curve estimations between the antecedent, NEB, and the consequences (i.e., job satisfaction, organizational commitment, and intentions to quit) were examined. The relationship between NEB and job satisfaction was significantly linear, $F(1, 303) = 4.773, p = .030$. The relationship between NEB and organizational commitment was not identified as being linear, $F(1, 303) = 1.241, p = .266$. Also, a significantly linear relationship was not identified as existing between NEB and ITQ, $F(1, 303) = .754, p = .386$. Although a limitation, non-significant linear relationships do not prevent analysis of structure tests (e.g., CFA, SEM). Last, the direct relationship between NEB and the proposed mediator, SMM, was significantly linear, $F(1, 303) = 6.631, p = .010$.

Next, the relationships between the proposed mediator, SMM, and consequences were examined using curved estimations. When tested for linearity, the relationship between SMM and was significant, $F(1, 303) = 131.719, p = .000$. A significant linear relationship was also evident between SMM and organizational commitment, $F(1, 303) = 58.476, p = .000$. Finally, the relationship between SMM and ITQ was significant, when tested for linearity, $F(1, 303) = 25.673, p = .000$. Collectively, the mediator-consequence relationships in the model were determined to be sufficiently linear in order to be tested using covariance-based structural equation modeling algorithms (as utilized by AMOS software).

Multicollinearity. Examination of the dataset utilized variance inflated factor (VIF) values as indicators of the severity of multicollinearity. Values exceeding a maximum VIF value of 10 are signs that multicollinearity may be excessively influencing the least squares estimates. Furthermore, the VIF was selected as an indicator because it also provided information regarding the severity of multicollinearity in terms of how far the estimated standardized regression

coefficients are from the true values. That is, large VIF values tend to be indicative of larger differences between the estimated and true standardized regression coefficients (Kutner, Nachtsheim, Neter, and Li, 2005). When examining each of the observed variable scales in direct comparison to the other observed variable scales simultaneously, no instances of multicollinearity were identified. Specifically, when all of the observed variable scales were allowed to simultaneously predict each of the other observed variables separately, none of the predictor observed variables had VIF values greater than 10. Moreover, the majority of the obtained VIF values were under 4, with only technical information (TI) and referent information (RI) possessing values of 5 during several instances. Although not identified as a threat (VIF values > 10), when the bivariate correlations related to TI (i.e., NI, $r(305) = .820, p = .000$; RI, $r(305) = .821, p = .000$) and RI (i.e., PI, $r(305) = .817, p = .000$) were examined, the relationships were not classified as highly correlated, as indicated by values above .90 (Tabachnick & Fidell, 2007).

Homoscedasticity. The assumption of homoscedasticity is that the residuals are approximately equal for all predicted dependent variable (DV) scores. Therefore, variability of independent variable (IV) scores is the same at all values of the dependent variable.

Homoscedasticity was checked using residual scatter plots via regression analyses. Data are homoscedastic if the residuals plot displays uniform width for all values of the predicted DV. Alternatively, heteroscedasticity is evident when there are clusters of points that are wider as the values of the predicted DV become larger (i.e., visually represented by a cone-shaped pattern). For the present data analysis, each observed variable was plotted against every other observed variable and examined using the standards of uniform spread of IV values across DV values.

The residual plots for three of the five NEB observed variables (i.e., NI, TI, RI) indicated homoscedasticity between each other and all of the observed variables present in the model (see Figure 4 for an example of a homoscedastic NI - AC residual plot). For each of these residual plots, the width was consistent across all DV values. However, the relationship between these three NEB observed variables and the remaining two observed variables (i.e., PI and SF) were heteroscedastic (see Figure 5 for an example of a heteroscedastic NI - SF residual plot). For both the PI and SF plots, the residuals were small for the predicted low values, while there is increased variation of the size of the residuals as the predicted values increase. As the data is ungrouped, it should be noted that heteroscedasticity does not prevent continued analysis of the dataset. Subsequent analytical approaches will be able to capture the linear relationships present in the data (if they exist), although heteroscedasticity weakens those analyses (Tabachnick & Fidell, 2007).

Next, the residual plots pertaining to the organizational commitment observed variables (i.e., affective and normative commitment) were inspected for homoscedasticity against the other observed variables examined in the model. Both, AC and NC, reflected homoscedastic relationships with the other variables in the model (see Figure 6 for an example of a homoscedastic AC - NC residual plot), the exceptions being the shared mental model observed variables (i.e., role/goal and process clarity). For both the RG and PC plots, the residuals were small for the predicted high values, while there is increased variation of the size of the residuals as the predicted values decreased (see Figure 7 for an example of a heteroscedastic AC - RG residual plot).

For both job satisfaction-task enrichment (JSTR) and job satisfaction leadership (JSL) variables, their relationships with the NEB (i.e., NI, TI, RI, PI, SF), organizational commitment

(i.e., AC, NC), job satisfaction (i.e., task enrichment, leadership), and intentions to quit variables were identified as being homoscedastic. Both the JSTR-PC and JSL-PC residual plots indicated heteroscedasticity (see Figure 8 for the heteroscedastic JSTR - PC residual plot). For the RG variable, the JSL-RG relationship was homoscedastic, while the JSTR-RG residual plot demonstrated heteroscedastic characteristics (see Figure 9 for the heteroscedastic JSL -PC residual plot).

The last remaining relationships not already addressed in the previous sections pertained RG (SMM variable) and intentions to quit (ITQ). The residual plot between RG and all of the other observed variables were homoscedastic (notwithstanding the JSTR-RG relationship being heteroscedastic). Additionally, ITQ displayed homoscedastic relationships all of the other observed variables present in the model.

Basic Model: Confirmatory Factor Analysis

Measurement model. The initial measurement model (see Figure 10 for the Basic model's measurement model) did not indicate satisfactory fit: ($\chi^2 (84, N = 305) = 359.8, p = 0.000$; GFI = .855; AGFI = .793; CFI = .899; RMSEA = .104, TLI = .874; NFI = .874). See Table 1 for means, standard deviations, and correlations. Modification indices (M.I.) indicated that the variance shared between $e1$ (error term for social feedback) and $e2$ (error term for performance feedback information), as well as between $e4$ (error term for technical information) and $e5$ (error term for normative information), were above the specified threshold of 20, M.I. = 50.0 and M.I. = 106.6, respectively. The modification index for a parameter is an estimate of the amount by which the discrepancy function, chi-square, would decrease if the analysis were repeated with the constraints on that parameter removed (Arbuckle, 2006). Re-specifying the model by permitting the covariance of $e1-e2$ and $e4-e5$ resulted in a re-fitted model for which

chi-square ($\chi^2 (82, N = 305) = 192.4, p = 0.000$) was 167.4 units lower than the original model's value of 359.8. The χ^2 difference test comparing the initial measurement model and the re-specified model (permitting covariance of error terms) did indicate significant improvement in model fit, $\chi^2 (2, N = 305) = 167.4, p > .001$ (see Table 3 parameter significance tests for model comparison). The acquired χ^2 value of 167.4 did exceed the critical χ^2 value of 13.815 ($p = .001$), necessary for indicating significance. The fit indices for the re-specified model with covaried residuals indicated satisfactory model fit: GFI = .918, AGFI = .880; CFI = .960; RMSEA = .067, TLI = .948; NFI = .932 (see Table 2 for goodness-of-fit statistics for nested model comparisons). The standardized loadings for all of the observed variables to their respective latent variables were within the acceptable range ($-1.00 \leq x \leq +1.00$), with the majority of standardized loadings being between .70-.84. Additional evaluation of the model indicated that the observed variable, continuance commitment (CC), displayed an extremely low standardized loading while its path coefficient failed to achieve significance ($\beta = .102, p = .092$). The standardized loadings and R^2 percentages for normative commitment ($\beta = .461, R^2 = 21.3, p < .001$) and affective commitment ($\beta = .952, R^2 = 90.6, p < .001$) were substantial in comparison, justifying the examination of a re-specified model with the elimination of CC. The re-fitted model absent CC improved model fit over the previous model iterations: ($\chi^2 (69, N = 305) = 156.3, p = 0.000$); GFI = .928, AGFI = .890; CFI = .968; RMSEA = .068, TLI = .958; NFI = .944 (see Table 2 for goodness-of-fit statistics for nested model comparisons). A χ^2 difference test was performed to compare the initial model (inclusion of CC) and the re-fitted model (absent CC) for significance of improvement in fit, $\chi^2 (13, N = 305) = 36.1, p = .001$ (see Table 3 parameter significance tests for model comparison). Subsequent analyses used a re-specified model absent CC (permitting *e1-e2* and *e4-e5* covariance).

Alternative model. Alternative models were fitted and evaluated that utilized different combinations of the observed variables that form the latent factor, NEB. Such analyses were necessary before proceeding to the structural testing of the hypothesized model: NEB conceptualized as a single exogenous latent factor with five corresponding observed variables. One of the alternative models that were tested used a NEB latent factor with normative information (NI) being eliminated. The decision to test this model was based on two points: 1) NI shared a large amount of error variance with NI; and 2) it displayed the lowest standardized loading among the five observed variables. The improved model fit over the previous model iteration using a fully conceptualized NEB was marginal: $\chi^2 (58, N = 305) = 145.6, p = 0.000$; GFI = .929; AGFI = .888; CFI = .963; RMSEA = .070, TLI = .951; NFI = .941 (see Table 2 for goodness-of-fit statistics for nested model comparisons). The χ^2 difference test comparing the re-fitted model (absent CC) and the alternative model (absent NI) did not indicate significant improvement in model fit, $\chi^2 (11, N = 305) = 10.7, p > .05$ (see Table 3 parameter significance tests for model comparison). The acquired χ^2 value of 10.7 did not equal or exceed the critical χ^2 value of 34.53 ($p = .05$), necessary for indicating significance. Considering the alternative NEB factor did not significantly improve the fit of the model, along with there being no theoretical rationale for eliminating the NI variable, and the loss of degrees of freedom from eliminating NI, the observed variable was retained for subsequent analyses.

Reliability. The composite reliability index (CRI) for each of the latent factors (i.e., NEB, job satisfaction, organizational commitment, and intentions to quit) were above the cutoff value of 0.70 (Fornell & Larcker, 1981; Bagozzi & Burnkrant, 1985). The CRI measures the overall reliability of heterogeneous, but conceptually similar items. Meaning the items that form

the observable variables that load to their latent factors are consistent in their measurement (See Table 4 for the CRI estimates).

Convergent validity. The average variance extracted (AVE) for each of the latent factors were greater than 0.5, thereby indicating convergent validity for each of the latent factors (Hair, Black, & Anderson, 2010). Values above 0.5 empirically demonstrate that the observed variables correlate well with each other within their respective latent factors (See Table 4 for the AVE estimates).

Discriminant validity. Discriminant validity was demonstrated through the evaluation of two measures. First, the maximum shared variance (MSV) was compared against the AVE with the threshold for establishing discriminant validity being $MSV < AVE$ (Hair et al., 2010). The AVE is the amount of variance represented by the construct in association with the amount of variance attributed to measurement error (Fornell & Larcker, 1981). Three of the latent factors adequately met this threshold (i.e., job satisfaction, NEB, and intentions to quit), with organizational commitment not exceeding the $MSV < AVE$ threshold ($0.607 > 0.585$, respectively). See Table 4 for MSV estimates.

The second indicator used to establish discriminant validity requires that the \sqrt{AVE} is greater than the inter-construct correlations. The \sqrt{AVE} estimates for job satisfaction, NEB, and intentions to quit were all greater than the inter-construct correlations between the latent factors (See Table # for the \sqrt{AVE} estimates and inter-construct correlations). Organizational commitment's \sqrt{AVE} value (0.765) was less than the inter-correlation between job satisfaction and organizational commitment ($r = 0.779$).

