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Satisfying Newcomers' Needs:

The Role of Socialization Tactics and Supervisor Autonomy Support

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Satisfying Newcomers' Needs

Abstract

1
2 We investigate a novel approach to newcomer socialization based on self-determination
3
4 theory (SDT). A core assumption of SDT is that when social contexts support basic
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6 psychological needs for autonomy, competence, and relatedness, people are more likely to
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8 integrate new experience effectively and thrive in their environment. We sought to examine
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10 the role of psychological need support within the context of newcomer socialization, the
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12 period of early entry where newcomers learn their new job and become integrated within the
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14 organization. We propose that organizational socialization tactics and perceived autonomy
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16 supportive supervision jointly influence newcomers' basic psychological needs and in turn,
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18 their organizational commitment and withdrawal cognitions. Results from structural equation
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20 modelling analyses from a time-lagged study of 489 MBA interns supported our
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22 hypothesized model. There were significant indirect effects of institutionalized socialization
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24 tactics and supervisor autonomy support on both affective organizational commitment and
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26 withdrawal cognitions, via psychological need satisfaction. Use of institutionalized tactics
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28 also was negatively associated with interns' specific need for autonomy, suggesting
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30 individualized tactics may play a role in supporting newcomers' sense of self-determination.
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32 A *post hoc* moderation analysis further suggested a substitutive pattern in the interaction
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34 between supervisor autonomy support and institutionalized tactics, emphasizing the central
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36 role that supervisors play in newcomer socialization, particularly when it pertains to
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38 newcomers' psychological need satisfaction. Our results indicate SDT is a promising and
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40 meaningful lens through which to study newcomer adjustment.
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51 *Keywords:* socialization; autonomy support; need satisfaction; commitment; withdrawal
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53 cognitions; self-determination theory
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Satisfying Newcomers' Needs:

The Role of Socialization Tactics and Supervisor Autonomy Support

Starting a new job is a process that entails change, learning, and overcoming uncertainty. *Organizational socialization* is the process whereby newcomers transition from being organizational outsiders to learning the ins and outs of their new role and organization in order to become engaged and effective insiders who are committed, satisfied, and intent on remaining with their organization (Bauer, Bodner, Erdogan, Truxillo, & Tucker, 2007; Saks, Uggerslev, & Fassina, 2007). Industry statistics show that 23-25 percent of new hires leave in their first year (Allied HR IQ, 2012; Baumann, 2018) while those who go through formal socialization programs are 50 percent more likely to be retained by their employers for at least three years, and 34 percent more proficient in their first 8-12 months (Baumann, 2018). It is therefore crucial for organizations to understand and facilitate new hires' adjustment processes to maximize the effectiveness of costly personnel recruitment, selection, and training practices.

In this study, we investigated the effectiveness of newcomer socialization experiences through a novel lens of psychological needs based on self-determination theory (SDT; Deci & Ryan, 1985, 2000). Decades of SDT research point to the importance of facilitating high-quality, sustainable motivation via the satisfaction of psychological needs for *autonomy*, *competence* and *relatedness* (Ryan & Deci, 2017). With numerous studies suggesting basic psychological need satisfaction as a reliable predictor of desirable work outcomes such as intrinsic motivation, performance, thriving, and commitment (Deci, Olafsen, & Ryan, 2017), organizations may be able to reap immense benefits in the employment relationship by shaping newcomer socialization in a way that facilitates these needs. Indeed, psychological need satisfaction is a pre-requisite for optimal motivation that leads to adaptive psychological, behavioral, and developmental experiences that would be desirable for