The discriminant validity measures when evaluated in association with one another provided empirical support for the discriminant qualities of job satisfaction, NEB, and intentions

to quit. Although the estimates for organizational commitment did not meet either threshold, it should be noted that both measures utilize the AVE estimate. The AVE estimate is a very conservative measure as opposed to the composite reliability index (Malhotra & Dash, 2011). Considering the organizational commitment estimates were not far off from the thresholds, which are conservative based on the use of AVE to demonstrate discriminant validity, the present study elected to not modify, nor eliminate, the observed variables (and their respective items) that form the organizational commitment latent factor. Furthermore, from both a theoretical and empirical perspective, job satisfaction is related to organizational commitment (Firth, Mellor, Moore, & Loquet, 2004), substantiating the close relationship that exists between the two latent factors.

Basic Model: Structural Equation Modeling

The one-factor exogenous NEB structural model (see Figure 11 for one-factor exogenous basic model) was tested using SEM. The structural model specifying that the latent factor, NEB, correlated with the endogenous latent variables job satisfaction, organizational commitment, and intentions to quit, indicated model fit: $\chi^2(69, N = 305) = 156.3, p = 0.000$; GFI = .928; AGFI = .890; CFI = .968; RMSEA = .065, TLI = .958; NFI = .944. The observed variables all significantly loaded on their respective latent variables ($p < .001$, two-tailed). The direct path estimates between NEB and the three endogenous variables were not significant: job satisfaction ($\beta = .119, p = .072$), organizational commitment ($\beta = .039, p = .518$), and intentions to quit ($\beta = .077, p = .215$) (see Table 5 for standardized path estimates for the structural models).

Hypothesized Model Analyses

Confirmatory factor analysis. Prior to examining the proposed meditational structural model, a CFA was conducted to evaluate the measurement characteristics of the proposed

mediator in relation to the latent factors and observed variables presented in the finalized re-specified structural model. The measurement model did indicate model fit: $\chi^2(92, N = 305) = 177.1, p = 0.000$; GFI = .930; AGFI = .895; CFI = .972; RMSEA = .055; TLI = .963; NFI = .944). Modification indices (threshold = 20) did not indicate the presence of covariance between any of the observed variables or residual error terms. The standardized loadings for all of the observed variables to their respective latent variables were within the acceptable range ($-1.00 \leq x \leq +1.00$), with the majority of standardized loadings ranging between .70-.84. The observed variables of role/goal clarity and process clarity displayed substantial loadings for the SMM latent factor, .82 and .84, respectively. Last, the composite reliability index for SMM exceeded the 0.70 threshold for signifying reliability. The AVE extracted for SMM was 0.845 and exceeded the 0.5 cutoff for indicating convergent validity. Using the two measurements for demonstrating discriminant validity ($MSV < AVE, \sqrt{AVE} > \text{inter-construct correlations}$), the SMM latent factor satisfactorily met the threshold for both. Specifically, the MSV for SMM (0.306) was less than the AVE estimate (0.732). Second, the \sqrt{AVE} (.856) was greater than the inter-correlations between the latent variables.

Structural equation modeling. Structural analyses of the hypothesized mediation model were conducted utilizing the bootstrap approach (Iterations: 2000, 95% CI) via AMOS 18 (see Figure 12 for the hypothesized mediation model). The observed variables' standardized loadings were significant ($p < .001$, two-tailed) for their particular latent variable.

Direct effects: NEB and consequences. The direct path between NEB and job satisfaction was not significant ($\beta = .028, p = .732, 95\% \text{ CI } [-.093, .135]$). Additionally, the path between NEB and organizational commitment was not significant ($\beta = -.026, p = .622, 95\% \text{ CI } [-.122, .078]$). The direct effect between NEB and intentions to quit was significant ($\beta = .122, p =$

.037, 95% CI [.005, .237]), thereby establishing support for hypothesis 1c (see Table 6 for summary of results - structural model coefficients). Meaning, for every standard deviation unit increase in NEB, newcomer responses on intentions to quit increased by 0.122 standard deviation units. However, the direct relationships between NEB and organizational commitment and job satisfaction were not significant, therefore providing no support for hypotheses 1a and 1b.

Direct effects: SMM and latent factors. The standardized direct path between NEB and the hypothesized mediator latent factor, SMM, was significant ($\beta = .134, p = .029, 95\% \text{ CI } [.016, .259]$). Specifically, every standard deviation unit increase in NEB resulted in a 0.134 standard deviation unit increase in SMM clarity. Second, the path from SMM to job satisfaction was significant ($\beta = .688, p = .001, 95\% \text{ CI } [.553, .777]$). Meaning when SMM increased by 1 standard deviation, job satisfaction increased by 0.688 standard deviations. Third, the direct effect path that was hypothesized between SMM and organizational commitment was significant ($\beta = .489, p = .001, 95\% \text{ CI } [.360, .623]$). Meaning, that for each single unit standard deviation increase for SMM, organizational commitment increased by 0.489 standard deviations. Last, the SEM analysis indicated that the relationship between SMM to intentions to quit was significant ($\beta = -.340, p = .001, 95\% \text{ CI } [-.478, -.223]$). When SMM increased by 1 standard deviation, intentions to quit decreased by 0.340 standard deviations. Collectively, the second (H2) and third set of hypotheses (H3a, H3b, and H3c) were supported (see Table 6 for summary of results - structural model coefficients).

Meditational interpretation. In order to evaluate the presence of mediation, the bootstrap confidence (BC) intervals (two-tailed significance, 95% CI) were evaluated. First, the indirect effects' BCs were examined. Results indicated that each of the indirect paths between NEB and

the latent factor consequences were significant, therefore signifying the presence of mediation for each of the three indirect paths. Specifically, the standardized indirect effect from NEB to job satisfaction was $(.134) (.688) = .092, p = .027, 95\% \text{ CI } (.012, .181)$. Second, the standardized indirect effect between NEB and organizational commitment was $(.134) (.489) = .065, p = .025, 95\% \text{ CI } (.009, .137)$. The final indirect effect tested was from NEB to intentions to quit $(.134) (-.340) = -.045, p = .022, 95\% \text{ CI } (-.104, -.006)$.

In order to confirm whether the mediated relationships were full or partial, the standardized direct estimates via the bootstrap analysis were evaluated in relation to the significant indirect effects. The direct effect between NEB and job satisfaction was not significant ($\beta = .028, p = .732, 95\% \text{ CI } [-.093, .135]$). Therefore, based on the data, it is highly probable that the path between NEB and job satisfaction is being fully mediated by SMM. The next relationship to be evaluated was the NEB to organizational commitment relationship. The direct effect between NEB and organizational commitment was not significant ($\beta = -.026, p = .622, 95\% \text{ CI } [-.122, .078]$). This means the relationship linking NEB to organizational commitment is likely being fully mediated by SMM. The final standardized effect utilizing the bootstrap analysis was for NEB to intentions to quit. Evaluation of the direct effect path indicated that NEB was significantly related to intentions to quit ($\beta = .122, p = .037, 95\% \text{ CI } [.005, .237]$). Considering the standardized direct effect path was significant, in addition to the standardized indirect path being significant, it is highly plausible that the relationship between NEB and intentions to quit is being partially mediated by the SMM latent factor. Overall, the proposed mediator hypothesis was supported (H4) (see Table 6 for summary of results - structural model coefficients).

Chapter 4 - Discussion

The results from analyses of the model (i.e., CFA and SEM) generally supported the hypothesized mediation-based role of shared mental models as a mechanism through which the behaviors of new employees impact well-established employee attitudinal outcomes during the onboarding process. Results from the mediation-based model indicated that: (a) the relationship between new employee behaviors and job satisfaction was fully mediated by the newcomer's shared mental model; (b) the relationship between new employee behaviors and organizational commitment was fully mediated by the newcomer's shared mental model; (c) the relationship between new employee behaviors and intentions to quit was partially mediated by the newcomer's shared mental model. These results are by and large consistent with organizational socialization models that have supported linkages between employee behaviors oriented towards the acquisition of information and attitudinal outcomes. Particularly, the present research facilitates a better understanding of these linkages by identifying an underlying mechanism through which these relationships operate. Second, examining both the direct and indirect paths using SEM with bootstrapping permitted all of these relationships to be evaluated simultaneously and in direct comparison using over two-thousand simulations.

Initial inspection of the direct relationship between new employee behaviors and job satisfaction did not achieve significance when evaluated within the context of the entire model. However, examining the indirect path between these two latent variables via the hypothesized mediator was significant. Such findings indicated that the relationship between the antecedent, new employee behaviors, and the targeted consequence, job satisfaction, were being fully mediated by the proposed mediator, shared mental models. This finding indicates that the information acquired by a newcomer in order to facilitate their transition into the organization

does not directly affect their satisfaction with the job, unless there is perceived shared mental model congruency. Theoretically, the core purpose of new employee behaviors is to reduce the uncertainty experienced by newcomers when navigating through the transition phase of organizational socialization via the acquisition of information (Van Maanen and Schein, 1979). This position is further supported by uncertainty reduction theory (URT), which states that employees will seek to eliminate or reduce their anxiety levels by becoming information-seekers (Morrison, 1993a; Saks & Ashforth, 1997). However, within the context of onboarding, the elimination of anxiety through information acquisition did not directly affect their job satisfaction levels. Although, when accounting for an individual's perceived shared mental model congruency, the linkage between new employee behaviors and job satisfaction became more salient.

Newcomers, by becoming information-seekers, are explicitly striving to improve their task mastery, role clarity, and social integration (Morrison, 1993a). Collectively, these three objective outcomes of information seeking allude to a need to minimize the employee role and performance discrepancies that exist between a new employee's initial state, when entering the organization, and desired state once they have achieved full insider member status. The shared mental model variable as presently defined represents the newcomer's perceived congruency between their mental models regarding role, goals, and processes of the job position, and the expectations of the organization for these same facets. Based on the significant direct relationship between new employee behaviors and shared mental model, it is plausible to conclude that this relationship is driven by an employee successfully acquiring information that is perceptually congruent with the job-related mental models they already possess when gaining entry into the organization. Additionally, shared mental model convergence has been positively

associated with various interpersonal processes (Mathieu et al., 2005; Mathieu et al., 2000), including the quality and quantity of back -up support (Marks, Sabella, Burke, & Zaccaro, 2002), coordination (Marks et al., 2002), and communication (Marks, Zaccaro, Mathieu, 2000; Waller et al., 2004), and engagement (Miles & Kivlighan, 2008). All of these positive aspects of shared mental model congruency facilitate employee interactions, which could increase the frequency of engagements that are necessary for newcomers to acquire information.

From this state of perceived shared mental model congruency, a new employee experiencing onboarding will experience a positive impact on their job satisfaction. Drawing from the team mental model literature, this positive relationship is perhaps similar to the satisfaction an employee experiences based on the coordination ability afforded to them by having perceptually congruent mental models with their teammates (DeChurch & Mesmer-Magnus, 2010). However, instead of teammates, the organization, itself, is the target of interest. As the newcomer is proceeding through the onboarding phase, if they perceive the organization is espousing similar perspectives regarding expected employee roles, goals, and how they should procedurally go about with their day-to-day work, a perceived congruency of mental models will develop between newcomer and organization resulting in a shared mental model. The newly developed shared mental model should allow the newcomer to operate within an environment where they believe their efforts are coordinating with the goals and desired processes of the organization at an implicit level (considering SMM do not require continuous direct interaction and communication). Further, borrowing once again from the team mental model literature, such coordination may well manifest a sense of credibility or beliefs about the reliability of the information the newcomer is bringing with them to the organization, and also the information they are receiving from the organization (Austin, 2003; Lewis, 2003). The congruency

experienced may work as a reinforcement of the individual's already established mental models regarding work roles, goals, and processes. This may further strengthen the previous point by allowing the newcomer to quickly progress through the onboarding process feeling confident in their work-related behaviors (e.g., performance, organizational citizenship behavior, etc.).

In addition to the previous mediated path, the structural model indicated the presence of a second fully mediated positive relationship. Specifically, the job- and organizational-related information gathered by new employees in order to successfully transition through the onboarding phase does not directly alter their organizational commitment levels at that given moment in time. Such a dynamic changes once perceived shared mental model congruency is used as an underlying explanatory variable.

Although the acquisition of information from various resources present within a work setting (e.g., supervisors, coworkers, manuals, and company reports) may not contribute directly to increasing an employee's organizational commitment, newcomers will need to become information-seekers and engage informational resources (e.g., supervisors and coworkers) to obtain the required information necessary for a successful onboarding experience. While the newcomer is gathering information, they are actively comparing this newfound information to job-related mental models (pertaining to roles, goals, and job processes) established prior to entering their present organization for congruency. If you consider that high levels of perceived congruency manifest themselves in the form of shared mental models, and that shared mental model convergence is positively associated with engagement (Miles & Kivlighan, 2008), the indirect conceptual link between new employee behaviors and organizational commitment is conceptually logical. Basically, employees who experience positive levels of engagement will experience more affective commitment to their respective organizations (Cho, Laschinger, &

Wong, 2006; Saks, 2006). Therefore, it can be argued that the relationship between new employee behaviors and organizational commitment may be partially driven by the feelings of engagement one develops because of forming a shared mental model with the organization.

The final relationship in the model indicated the existence of a partially mediated negative relationship between new employee behaviors and an employee's intention to quit. Such a relationship signifies that by acquiring work-related information, newcomers will experience diminished intentions to exit the organization while experiencing onboarding. This relationship has been previously established in the socialization literature. Kramer et al. (1995) evaluated knowledge relevant to the job-setting and its impact on intentions to quit. Their findings demonstrated that receiving information from organizational insiders was associated with decreased plans of quitting.

Like the direct path, the indirect path between new employee behaviors and intentions to quit via shared mental models was significant. This means that although obtaining information will directly diminish an employee's thoughts of quitting, this relationship is somewhat dependent on the newcomer's perceived congruency of their own and the organization's mental model. One possible explanation draws upon the same rationale posited for explaining how shared mental models work as the mechanism through which new employee behaviors relate to organizational commitment: employee engagement. Taking into consideration that shared mental model convergence is positively associated with engagement (Miles & Kivlighan, 2008), and that Saks (2006) has demonstrated that employee engagement is negatively related to intentions to quit, then the significance of the indirect path is conceptually sound.

Second, continuing to draw from the team mental model literature, there exist a positive relationship between shared mental model convergence and backup support (Mathieu et al.,

2005; Mathieu et al., 2000). Backup support is defined as receiving or providing support to team members when completing work-based tasks. Backup support encompasses providing feedback, task-related support, and at times directly completing the task for teammates. Such a team dynamic requires that teammates possess a fully developed understanding of the other teammates' roles and responsibilities, if quality support is to be rendered (Marks et al., 2002). Considering shared mental model convergence is positively associated with backup support (within the team setting), and if new employees perceive the organization as a macro team, it is plausible to make the argument that employees will experience the same benefits of perceived support from the organization, as they potentially would within a traditional team structure. Research conducted by Wayne, Shore, and Liden (1997) provides support to this conceptual argument by having demonstrated that perceived organizational support could facilitate the development of relationships between employees and organizations. Inversely, when employees do not perceive that the organization is supporting them, such views are negatively related to intentions to quit. Therefore, perceived organizational support should facilitate the development and strengthening of SMMs between newcomers and organizations, while directly leading to diminished thoughts of quitting.

Practical Implications

From an organizational perspective, it is vital that new employees learn appropriate role behaviors for performing their work-related tasks. A prominent issue during the onboarding phase then becomes how to ensure that individuals not only learn, but also accept and integrate the roles, goals, and job processes of their organization, which will help them develop appropriate interpersonal and performance behaviors. This critical period in the early socialization process takes on greater importance when considering shared mental models as

emergent states that both shape and are shaped by the behavioral interaction processes occurring between newcomers and organizational insiders (Marks et al., 2001). During the onboarding phase, shared mental models are mechanisms that convey or explicate the effects of various input variables (e.g., for the present study an assortment of organizational information) on individual attitudinal outcomes (i.e., job satisfaction, organizational commitment, and intentions to quit). This generative dance between a new employee and organizational representatives during this early stage of socialization can be characterized as a period for mutual learning and evaluation (Sprogoe & Rohde, 2009). At this point, integrating shared mental model congruency issues with training issues may be helpful in ensuring the formation of shared mental models that will positively impact organizational outcomes.

Traditionally, training has focused on ensuring that individuals learn the appropriate job content and task-related behaviors (Feldman, 1989). Moreover, Bandura's (1971) social learning theory has formed the foundation for one of the more successful training approaches. When trainees are able to observe role models engaging in relevant behaviors, and then proceed to replicate these behaviors on their own, training outcomes are enhanced. Latham and Saari (1979) supported this perspective by showing that newcomers gathered information from appropriate role models (e.g., supervisors, coworkers), but actual learning or knowledge acquisition are enhanced when newcomers were permitted to directly observe and experiment with strategies. Integrating the importance of establishing shared mental models when having new employees engage role models may serve to increase the probability of successful organizational socialization. Accounting for shared mental models when providing training may illustrate to the trainer that merely disseminating information and providing model behavior may provide a sufficient socialization experience, but not an optimal one. As already noted, actual

learning or knowledge acquisition comes from direct interactions and the opportunity to experiment with work-related strategies. Similarly, the formation of shared mental models is directly reliant on interactive mutual learning. Sensitizing trainers to the importance of engaging newcomers from a reciprocal learning perspective (which is vital when forming shared mental models) during the onboarding phase should facilitate frequent learning interactions, thereby minimizing confusion and misunderstanding. Unaddressed misunderstandings could lead to perceived incongruence between mental models, subsequently leading to heightened levels of intentions to quit, and decreased levels of job satisfaction and organizational commitment.

In order to assist formal organizational representatives (e.g., trainers, supervisors, mentors) who are tasked with managing the onboarding experiences of employees, perhaps select periods during the onboarding phase could benefit from personalized dyadic-driven sessions between employees and organizational onboarding representatives. These specialized one-on-one sessions would place greater onus on the organization to ensure employees are fully comprehending and instituting the information they are obtaining to the development of their employee roles. Kozlowski and Doherty (1989) noted that supervisors are not only key models, but they mediate the information from the broader organizational context and are vital for newcomer integration into the organization. The early interactions and influence supervisors have on newcomers warrants the development of socialization programs where organizational insiders are trained to assist newcomers' socialization experiences as well as aiding them in learning and evaluating the organization's information against their own mental models. A dyadic relationship between newcomer and organizational representative predicated on social learning and interaction would aid in the convergence of mental models.

Theoretical Implications

The present study strove to address the lack of identified mediators in the socialization literature (Saks & Ashforth, 1997; Wanous & Colella, 1989). The identification of shared mental models as a mediating variable between the employee efforts to acquire information and well-established individual distal socialization outcomes contributes to an area in the socialization literature that has garnered minimal attention. Chief among these contributions are the establishment of linkages between new employee behaviors to specific outcomes (i.e., job satisfaction, organizational commitment, and intentions to quit) via the shared mental model construct that are based in theory, and supported through empirical means. Shared mental models identification as a mediator within the socialization framework, provides researchers with additional insight into how or why acquiring information impacts an employee's attitude regarding satisfaction, commitment, and quitting.

Second, incorporating the shared mental model construct into the socialization literature provides more insight into the content of learning during socialization. As noted by Chao, O'Leary-Kelly, Wolf, Klein, and Gardner (1994), organizational socialization is concerned with the learning content and process by which individuals adjust to specific roles within the organization. Organizational socialization is the process by which new employees develop an understanding and acceptance of the values, abilities, expected behaviors, and social knowledge essential for successfully becoming a functioning organizational member. Based on this conceptualization of organizational socialization, Chao et al. developed six content dimensions of the socialization domain: performance proficiency, politics, language, people, organizational goals/values, and history. Although Chao et al.'s research has provided a theoretically-based and empirically-supported taxonomy, Saks and Ashforth (1997) noted that more research is needed

to establish a more exhaustive classification system. Integration of the shared mental model construct into the socialization literature from a learning perspective satisfies an omission present in the taxonomy identified by Saks and Ashforth, particularly role learning (i.e., newcomers' knowledge of the requirements, boundaries, responsibilities, and expectations of their role(s) within the organization). The present study explicitly examined the relationship between newcomers' previously formed work-related shared mental models (i.e., shared, organized understanding and mental representation of knowledge concerning key elements of the organization's relevant environment) and the mental models that were perceived to be representative of the organization via information provided during the socialization experience. Accounting for the conceptual overlap between shared mental models and role learning, an argument can be made that the present study has provided preliminary findings for the inclusion of a learning dimension into Chao et al.'s taxonomy. Findings also support Saks and Ashforth's assertion that learning within the socialization content merits more attention. Whether it be the intra-team dynamic or the employee-organization relationship, studying socialization content with shared mental models as the guiding construct may expand our understanding of the processes that drive multiple input-outcome socialization relationships.

Limitations and Recommendations

There are several limitations to this research. One potential limitation is that it relied on self-reports. While self-reports of information acquisition (i.e., the new employee behavior variable) are acceptable when the interest of the study is newcomer perceptions, this is not a common approach when evaluating shared mental models. A direct comparison of newcomers' mental model perceptions to those of organizational representatives (e.g., human resource coordinators, supervisors, trainers, mentors) may provide more detailed and accurate

understandings regarding the formation of shared mental models, or the lack thereof, when experiencing onboarding. However, Spector (2006) stated that the utilization of self-reports are not a limitation when selected for reasonable purposes with sound expectations. Particularly, Spector advocated for the appropriateness of self-reports when internal states (e.g., attitudes, emotions, perceptions, and values) are measured. It is reasonable to conclude that individuals can speak to their one internal state, as opposed to accurately describing objective environmental information. Furthermore, self-reports used to measure the shared mental model construct focused on perceived clarity of roles, goals, and processes. Future studies may possibly benefit from collecting direct independent assessments of targeted facets pertaining to work-based shared mental models (e.g., work-samples or supervisory performance appraisals of newcomers).

Second, considering both the CFA and SEM are reliant on correlational data, common method variance is a reasonable concern. Therefore, caution should be exercised when interpreting the correlational results given that all of the measures were obtained via newcomers' responses. Common method variance is not fatal to a study, but it can inflate the relationships presented in the models. Furthermore, Spector (2006) stated that even when utilizing a specific method regardless of studied construct, common method variance is not an automatic limitation. Spector asserted that common method variance could affect different constructs to various degrees. Taking a uniformed stance on the presence and impact of common method variance as inevitable systematic variance is inappropriate. Spector recommends that researchers evaluate how variables are measured, and identify likely sources of variance that influence each one, specifically. Thus, it is not an absolute certainty that the present study's utilization of self-reports automatically ensured the presence of common method variance. Additionally, considering the study was solely interested in newcomers' acquisition of information and their own perceptions

of congruence between mental models, as well as their own attitudes regarding socialization attitudinal outcomes with no generalizations to levels of the organization, the method by which data was collected was deemed acceptable. Future work may possibly benefit from incorporating a longitudinal design with multi-week gaps between surveys, decreasing the chances of individuals recalling previous responses.

It should be noted that although not officially identified as a legitimate concern, considering there was no interaction between researcher and respondents, participants could benefit from more information regarding the nature of shared mental models. A brief description was provided to respondents when electing to partake in the study, and subsequent reminders were placed throughout the survey; however, the complexity of the idea can always benefit for greater explanation. Future studies may want to consider alternative approaches for assisting respondents in differentiating between the cognitive knowledge structures (e.g., a brief lecture-based introduction to the topic).

Last, the present study's reliance on strictly a cross-sectional method for data collection is a limitation. Organizational socialization is a dynamic process that develops and changes over time. Unfortunately, cross-sectional designs that are reliant on retrospective accounts of newcomers' onboarding experiences struggle to encapsulate adequately the complex nature of the variables present in the socialization process (Saks & Ashforth, 1997). A recommendation for future studies would be the implementation of a longitudinal design when evaluating dynamics related to onboarding, or any phase of the socialization process. A longitudinal design would permit researchers to evaluate newcomer adjustment across several months. Such a design would permit detailed evaluation of a variable's impact against temporal events (e.g., first

performance appraisal) that are standard during the onboarding phase of the socialization process (Saks & Ashforth, 1997).