1 newcomers (e.g. learning, persistence, commitment towards the organization; Deci et al.,
2 2017; Van den Broeck, Ferris, Chang, & Rosen, 2016). We therefore sought to investigate the
3
4 function of need satisfaction during the period of early entry that represents one of the most
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6 critical phases of organizational life. More specifically, we propose that a key theoretical
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8 mechanism connecting newcomers' socialization experience to critical outcomes including
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10 commitment and withdrawal cognitions is the extent to which newcomers' overall
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12 psychological needs are satisfied.
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17 SDT propositions regarding how social-contextual factors can promote or undermine
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19 people's sense of *autonomy*, *competence*, and *relatedness* have theoretical import and
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21 practical significance for newcomer socialization. We argue that commonly studied proximal
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23 outcomes of socialization can be re-envisioned as psychological need satisfaction under the
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25 established theoretical framework of SDT. Using SDT in this way as a theoretical lens for
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27 newcomer socialization also enables us to explain more distal outcomes that extends
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29 previously established effects of need satisfaction, as we elaborate in the discussion section.
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34 In this investigation, we examined two critical sources of newcomer adjustment -
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36 socialization tactics provided by organizations, and the provision of autonomy support from
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38 supervisors - as levers by which newcomers feel committed and intent on remaining with an
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40 organization. While research informs that a structured, institutionalized socialization
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42 experience positively contributes to newcomer adjustment, its impact on psychological need
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44 satisfaction is yet to be established. This is particularly true in the context of autonomy need
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46 satisfaction, a key motivational ingredient in fostering desirable organizational outcomes
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48 (Ryan & Deci, 2017). By gaining a deeper understanding of how socialization tactics
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50 influence psychological need satisfaction, organizations can also make better decisions to
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52 foster desirable outcomes such as employee commitment and retention early in the employee-
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54 employer relationship.
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Furthermore, supervisors play a unique and critical role in newcomer adjustment outcomes (Kammeyer-Mueller, Wanberg, Rubenstein, & Song, 2013). Studies examining the motivational impact of workplace situational factors using SDT have focused on employees' perceptions of supervisor autonomy-supportive behaviors (Slemp, Kern, Patrick, & Ryan, 2018), though not in the context of newcomer adjustment, nor in conjunction with organizational socialization tactics. Importantly, employee commitment and retention fueled by motivational quality are facilitated when employees perceive supervisors as autonomy-supportive, and evidence suggests it is possible to train supervisors to be more autonomy-supportive (e.g. Hardré & Reeve, 2009). This study thus sheds light on the importance of supervisors' autonomy supportive orientation in newcomer adjustment, and offers practical guidance to organizations and practitioners with a cluster of behaviors that supervisors might adopt to improve newcomer retention and commitment.

To this end, we tested a model (Figure 1) in which socialization tactics and perceived supervisor autonomy support (here onwards referred to as supervisor autonomy support) together predict socialization outcomes through need satisfaction. We used a two-wave survey design involving 489 MBA interns who worked full-time at various organizations.

Insert Figure 1 about here

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Organizational Socialization Tactics

Organizational socialization is the process by which individuals gain the knowledge, skills, attitudes, and behaviors necessary to adapt to a new work role (Van Maanen & Schein, 1979). Effective socialization helps new hires become participating and effective insiders (Bauer et al., 2007; Feldman, 1976), and encompasses broad learning and adjustment processes within newcomers (Wanberg, 2012). Organizational socialization is also a primary

1 mechanism by which organizational culture is transmitted and maintained (Bauer, Morrison,
2 & Callister, 1998). Adequate socialization is associated with positive outcomes, including
3 individual performance, organizational commitment, and retention (Bauer et al., 2007; Saks
4 et al, 2007).
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9 Organizations use a variety of tactics to socialize their new hires. Van Maanen and
10 Schein (1979) originally proposed six different socialization tactics that were subsequently
11 grouped into three factors (context, content, and social) along an individualized-
12 institutionalized continuum (Jones, 1986; Kim, Cable, & Kim, 2005). Individualized tactics
13 are relatively less structured; newcomers experience socialization more by default than
14 design and are left to fend for themselves. Institutionalized tactics are more structured,
15 systematic, and formalized (Jones, 1986). Organizations that use institutionalized tactics
16 typically provide newcomers a common set of learning and formal training experiences
17 (context), clear information about the timing and sequence of activities to achieve learning
18 milestones (content), and mechanisms to connect newcomers with experienced organizational
19 members who provide positive social support and feedback that affirms their identity (social).
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36 Organizational actions can facilitate the socialization process and have a positive
37 impact on newcomer adjustment. For instance, meta-analytic studies showed that
38 institutionalized tactics are positively associated with organizational commitment and
39 intentions to remain, both key distal indicators of newcomer adjustment (Bauer et al., 2007;
40 Saks et al., 2007) which we include in our study.
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48 Importantly, researchers have argued that studies should identify the processes by
49 which socialization tactics influence the above distal indicators of newcomer adjustment
50 (Saks & Ashforth, 1997). Based on the assumption that newcomers are motivated to reduce
51 uncertainty and anxiety in their new surroundings, previous socialization models have
52 focused largely on role properties (clarity, ambiguity, and conflict), self-efficacy, and social
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1 acceptance by organizational insiders as proximal indicators of adjustment that predict more
2 distal outcomes, including organizational commitment and retention (Bauer et al., 2007;
3 Bauer & Erdogan, 2011, 2012; Wanberg, 2012). Role clarity refers to clear expectations
4 about work process and outcomes, self-efficacy is the degree in which a newcomer feels able
5 to fulfill role requirements, and social acceptance is the experience of feeling liked and
6 trusted by peers.
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14 Other theoretical mechanisms through which newcomers successfully adjust and
15 integrate into their new roles include perceived organizational support (Perrot et al., 2016),
16 embeddedness (Allen, 2006; Allen & Shanock, 2013), and person-organization fit (Beenen &
17 Pichler, 2014; Cable & Parsons, 2001; Kim et al., 2005). We propose an alternative
18 perspective based on SDT that examines the potential mediating role of basic psychological
19 needs argued to explain the effects of both socialization tactics and supervisor autonomy
20 support on individual outcomes.
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31 **Self-Determination Theory (SDT) and Psychological Needs**

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33 Applied SDT research is documented in many areas of psychology, including
34 education, sports, exercise and health, and organizational psychology and management (see
35 Ryan & Deci, 2017 for a comprehensive review). SDT (Deci & Ryan, 1985) adopts an
36 organismic perspective to assume that humans have evolved tendencies toward growing,
37 mastering challenges, and integrating new experiences into a meaningful sense of self.
38
39 Human development is marked by “proactive engagement, assimilating information and
40 behavioral regulations, and finding integration within social groups” (Ryan & Deci, 2017,
41 p.4). These developmental tendencies require ongoing social support that prompt individuals
42 toward active engagement and psychological growth. Within SDT, these nutrients for
43 development and functioning are specified using the concept of innate psychological needs
44 for autonomy, competence, and relatedness (Deci & Ryan, 2000).
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Autonomy refers to the degree of volition one experiences; competence refers to the degree of mastery and perceived ability to cause desired outcomes; and relatedness refers to the degree to which an individual feels appreciated, respected, and interpersonally connected with others (Deci & Ryan, 1985). To the extent that these needs are satisfied (i.e., subjectively experienced as fulfilled), research documents that people will experience optimal development and functioning, defined as the “manifestation of intra- and interpersonal growth and development in terms of employee well-being (e.g., positive emotions, vitality), attitudes (e.g., job satisfaction, organizational commitment), and behavior (e.g., performance, proactivity, and collaborative behaviors)” (Van den Broeck, Carpini, & Diefendorff, 2019, p.30).

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We concur with a recent review of the newcomer socialization literature that argues for new perspectives in understanding newcomer socialization, including conceptualizing these three needs as mechanisms by which socialization tactics influence newcomer outcomes (Lacaze & Bauer, 2014). Given the accumulating evidence of the importance of need satisfaction in promoting psychological growth and positive outcomes (Ryan & Deci, 2017), and relatedly organizational commitment and retention in employees (Van Den Broeck et al., 2016), we propose that need satisfaction can further explain how and why socialization tactics lead to newcomer adjustment.

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The three psychological needs are well suited to conceptualizing newcomer proximal adjustment outcomes. For instance, self-efficacy and task mastery represent key newcomer adjustment outcomes that contribute to newcomers' retention and organizational commitment (Bauer et al., 2007). Experiencing self-efficacy and task mastery satisfies the need for competence as competence refers to people's basic need to feel effectual in their pursuits and to have mastery within a task domain, and is widely accepted as a core element in internally motivated actions (Bandura, 1977; Harter, 2012; Ryan & Deci, 2017). Competence need

1 satisfaction refers to the degree to which newcomers understand their role, feel like they are
2 developing new skills and are capable and confident in fulfilling their new role (Deci &
3 Ryan, 2000; Van den Broeck, Vansteenkiste, de Witte, Soenens, & Lens, 2010). As
4 newcomers experience multiple uncertainties surrounding their new role, those who are
5 supported by the organization in ways that build feelings of competence during the
6 socialization process are likely to view their organizations as a place to further develop their
7 knowledge and skills, and therefore as an attractive potential longer term career destination.
8 This should lead to higher organizational commitment and intention to remain with the
9 organization.

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Newcomers' social network development and acceptance by organizational insiders also are important mechanisms for successful socialization (Fang, Duffy, & Shaw, 2011; Jokisaari, 2013). Conventional proximal outcomes of social acceptance and social integration—which represent the degree to which newcomers feel socially and relationally connected with others in the organization (Saks, Uggerslev, & Fassina, 2007)—find their SDT counterpart in newcomers' psychological need for relatedness. The need for relatedness concerns our inherent desire to feel socially connected. Relatedness is satisfied through the experience of feeling cared for by others, a sense of belonging, and by being a significant and contributing member of social groups (Ryan & Deci, 2017), as indicated by social acceptance and integration (Saks et al., 2007). Having established relationships and a sense of connectedness with peers in turn fosters attachment to the organization, and consequently, organizational commitment and intention to remain (Bauer et al., 2007). Thus, the commonly studied proximal outcomes of socialization that addresses task and social transitions of newcomer adjustment can be organized and captured under the SDT framework as fulfillment of newcomers' psychological needs for competence and relatedness.