Conclusion

The initial impetuses behind conducting the present study were twofold: (a) identify a potential underlying mechanism through which specific socialization content operates; (b) fill a dearth in the socialization literature pertaining to identified mediators. Preliminary findings supported the identification of shared mental models as a mediator of the relationship between new employee behaviors and well-established attitudinal outcomes attributed to organizational socialization (e.g., job satisfaction, organizational commitment, intentions to quit). Such findings provide identification for a much-needed mediator in the socialization literature, while also identifying a mediator that has legitimate contributory merit in both the research and real-world settings. However, it is recommended that cross-validation on another sample is conducted in order to verify the nature of the relationships identified in the present study. Last, findings from the present study further demonstrate the benefits that come from the integration of theories and constructs that ordinarily would not be considered theoretically related.

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Table 1

Means, Standard Deviations, and Correlations Among Observed Variables

	<i>M (SD)</i>	NI	TI	RI	PI	SF	RG	PC	AC	CC	NC	ITQ	TR	L
NI	3.93 (1.12)													
TI	3.64 (1.19)	.820**												
RI	3.29 (1.31)	.684**	.821**											
PI	2.81 (1.35)	.542**	.704**	.817**										
SF	2.79 (1.32)	.523**	.643**	.753**	.798**									
RG	4.12 (.88)	.088	.110	.073	.108	.146*								
PC	3.93 (.89)	.103	.125*	.120*	.134*	.160**	.685**							
AC	4.39 (1.15)	.023	.034	.030	.075	.037	.379**	.393**						
CC	4.73 (1.16)	-.016	.024	.042	.080	.010	.139*	.165**	.083					
NC	4.16 (1.02)	.008	.041	.039	.127*	.050	.212**	.249**	.440**	.182**				
ITQ	2.35 (1.15)	.053	.024	.065	.008	.069	-.258**	-.255**	-.541**	-.196**	-.242**			
TR	22.86 (4.36)	.069	.104	.069	.112	.114*	.480**	.441**	.616**	.005	.284**	-.440**		
L	14.75 (2.99)	.120	.124*	.103	.071	.122*	.434**	.485**	.597**	.085	.289**	-.430**	.645**	

Note. $N = 305$. NI = normative information; TI = technical information; RI = referent information; PI = performance feedback information; SF = social feedback; RG = role/goal clarity; PC = process clarity; AC = affective commitment; CC = continuance commitment; NC = normative commitment; ITQ = intentions to quit; TR = job satisfaction - task enrichment; L = job satisfaction - empowerment and leadership.

* $p < .05$. ** $p < .01$.

Table 2

Goodness-of-Fit Indices for Nested Model Comparisons

Model	χ^2	<i>df</i>	GFI	AGFI	CFI	RMSEA	TLI	NFI
Model 1: Error terms covary	192.4	82	.918	.880	.960	.067	.948	.932
Model 2: Elimination CC	156.3	69	.928	.890	.968	.068	.958	.944
Model 3: Elimination CC and NI	145.6	58	.929	.888	.963	.070	.951	.941

Note. Error terms covary = *e1*- *e2* and *e4* -*e5* error terms covary. Elimination CC = the observed variable continuance commitment was eliminated from the model. Elimination CC and NI = both the continuance commitment and normative information observed variables were eliminated from the model.

Table 3

Parameter Significance Tests for Model Comparisons

Comparison	<i>df</i>	χ^2 difference
Model 1 vs. Model 2	2	167.4**
Model 2 vs. Model 3	13	36.1**
Model 3 vs. Model 4	11	10.7

Note. Model 1 = initial measurement model; Model 2 = error terms covary; Model 3 = elimination of CC; Model 4 = alternative model absent NI

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

Table 4

Reliability, Convergent and Discriminant Validity

	CR	AVE	MSV	ITQ	NEB	Org. Comm.	Job Sat.	SMM
ITQ	.892	.623	.371	.789				
NEB	.914	.682	.021	.083	.826			
Org. Comm.	.719	.585	.607	-.609	.038	.765		
Job Sat.	.789	.651	.607	-.563	.113	.779	.807	
SMM	.845	.732	.306	-.271	.145	.399	.553	.856

Note. CRI = composite reliability index; AVE = average variance extracted; MSV = maximum shared variance; inter-construct between variables; NEB = newcomer employee behaviors; Org. Comm. = organizational commitment; Job Sat. = job satisfaction; ITQ = intentions to quit; SMM = shared mental model. Reliability = CR > 0.7. Convergent validity = AVE > 0.5. Discriminant validity = MSV < AVE; \sqrt{AVE} > inter-construct correlations.

Table 5

Standardized Path Estimates for the Structural Models

Path	Basic Model	Mediated Model
NEB --> Org. Comm.	.039	-.026
NEB --> Job Sat.	.119	.028
NEB --> ITQ	.077	.122*
NEB --> SMM	--	.134*
SMM --> Org. Comm.	--	.489**
SMM --> Job Sat.	--	.688**
SMM --> ITQ	--	-.340**

Note. NEB = newcomer employee behaviors; Org. Comm. = organizational commitment; Job Sat. = job satisfaction; ITQ = intentions to quit; SMM = shared mental model. The path estimates incorporating SMM were only test in the mediated model.

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

Table 6

Summary of results - Structural Model Coefficients

Hypotheses supported	Standardized Parameter Estimate (β)	<i>p</i> -value	95% CI	
			<i>LB</i>	<i>UB</i>
H1c. NEB --> ITQ	.122	.037	.005	.237
H2. NEB --> SMM	.134	.029	.016	.259
H3a. SMM --> Org. Comm.	.489	.001	.360	.623
H3b. SMM --> Job Sat.	.688	.001	.553	.777
H3c. SMM --> ITQ	-.340	.001	-.478	-.223
H4. SMM Mediation:				
NEB --> Org. Comm.	.065	.025	.009	.137
NEB --> Job Sat.	.092	.027	.012	.181
NEB --> ITQ	-.045	.022	-.104	-.006

Note. NEB = newcomer employee behaviors; Org. Comm. = organizational commitment; Job Sat. = job satisfaction; ITQ = intentions to quit; SMM = shared mental model. CI = Confidence Intervals consisted of 2000 iterations at a 95% confidence level; LB = lower bound of confidence interval; UB = upper bound of confidence interval. Hypotheses 1a and 1b were not significant.

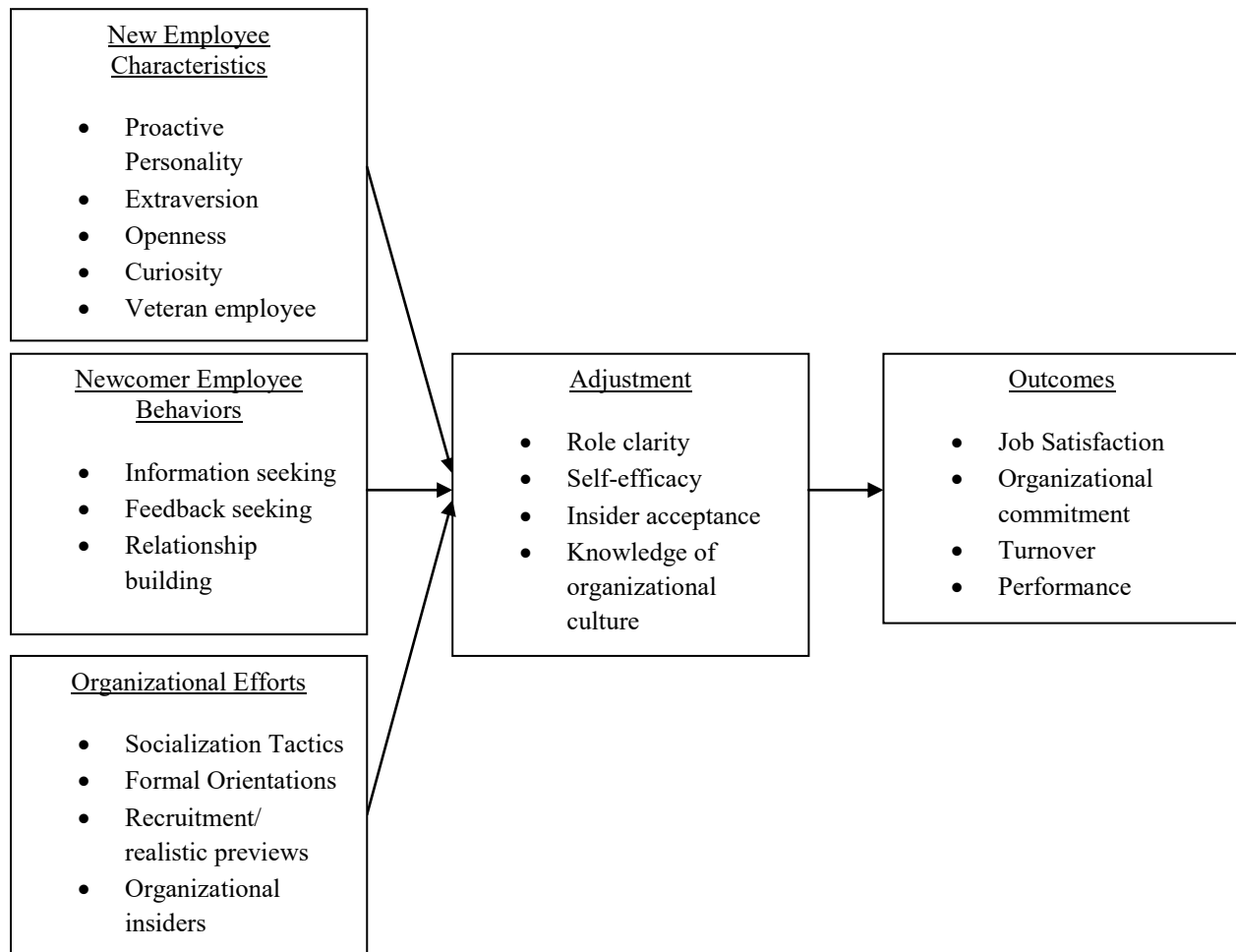


Figure 1. Bauer and Erdogan (2011) Model of organizational socialization. Replicated from "Organization Socialization: The Effective Onboarding of New Employees," by T. N. Bauer and B. Erdogan, 2011, *APA Handbook of I/O Psychology*, p. 52.

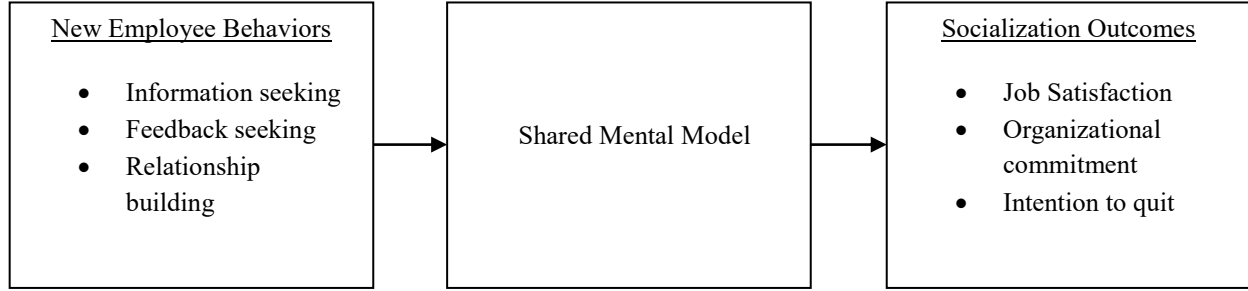


Figure 2. Proposed adapted version of Bauer and Erdogan's (2011) model of organizational socialization. Modified from "Organization Socialization: The Effective Onboarding of New Employees," by T. N. Bauer and B. Erdogan, 2011, *APA Handbook of I/O Psychology*, p. 52.