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In addition, an SDT approach to studying socialization includes the need for autonomy, which fosters commitment and retention in work settings (Gagné & Bhave, 2011). Autonomy in the SDT context refers not to independence or freedom from structure, but to the exercise of volition and self-regulation. That is, people's autonomy needs are met when they are allowed to act in accord with their authentic self-integrated values and interests. Though individual need for autonomy, along with provision of autonomy through job design, have been investigated as predictors of proactive behavior in newcomers (Yu & Davis, 2016), to our knowledge autonomy need satisfaction has not been investigated as a proximal outcome of socialization. From an SDT perspective, it is not sufficient for a newcomer to simply reduce uncertainty and feel accepted through socialization tactics. That is, one can undergo an organization's orientation and training to understand what he or she needs to do on the job whilst feeling socially integrated, yet still not fully see the value of it or accept it as a personal goal. By accounting for autonomy as a proximal outcome in the socialization process, we embed the idea that not only should newcomers understand their organizational role (i.e., feel competent), they also should come to understand its meaning and importance (Perrot & Campoy, 2009).

Due to the novelty and uncertainty that go with the start of a new job, it could be challenging for newcomers to experience fulfillment of their autonomy, competence, and relatedness needs if left to their own devices—effectively individualized tactics that are largely informal, unstructured, and thrust newcomers into their new roles with a 'sink or swim' approach. Thus, we expect institutionalized tactics will satisfy newcomers' basic psychological needs for three reasons.

First, by reducing role ambiguity and uncertainty, institutionalized tactics facilitate feelings of competence in newcomers (Bauer et al., 2007; Gruman, Saks, & Zweig, 2006). As such, compared to newcomers who are more likely to struggle to figure out on their own what

1 is expected of them with individualized tactics, we anticipate newcomers who experience
2 institutionalized tactics will feel more competent and more able to impact their surroundings
3 constructively. Second, institutionalized tactics also should fulfill newcomers' proximal need
4 for relatedness by offering positive social support, formal mentors and role models, and a
5 structured setting for socializing newcomers with existing organizational members. Finally,
6 undergoing a relatively more structured, systematic, and formalized socialization process,
7 along with positive social support from existing organizational members (Jones, 1986),
8 should provide new hires with the necessary information about their roles, both in terms of
9 role requirements and its importance to the organization. As such, institutionalized tactics
10 should provide an optimal balance of structure and individual expression that is made
11 possible by the formal organizational routines (e.g. structured training) in conjunction with
12 interpersonal support (e.g. mentoring) that is in turn is likely to fulfill newcomers' need for
13 autonomy.

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31 It is worth noting that although newcomers may experience a broader array of choices
32 with individualized (versus institutionalized) tactics, these tactics are unlikely to provide an
33 *optimal* level of autonomy. According to SDT, autonomy is defined as having a broader sense
34 of self-determination, rather than merely having more choices to make, for example in an
35 unstructured and ambiguous environment. Individualized tactics should be less likely to
36 provide newcomers a rationale for how things are done through formal channels and less
37 likely to offer structured, sequential experiences for learning their roles. This lack of structure
38 and support from such 'sink or swim' tactics are likely to cause role ambiguity and stress
39 (Bravo, Peiró, Rodríguez, & Whitely, 2003; Jang, Reeve, & Halusic, 2016; Saks et al., 2007),
40 thereby thwarting newcomers' autonomy needs (Van den Broeck et al., 2016). Further,
41 individualized divestiture tactics that aim to "mold newcomers into forms that the
42 organizations wish" (Jones, 1986, p.265) and social feedback that does not affirm
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1 newcomers' incoming identity and personal characteristics, are likely to thwart their needs
 2 for autonomy and self-determination. Thus, compared to individualized tactics, we predict
 3 that institutionalized tactics will provide a more optimal amount of structure and support that
 4 will fulfill newcomers' psychological needs for autonomy, competence and relatedness.
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 9 **Hypothesis 1.** Institutionalized tactics are positively related to newcomers'
 10 psychological need satisfaction.
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 14 Collectively, satisfaction of all three needs in concert should prompt individuals
 15 towards more effective adjustment and integration within an organization. Indeed, SDT posits
 16 that when people feel that they are effective and connected to others, and self-directed with
 17 regards to a particular behavior (e.g. learning the ropes of a new role), they are more likely to
 18 internalize the values and regulatory processes related to that behavior (Gagné & Deci, 2005).
 19 Internalization represents one's active transformation of information or values, initially
 20 reinforced by external sources, to become integrated within the individual self (Ryan & Deci,
 21 2000). In the socialization process, we expect such internalization will motivate newcomers
 22 to transition effectively from being organizational outsiders to integrated and participating
 23 insiders. Consequently, consistent with positive indicators of effective socialization, this
 24 process should also lead to higher commitment and intentions to remain in the organization.
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41 In treating need satisfaction as a proximal outcome of socialization, and given known
 42 associations between need satisfaction and organizational commitment and withdrawal
 43 cognitions (Van den Broeck et al., 2016), we also propose an indirect effect of socialization
 44 tactics on these distal newcomer adjustments via the satisfaction of basic needs. We define
 45 withdrawal cognitions as newcomers' intentions and thoughts of leaving their employer,
 46 including intentions to search for a different job (Miller, Katerberg, & Hilin, 1979). The
 47 *affective* component of organizational commitment also is our focus here as a distal outcome
 48 which we define as newcomers' emotional attachment to, identification with, and
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1 involvement in, their organization. Organizational commitment can be developed as a
 2 function of work experiences that facilitates employees' feelings of challenge and "comfort"
 3 in the organization (Meyer, Allen, & Smith, 1993). The creation of a socialization experience
 4 that affords opportunities for need satisfaction thus further enhance newcomers' commitment
 5 and intentions to stay within the organization. To this end, we propose that stemming from an
 6 institutionalized socialization process, newcomers who experience a sense of autonomy in
 7 their work responsibilities, gain competence of their work tasks and responsibilities, and who
 8 develop social bonds with organizational members (i.e., psychological need satisfaction), are
 9 more likely to experience a sense of attachment to the organization and view it as a longer-
 10 term career destination.
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 24 **Hypothesis 2a.** There is a positive indirect effect of institutionalized tactics on
 25 newcomers' organizational commitment via their psychological need satisfaction.
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 29 **Hypothesis 2b.** There is a negative indirect effect of institutionalized tactics on
 30 newcomers' withdrawal cognitions via their psychological need satisfaction.
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33 34 **Supervisor Autonomy Support**

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 36 While socialization tactics focus on organizational processes and efforts to introduce
 37 newcomers to their role and their place in the organization, direct supervisors also play a
 38 critical role in this process. Supervisors are in a unique position to support subordinates'
 39 competence needs by providing knowledge and informational feedback, support their
 40 relatedness needs by acting as a reference point for social validation, and support their
 41 autonomy needs by directly influencing newcomers' work assignments and goals (Ashforth,
 42 Sluss, & Harrison, 2007; Graen, 1976). Cumulatively, research has revealed that supervisors
 43 make a major contribution to new hires' role learning and adjustments (e.g. Bauer & Green,
 44 1998; Harris, Boswell, Zhang, & Xie, 2014; Jokisaari, 2013; Jokisaari & Nurmi, 2009; Sluss
 45 & Thompson, 2012). For example, early supervisory support or undermining is foundational
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to later work adjustments including organizational commitment, withdrawal behaviors, and turnover (Kammeyer-Mueller et al., 2013).

Despite research demonstrating the important role of supervisor support during socialization, few studies have specified more clearly *how* immediate supervisors become an active relational source of socialization by identifying the supervisory behaviors or practices that lead to adjustment outcomes (Sluss & Thompson, 2012). Studies guided by SDT have devoted a lot of attention to work-related factors that influence need satisfaction and autonomous work motivation. In particular, research on managerial behavior has shown that when supervisors lead and manage their subordinates in an *autonomy supportive* fashion, employees feel more competent, autonomous, and relationally connected in the workplace (Baard, Deci, & Ryan, 2004; Gillet, Gagné, Sauvagère, & Fouquereau, 2013; Van den Broeck et al., 2016). More specifically, supervisors who are autonomy supportive provide a meaningful rationale for work activities in an informational manner, afford choice when possible, avoid the use of external rewards or sanctions to motivate behavior, acknowledge employees' perspectives and feelings, and encourage initiation and proactivity. As such, supervisor autonomy support facilitates the satisfaction of employees' needs for autonomy and self-initiation, competence, and relatedness (Baard et al., 2004; Deci et al., 2001). In contrast, a controlling managerial style shifts the perceived cause of one's behavior to an external source by signaling to employees that the leader is the initiator of action (Slemp et al., 2018).