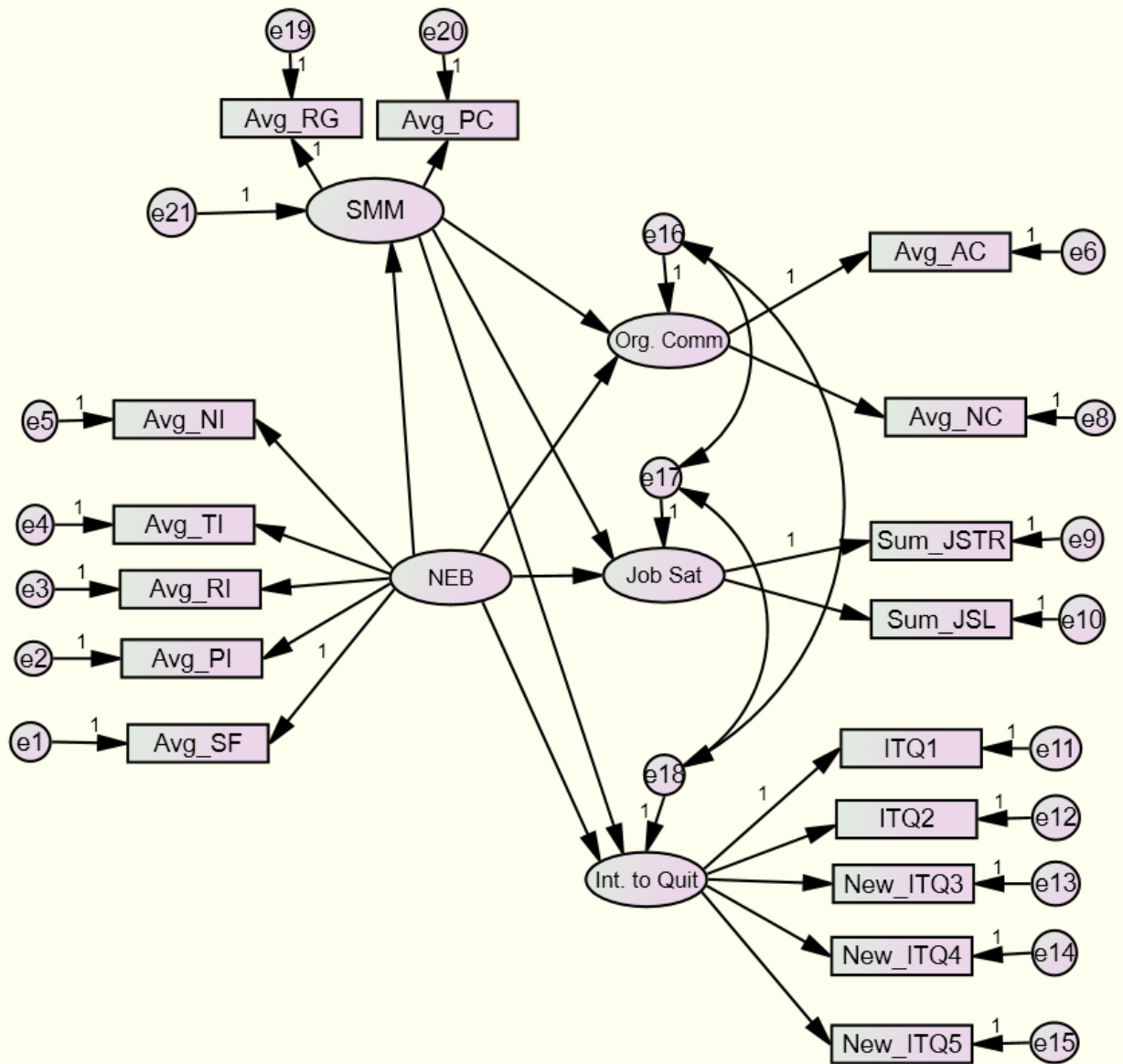


Figure 3. Hypothesized Structural Model: One-factor exogenous latent variable with mediated antecedent-consequence paths.

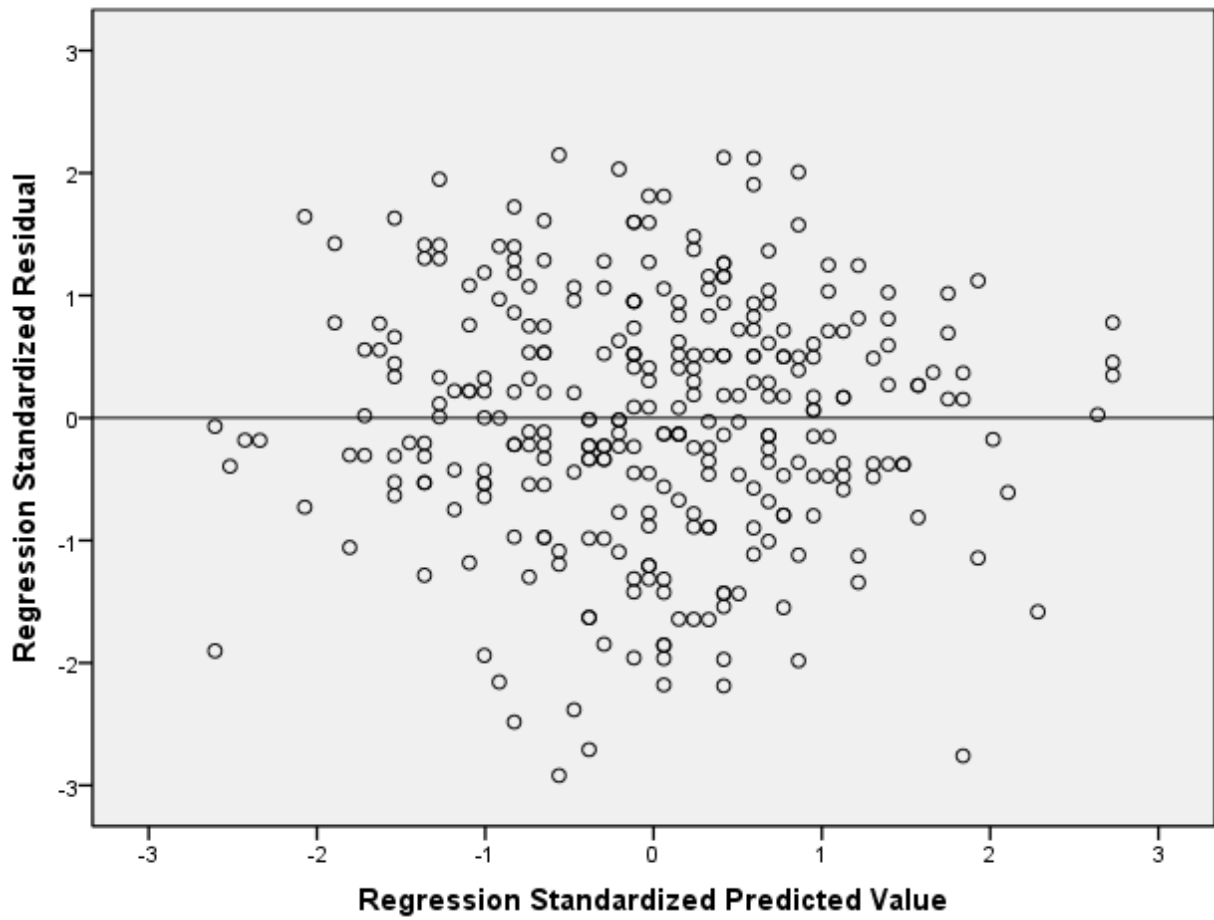


Figure 4. Normative information (independent variable) x Affective commitment (dependent variable) homoscedastic relationship identified via inspection of residual plot.

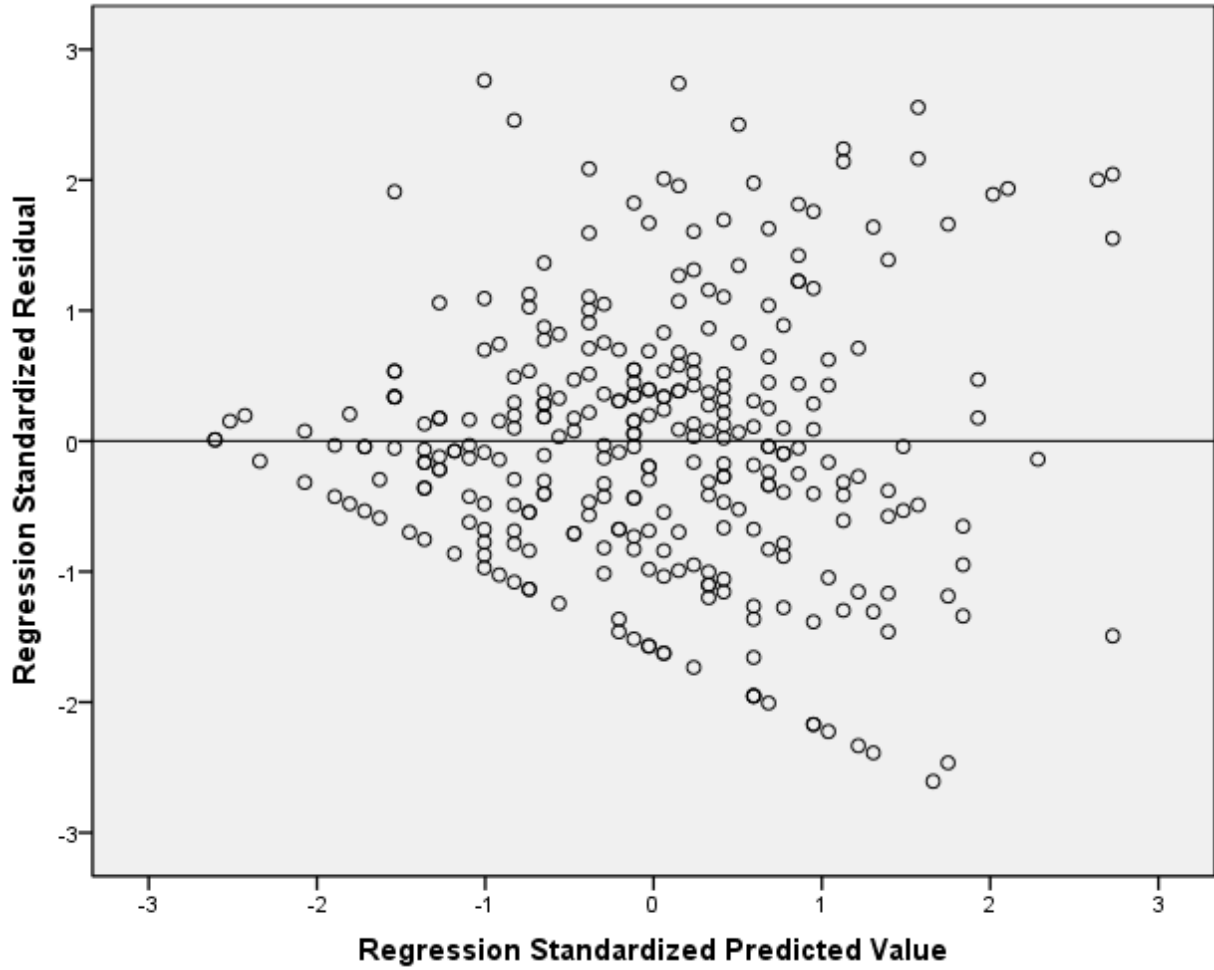


Figure 5. Normative information (independent variable) x Social feedback (dependent variable) heteroscedastic relationship identified via inspection of residual plot.