Hypothesis 3. Supervisor autonomy support is positively related to newcomers' psychological need satisfaction.

Although supervisor autonomy support has not been examined as a source of newcomer adjustment, prior research with incumbent employee samples have shown its positive impact on employee outcomes through higher employee psychological need satisfaction of

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autonomy, competence, and relatedness (e.g., Gillet, Gagné, Sauvagère, & Fouquereau, 2013; Hardré & Reeve, 2009; Kuvaas & Dysvik, 2009). For instance, autonomy-supportive work climates in a cross-cultural setting predicted satisfaction of overall need satisfaction for competence, autonomy, and relatedness, which in turn predicted positive employee outcomes including task motivation and psychological adjustments to the job (Deci et al., 2001). Moreover, perceived managerial autonomy support had a direct positive effect on acceptance of organizational change (Gagné, Koestner, and Zuckerman, 2000). Other empirical studies have also pointed to the positive implications of supervisor's autonomy-supportive style on worker's satisfaction (Deci, Connell, & Ryan, 1989; Moreau & Mageau, 2012) and performance (Baard et al. 2004). Finally, a more recent study of newcomers in a healthcare setting found supervisor autonomy support was positively associated with higher work satisfaction, greater psychological health and lower intent to leave (Moreau & Mageau, 2012).

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Whilst the ways in which organizations 'process' their newcomers are important, the interpersonal orientation of immediate supervisors towards new employees during this integration period should be equally, if not more, important. For newcomers, supervisors serve as a critical information source for successful socialization (Ostroff & Kozlowski, 1992). The way in which supervisors treat their new members (i.e., autonomously or controlling), such as when providing knowledge and feedback, should be critical in shaping newcomers' commitment towards the organization and their thoughts of staying or leaving a job. We expect newcomers' perception of autonomy support from their supervisors to be positively related to their need satisfaction, and in turn their commitment and withdrawal cognitions, above and beyond socialization tactics.

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Hypothesis 4a. There is a positive indirect effect of supervisor autonomy support on newcomers' organizational commitment via their psychological need satisfaction.

Hypothesis 4b. There is a negative indirect effect of supervisor autonomy support on newcomers' withdrawal cognitions via their psychological need satisfaction.

Method

Participants and Procedures

The study sample included 489 Master of Business Administration (MBA) summer interns from 11 full-time programs¹ in the United States. They worked full-time with the prospect of a permanent job offer upon completion of their 10-12-week internship. The participants' employment setting is therefore representative of organizational entry experiences in that newcomers are eager to acquire the social knowledge and skills required to assume a new organizational role, with an initial probationary period followed by potential longer-term employment. The sample was 37% female and averaged 5.5 years of industry experience ($SD = 2.5$ years). Participants completed their internships in a wide range of industries including manufacturing/consumer goods and services (30%), financial services (26%), consulting (15%), technology (11%), health care (10%), and non-profit/utilities (8%).

We collected demographic data and pre-entry intentions to accept a full-time offer (a control variable explained below) before the internship started from 792 interns who consented to participate in the study, out of a population of 3389 potential participants who were completing the first year of a two year MBA degree (23.4% response rate). Study variables were collected in two phases: immediately after the midpoint of their internship (Survey 1), and within a week after completing the internship (Survey 2). To encourage participation, there was a \$200 prize draw for participants who completed the surveys at Survey 1 and a separate draw for Survey 2, as well as two \$200 bonus draws for participants completing both surveys. 792 interns who gave their consent to participate in the study and

¹ We calculated the intra-class coefficients (ICC) for all study variables to check for non-independence within schools. We did not include interns' program as a control variable in our analyses because these ICCs were very small, ranging from .004 to .022.

1 completed the pre-entry survey were contacted for Survey 1, in which 588 of them responded
2 (73.9% retention rate for the pre-entry survey and survey 1). Five to seven weeks later, 489
3
4 completed Survey 2 (83.2% retention rate for surveys 1 and 2).
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7 **Measures**