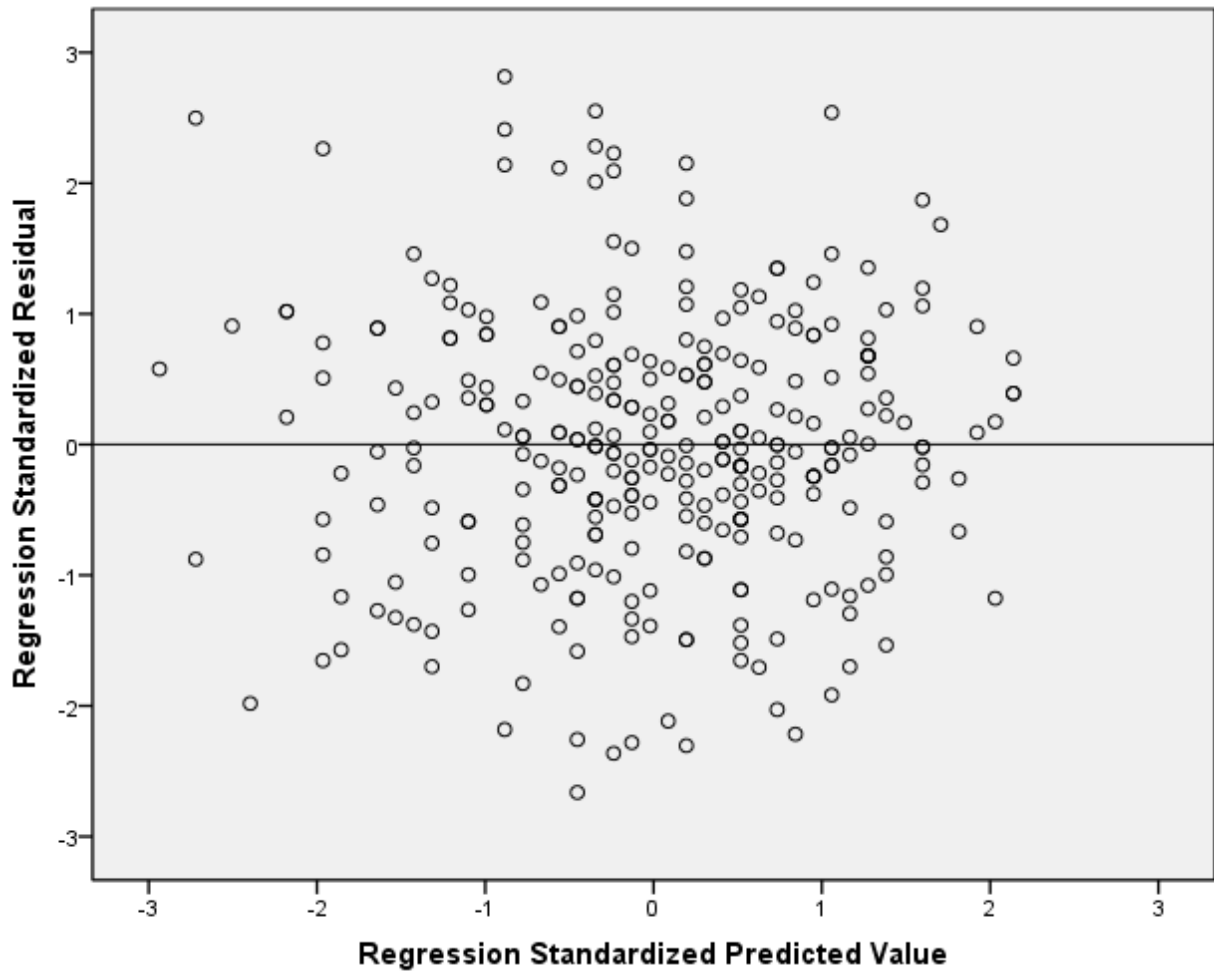


Figure 6. Affective commitment (independent variable) x Normative commitment (dependent variable) homoscedastic relationship indentified via inspection of residual plot.

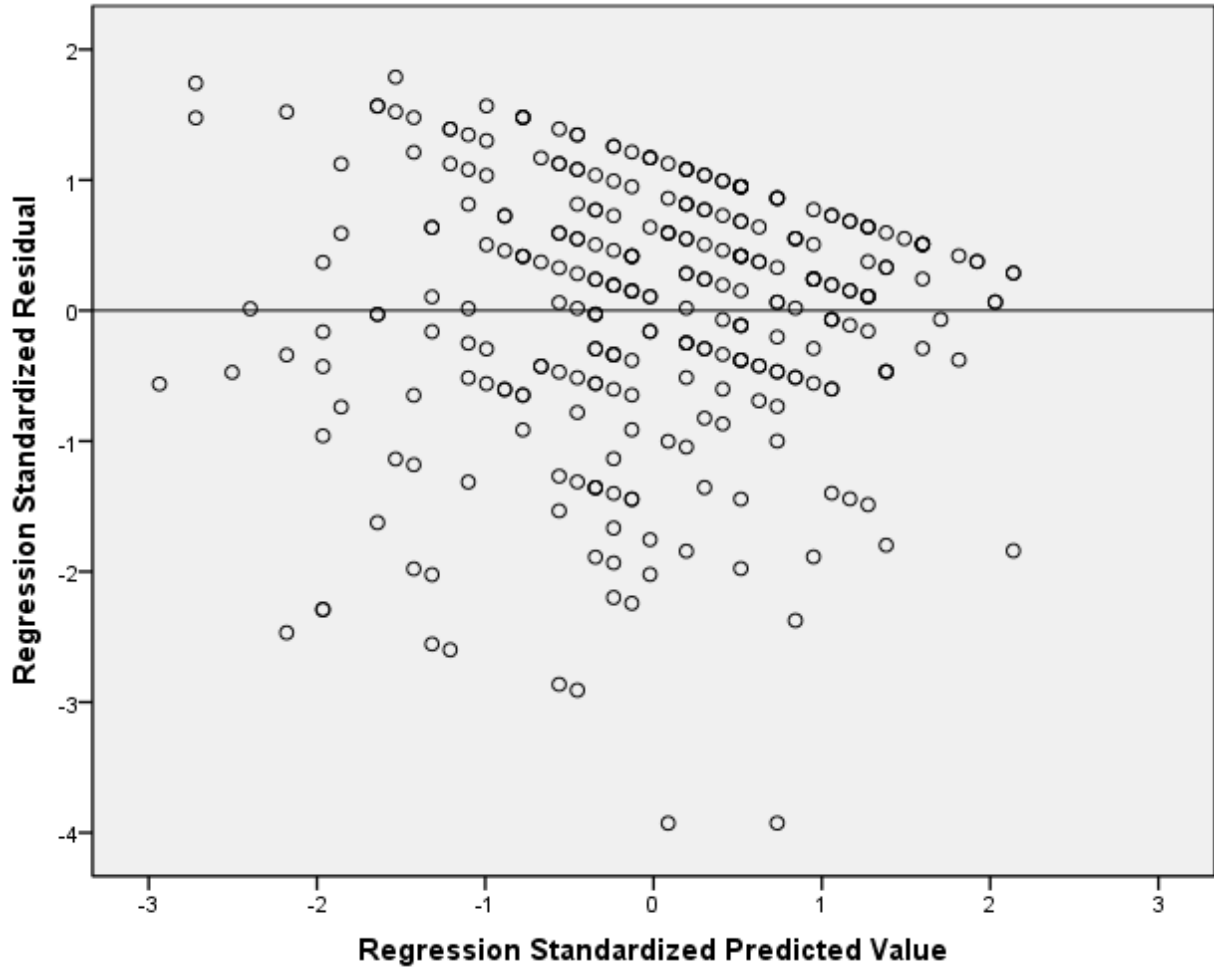


Figure 7. Affective commitment (independent variable) x Role/goal clarity (dependent variable) heteroscedastic relationship identified via inspection of residual plot.

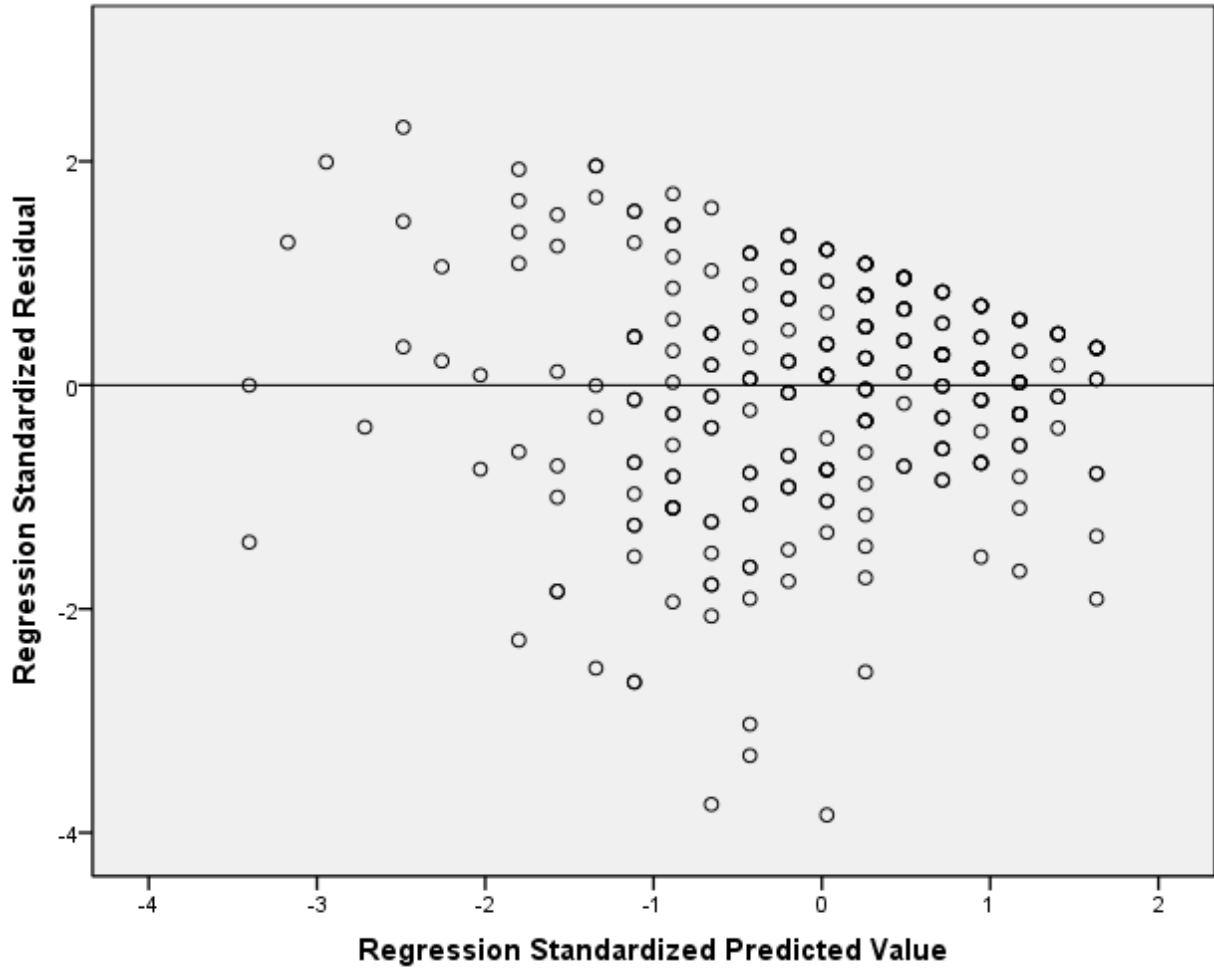


Figure 8. Job satisfaction-task enrichment (independent variable) x Shared mental model-process clarity (dependent variable) heteroscedastic relationship identified via inspection of residual plot.

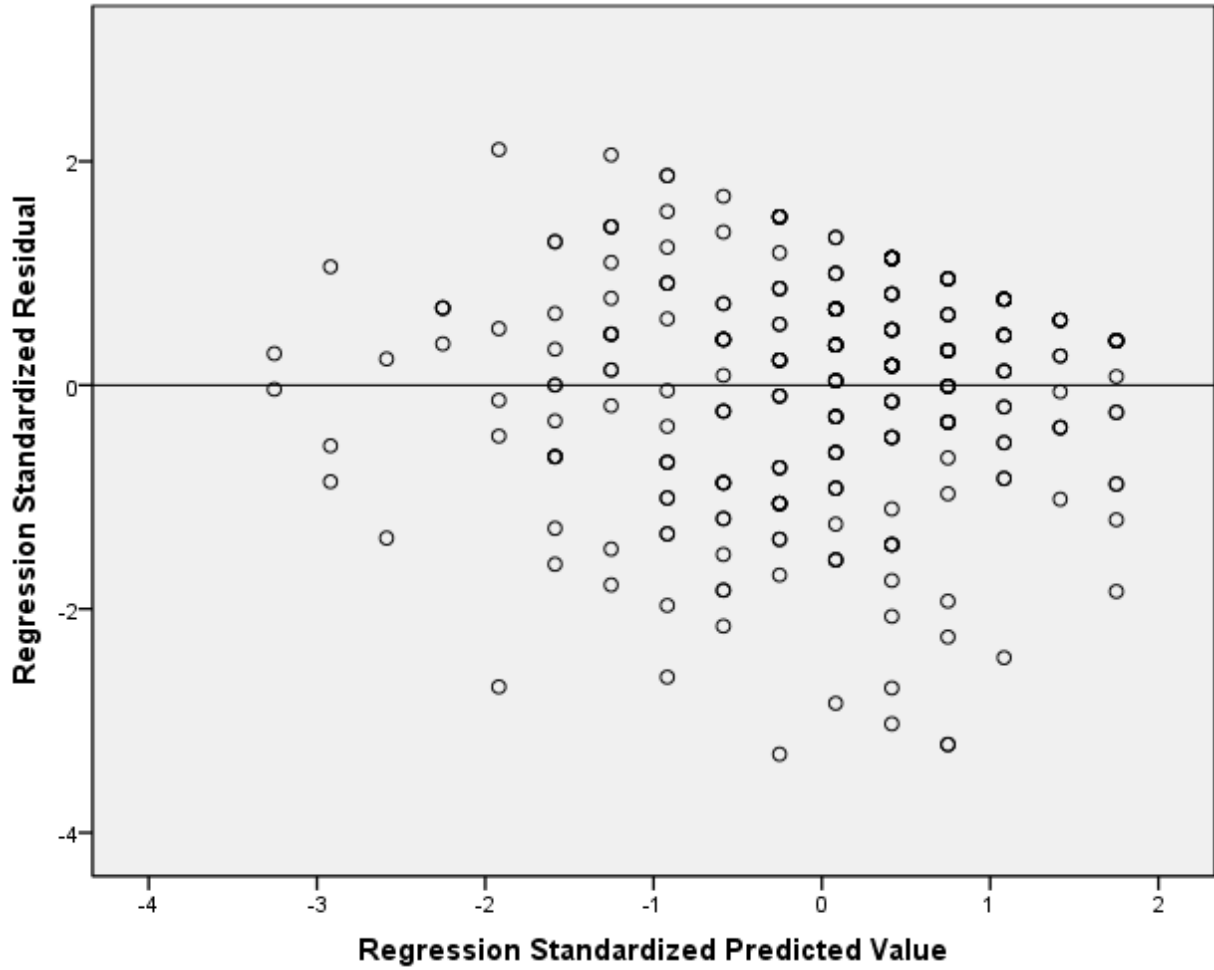


Figure 9. Job satisfaction-empowerment and leadership (independent variable) x Shared mental model-process clarity (dependent variable) heteroscedastic relationship identified via inspection of residual plot.

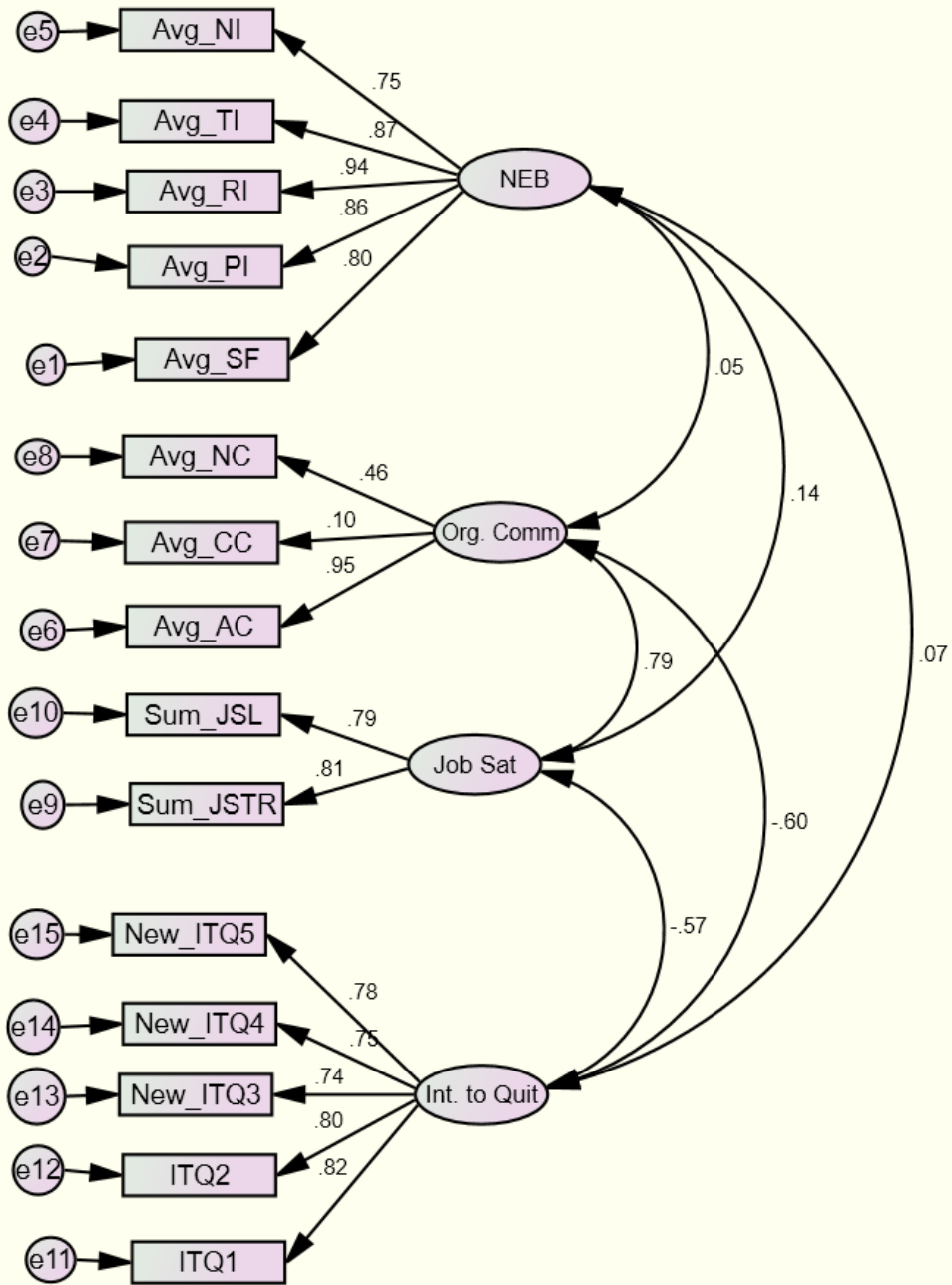


Figure 10. Basic model confirmatory factor analysis with correlation coefficients for the latent and observed variables.

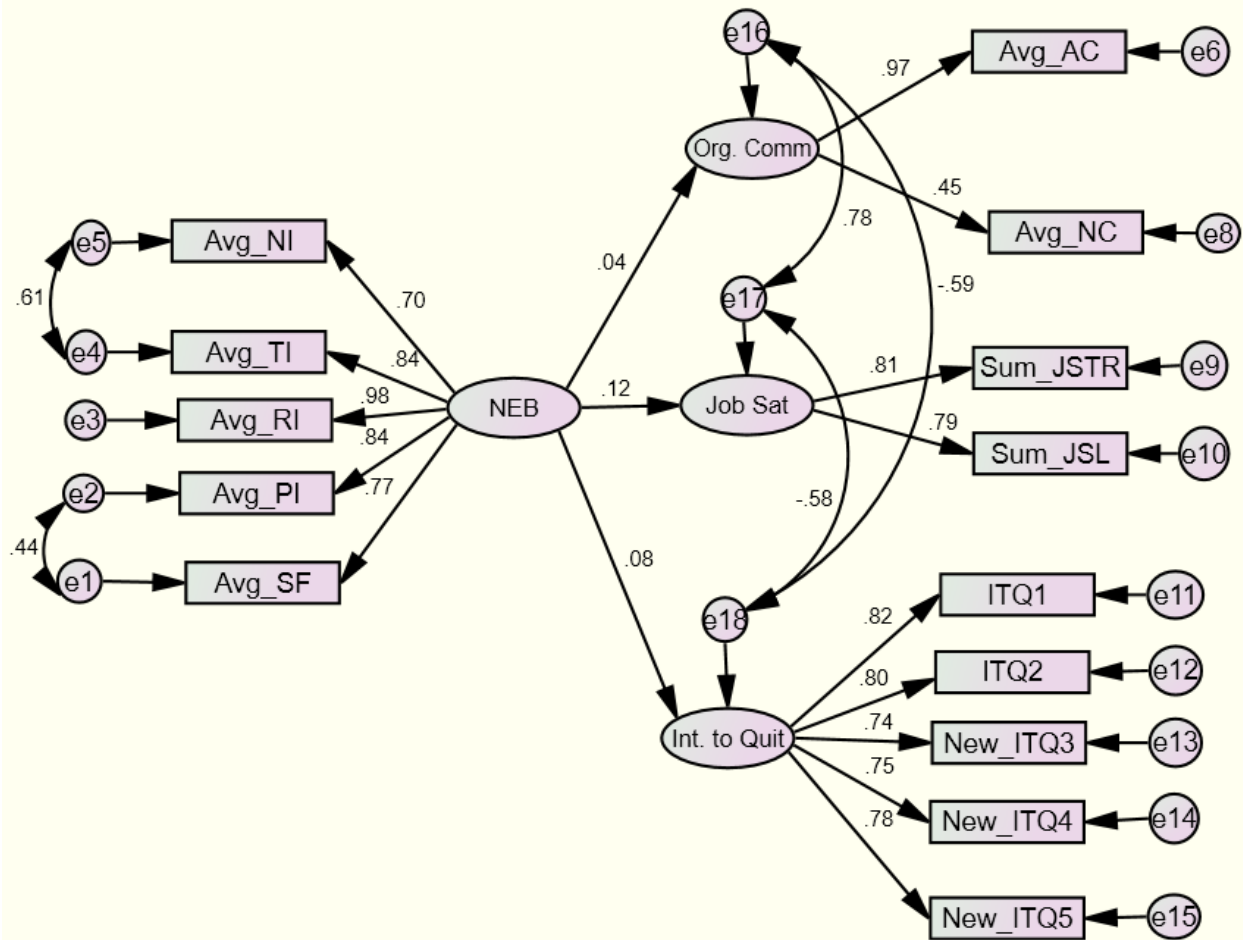


Figure 11. Structural equation model for basic model with direct non-mediated path coefficients.