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9 Survey 1 measured perceptions of supervisor autonomy support and socialization
10 tactics employed by interns' host organizations. Survey 2 measured adjustment and outcomes
11 of socialization, including need satisfaction, organizational commitment, and withdrawal
12 cognitions. The pre-entry survey measured demographic variables (sex, internship industry)
13 and a critical control variable (pre-entry job acceptance intentions).
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22 **Socialization tactics.** We measured participants' perceptions of socialization tactics
23 using items adapted from Jones' (1986) socialization tactics scale ($\alpha = .89$), measured on a 1
24 (strongly disagree) to 5 (strongly agree) Likert-type scale. Higher scores represent more
25 institutionalized (vs. individualized) tactics. Three items measured each set of tactics (nine
26 total) related to context (e.g., "I got to know other MBA interns through a set of planned
27 activities", $\alpha = .76$), content (e.g., "I have a clear understanding of a timetable of events for
28 the internship", $\alpha = .83$), and social aspects of socialization (e.g., "I learn my job by
29 observing experienced members of the organization", $\alpha = .73$).
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41 **Supervisor Autonomy Support.** We used a six item scale (Baard et al., 2004) to
42 measure interns' perceptions of supervisors' autonomy support (e.g., "My manager listens to
43 how I would like to do things" and "I feel my manager provides me choices and options", $\alpha =$
44 .93) on a 1 (strongly disagree) to 6 (strongly agree) Likert-type scale.
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51 **Need Satisfaction.** We measured need satisfaction with ten items from the basic need
52 satisfaction at work scale (Deci et al., 2001, $a = .91$) using a 1 (strongly disagree) to 7
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(strongly agree) Likert-type scale.² Satisfaction of autonomy was measured with three items (e.g., “I feel I had a lot of input into deciding how my job got done”, $\alpha = .81$). Competence was assessed with four items (e.g., “I felt very competent when I was at work”, $\alpha = .82$). Three items tapped into the satisfaction of relatedness (e.g., “I considered the people I worked with to be my friends”, $\alpha = .83$).

Organizational Commitment. Three items were taken from the affective commitment subscale of the organizational commitment measure (Allen & Meyer, 1990), assessed with a 1 (strongly disagree) to 5 (strongly agree) Likert-type scale (e.g., “I feel a strong sense of belonging to the organization”, $\alpha = .90$).

Withdrawal Cognitions. We measured interns’ withdrawal cognitions with three items from Colarelli (1984); (e.g., “I frequently think about other employers I would rather work for”, $\alpha = .80$) using a 1 (strongly disagree) to 5 (strongly agree) Likert-type scale.

Job Acceptance Intentions. Given that MBA summer internships in this context typically are used to select potential candidates for permanent full-time positions, participants’ withdrawal cognitions may be shaped by the potential for a full-time job offer. To account for this, we controlled for pre-entry job-acceptance intentions measured prior to the start of the internships. Participants indicated their intentions to accept a hypothetical full-time offer with their respective organizations on a 1 (highly unlikely) to 6 (highly likely) Likert-type scale.

Results

Analytical Strategy

Analyses were conducted using Mplus 7.3 (Muthen & Muthen, 2014). We started our analyses with confirmatory factor analyses for each construct separately and an assessment of

² Our measure initially included eleven items, however, we removed a negatively-keyed item from the autonomy subscale due to a low factor loading of .23 as indicated in a confirmatory factor analysis.

1 the measurement model that underpinned all constructs of interest simultaneously. We then
2 tested hypotheses using structural equation modelling (SEM) and evaluated the hypothesized
3 model's fit by comparing its fit to that of the measurement model.
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7 Multiple goodness-of-fit indices were used to evaluate model fit, including the robust χ^2
8 statistic (see below), the comparative fit index (CFI), root mean square error of
9 approximation (RMSEA), and standardized root mean-square residual (SRMR). CFI values
10 above .90 are considered adequate (Hopwood & Donnellan, 2010), or excellent fit for scores
11 above .95 (Hu & Bentler, 1999). RMSEA fit indices below .07 are considered adequate
12 (Steiger, 1990), and indices below .06 indicate excellent model fit (Hu & Bentler, 1999).
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14 Lastly, SRMR scores below .08 indicate good model fit (Hu & Bentler, 1999). We employed
15 robust maximum-likelihood estimation (MLR) procedures due to multivariate non-normal
16 distributions in the data (multivariate kurtosis = 65.4, critical ratio = 25.6). MLR provides
17 standard errors of the parameter estimates and χ^2 tests of fit that are robust to multivariate
18 non-normality (Yuan & Schuster, 2013).
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34 The significance of change in model fit was determined using differences in goodness
35 of fit indices of the constrained model relative to those of the more complex model.
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37 Specifically, we examined change in (Δ) CFI, Δ RMSEA, and Δ SRMR (Chen, 2007; Cheung
38 & Rensvold, 2002) with values smaller than or equal to .010, .015, and .030 for the three
39 indices respectively, being indicative of only trivial reductions in model fit. Indirect effects
40 were estimated and tested by constructing 95% bias-corrected standardized confidence
41 intervals by bootstrapping 10,000 samples (Preacher & Hayes, 2008). An indirect effect was
42 deemed statistically significant if the bootstrap-derived confidence interval did not contain
43 zero (Mackinnon, Lockwood, & Williams, 2004; Preacher & Hayes, 2008).
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56 **Measurement Model**