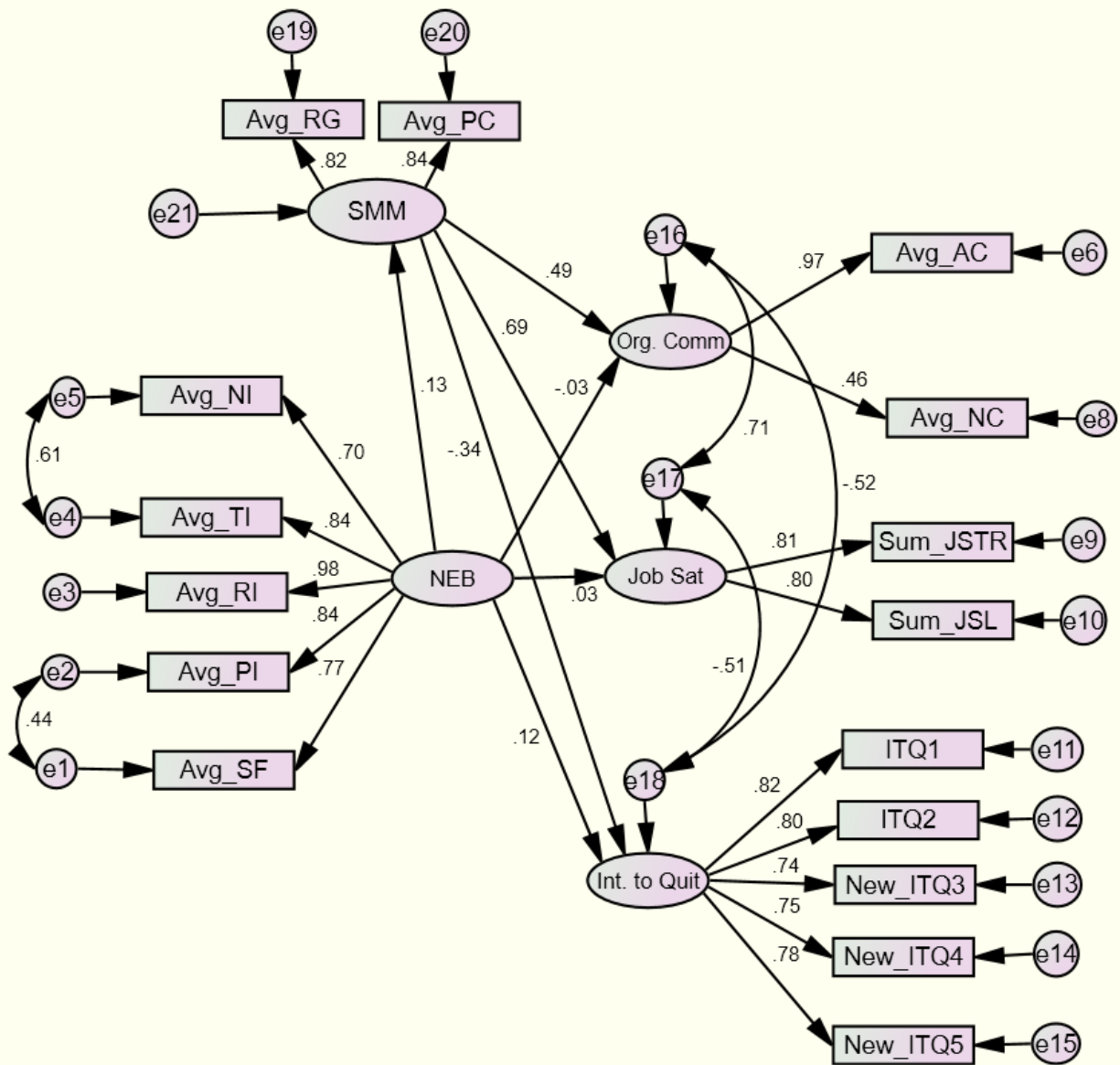


Figure 12. Structural equation model: Mediated model with direct non-mediated path coefficients.

Appendix A

New Employee Behaviors' Scale

- 1 = never,
- 2 = once a month
- 3 = a few times a month
- 4 = once a week
- 5 = a few times a week
- 6 = once a day
- 7 = a few times a day

Normative Information

Think about the last few months at work. To determine the behaviors and attitudes that your organization values and expects, how frequently, in general, have you done each of the following:

1. Ask your direct supervisor.
2. Ask a more experienced staff member.
3. Ask another new staff member.
4. Ask a manager or partner other than your direct supervisor.
5. Ask someone outside of your organization (e.g., client, friend, family member).
6. Ask someone in a support function (e.g., secretary, personnel manager, etc.).
7. Pay attention to how others behave.
8. Socialize with people in the organization in order to learn how they behave and what they value.
9. Observe what behaviors are rewarded and use this as a clue to what is desirable or expected.
10. Consult memos, annual reports, or other written material.

Instructions for the Other Four Scales:

The instructions were the same, with the following variations of the underlined words:

Technical information - how to perform specific aspects of your job

Referent information - what is expected of you in your job

Performance feedback - how well you are performing in your job

Social feedback - the appropriateness of your social behavior at work

Appendix B

Shared Mental Model Clarity Scale

Instructions

Listed below is a series of statements that represent opinions that individuals might have about the company or organization for which they work. With respect to your own opinions about the particular organization for which you are now working, please indicate the degree of your agreement or disagreement with each statement by circling a number from 1 to 5 using the scale below.

- 1 = strongly disagree
- 2 = slightly disagree
- 3 = undecided
- 4 = slightly agree
- 5 = strongly agree

Role/Goal clarity

1. The organization and I share clear planned goals/objectives that exist for my job.
2. The organization and I share common views of what is expected of me in my job.
3. The organization and I share common views on how my performance is going to be evaluated.
4. The organization and I share common views about the level of authority I have in my job.
5. The organization and I share common views on what my responsibilities are in my job.

Process clarity

6. The organization and I share common views on how to divide my time among the tasks required of my job.
7. The organization and I share common views on how to schedule my work day.
8. The organization and I share common views on how to determine the appropriate procedures for each work task.

9. The organization and I share common views on correctness of the procedures I use to do my job.

Appendix C

Three-Component Model Commitment Survey (Commitment Scales)

Instructions

Listed below is a series of statements that represent feelings that individuals might have about the company or organization for which they work. With respect to your own feelings about the particular organization for which you are now working, please indicate the degree of your agreement or disagreement with each statement by circling a number from 1 to 7 using the scale below.

- 1 = strongly disagree
- 2 = disagree
- 3 = slightly disagree
- 4 = undecided
- 5 = slightly agree
- 6 = agree
- 7 = strongly agree

Affective

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

Continuance

1. I am not afraid of what might happen if I quit my job without having another one lined up. (R)
2. It would be very hard for me to leave my organization right now, even if I wanted to.
3. Too much in my life would be disrupted if I decided I wanted to leave my organization now.
4. It wouldn't be too costly for me to leave my organization now. (R)
5. Right now, staying with my organization is a matter of necessity as much as desire.
6. I feel that I have too few options to consider leaving this organization.
7. One of the few serious consequences of leaving this organization would be the scarcity of available alternatives.
8. One of the major reasons I continue to work for this organization is that leaving would require considerable personal sacrifice -another organization may not match the overall benefits I have here.

Normative

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 at all unethical to me. (R)
4. One of the major reasons I continue to work for this organization is that I believe that loyalty is important and therefore feel a sense of moral obligation to remain.
5. If I got another offer for a better job elsewhere I would not feel it was right to leave

my organization.

6. I was taught to believe in the value of remaining loyal to one's organization.
7. Things were better in the days when people stayed with one organization for most of their careers.
8. I do not think that wanting to be a 'company man' or 'company woman' is sensible anymore. (R)

Note. (R) indicates a reverse-keyed item. Scores on these items should be reflected (i.e., 1 = 7, 2 = 6, 3 = 5, 4 = 4, 5 = 3, 6 = 2, 7 = 1) before computing scale scores.

Appendix D

Minnesota Satisfaction Questionnaire - Short Version (Organizational Job Satisfaction)

Instructions

Listed below is a series of statements that represent opinions that individuals might have about the company or organization for which they work. With respect to your own opinions about the particular organization for which you are now working, please indicate the degree of your satisfaction or dissatisfaction with each statement by circling a number from 1 to 5 using the scale below.

- 1 = very dissatisfied with this aspect of my job
- 2 = dissatisfied with this aspect of my job
- 3 = can't decide if I'm satisfied or dissatisfied with this aspect of my job
- 4 = satisfied with this aspect of my job
- 5 = very satisfied with this aspect of my job

1. The chance to work alone on the job.
2. The chance to do different things from time to time.
3. The chance to be "somebody" in the community.
4. The way my boss handles his/her workers.
5. The competence of my supervisor in making decisions.
6. The chance to tell people what to do.
7. The chance to do something that makes use of my abilities.
8. The freedom to use my own judgment.
9. The chance to try my own methods of doing the job.
10. The praise I get for doing a good job.

Appendix E

Turnover Cognitions Scale (Intentions to Quit)

Instructions

Listed below is a series of statements that represent feelings that individuals might have about the company or organization for which they work. With respect to your own feelings about the particular organization for which you are now working, please indicate the degree of your agreement or disagreement with each statement by circling a number from 1 to 5 using the scale below.

1 = strongly disagree

2 = slightly disagree

3 = undecided

4 = slightly agree

5 = strongly agree

1. I will probably look for a new job in the near future.
2. At the present time, I am actively searching for another job in a different organization.
3. I do not intend to quit my job. (R)
4. It is unlikely that I will actively look for a different organization to work for in the next year. (R)
5. I am not thinking about quitting my job at the present time. (R)

Note. (R) indicates a reverse-keyed item. Scores on these items should be reflected (i.e., 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1) before computing scale scores.

Appendix F

Informed Consent

PROJECT TITLE: Shared Mental Models Impact on the Onboarding Process

PRINCIPAL INVESTIGATOR: Michael Stetzer, M.A. **CO-INVESTIGATOR(S):** N/A

CONTACT NAME AND PHONE FOR ANY PROBLEMS/QUESTIONS: Michael Stetzer (mstetzer@ksu.edu)

IRB CHAIR CONTACT/PHONE INFORMATION:

- Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

SPONSOR OF PROJECT: N/A

PURPOSE OF THE RESEARCH: This research is designed to examine the role of shared mental models during a new employee's organizational socialization experience. Shared mental models represent team members' shared, organized understanding and mental representation of knowledge concerning key elements of the team's relevant environment.

PROCEDURES OR METHODS TO BE USED: You will be asked to complete a series of questionnaires that address things like information seeking, mental models (specially organized ideas to understand situations and complete tasks), organizational commitment, job satisfaction, and intention to quit.

LENGTH OF STUDY: 20 minutes

RISKS OR DISCOMFORTS ANTICIPATED: No known risks. There is a small chance of emotional discomfort associated with having to recount possibly unpleasant work experiences while answering the questionnaires.

BENEFITS ANTICIPATED: Participants can expect to benefit by gaining increased familiarity with the research process. Additionally, participants may become more aware of their own information seeking behaviors. Additionally, the findings may help to explain the way in which new employee behaviors, shared mental models, and socialization outcomes interact with one another.

EXTENT OF CONFIDENTIALITY: Participant data will be identifiable by number only. Records will be electronically stored on a password protected external hard drive, until sufficient time has passed to allow for their destruction.

IS COMPENSATION OR MEDICAL TREATMENT AVAILABLE IF INJURY OCCURS: N/A

TERMS OF PARTICIPATION: I understand this project is research, and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

Participant Name: _____

Date: _____

Appendix G

Debriefing Form

Thank you for your participation in this study! Without your willing contribution, much of our knowledge about human behavior within organizations would remain limited.

The study you have just participated in is focused on examining how shared mental models (mental model agreement between the employee and organization) impacts one's experience of onboarding (early phase of socialization for new employees) and socialization outcomes (e.g., organizational commitment, job satisfaction, and intentions to quit). Previous researchers have suggested that mental model agreement between employees when working should enhance perceptions of satisfaction and commitment to the team. With this in mind, I am investigating whether or not shared mental models affect the likelihood of experiencing organizational commitment, job satisfaction, and intentions to quit during the onboarding phase of work. Further, I am examining whether mental models influence the relationship between new employees behaviors (seeking information to help with assimilating into the new work-setting) and their feelings of organizational commitment, job satisfaction, and intentions to quit.

You were selected for this study for a two of reasons. First, your status as a full-time employee presently in the first year of employment with your company allows you to evaluate your own company from a fresh perspective. Second, considering you are experiencing some degree of onboarding, you are able to provide your opinion on how the company's ideas compare with your own regarding aspects of your work.

If you have any questions about this project or its results, please don't hesitate to ask. You are welcome to contact me (Michael Stetzer – mstetzer@ksu.edu). If you have any

concerns about the study, you may contact the Psychology department head – Dr. Michael Young – michaelyoung@ksu.edu

Appendix H

General Information

1. Gender: Male Female
2. Age: _____ years
3. How long have you been working for your present organization? _____ months
4. Did you experience a formal orientation program (e.g., structured training, formal mentor, information manuals) with your present organization (please circle)? Yes No
5. How many hours per week do you work in your present organization? _____ hours
6. Job industry (please select the option that best represents your present organization):
 - Education
 - Research/Science
 - Healthcare
 - Retail
 - Government
 - Engineering / Manufacturing
 - Information Technology (IT)
 - Hospitality
 - Other _____ (please fill in)