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Bifactor Exploratory Structural Equation Modeling of Need Satisfaction. Like other studies using the same measure of need satisfaction, we observed strong correlations among the three need factors ($r > .80$; Van den Broeck et al., 2016). Opting not to average the needs to create an index of overall need satisfaction, as cautioned by Van den Broeck et al. (2016), we employed a bifactor exploratory structural equation modeling (bifactor-ESEM) framework in conceptualizing need satisfaction to test our hypotheses. The bifactor-ESEM model has been deemed superior to traditional 'independent clusters' confirmatory factor analyses and non-bifactor models across recent studies (Brunet, Gunnell, Teixeira, Sabiston, & Bélanger, 2016; Sánchez-Oliva et al., 2017; Tóth-Király, Morin, Bóthe, Orosz, & Rigó, 2018) due to the construct-relevant multidimensional nature of need satisfaction. In this conceptualization, each need satisfaction item is allowed to load on one global factor (G-factor) and on one specific factor (S-factor; i.e. their target loadings), with all cross-loadings freely estimated but targeted to be as close to zero as possible using an orthogonal bifactor target rotation procedure (Reise, 2012). The G-factor represents 'global' need satisfaction that drives responses to all the items in the set, whereas the S-factors reflect specific components unique to the subsets of items (autonomy, competence, and relatedness respectively) not already explained by the global component.

In line with prior research (Brunet et al., 2016; Sánchez-Oliva et al., 2017; Tóth-Király et al., 2018), the bifactor-ESEM representation of need satisfaction demonstrated good fit with the data ($\chi^2(11) = 35.75, p < .001, CFI = .99, RMSEA = .07, SRMR = .01$). In addition to exhibiting small cross-loadings, the bifactor-ESEM solution also demonstrated superior fit in relation to the other representations of participants' responses to the need satisfaction scale that we modelled (see the online supplement for details). Based on these conditional examinations (see Morin, Arens, & Marsh (2016) for further detail), the bifactor-ESEM solution was retained to represent need satisfaction in subsequent analyses.

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In interpreting the S factors within the bifactor-ESEM model, target factor loadings (i.e. the factor loadings of the items that are expected to form the factor of interest) should be significant and of the same sign. Following Gignac and Kretzschmar's (2017) recommendations, we also evaluated each dimension's 'omega hierarchical subscale' estimate ($\omega_h(s)$; Reise, Bonifay, & Haviland, 2013), which provides a standardized effect size index of unique latent variable's strength. $\omega_h(s)$ values smaller than .10 are considered very small, .10 to .20 to be relatively small, .20 to .30 to be typical, and larger than .30 are considered indicative of relatively 'strong' factors (Gignac & Kretzschmar, 2017).

Overall, the standardized factor solutions associated with the bifactor-ESEM model revealed a G-factor with a large omega hierarchical estimate of .87, well-defined by significant, strong, and positive loadings from all items ($\lambda = 0.63-0.83$, $M = 0.71$). Over and above this G-factor, the autonomy and relatedness S-factors also retained some specificity, with the relatedness S-factor being slightly more well-defined by the target items ($\lambda = 0.33-0.52$, $M = 0.44$, $\omega_h(s) = .26$) than the autonomy S-factor ($\lambda = 0.29-0.50$, $M = 0.38$, $\omega_h(s) = .19$). However, the competence S-factor contained non-significant target factor loadings both positive and negative in sign, and had a very small $\omega_h(s)$ of .09. The competence S-factor therefore did not meet criteria as a distinct interpretable dimension of need satisfaction in this study (Gignac & Kretzschmar, 2017). Although we retain competence in the final model, we need to consider that most of its variance is taken into account by the G-factor.

Complete Measurement Model. Before testing our hypotheses, we inspected the fit of the complete measurement model and distinctiveness of our construct set, namely: socialization tactics, supervisor autonomy support, need satisfaction, affective commitment, withdrawal cognitions, and job-acceptance intentions as a control variable. This measurement model in which all factors were allowed to correlate is baseline against which we evaluate our hypothesized structural model.

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In constructing the measurement model, to model institutionalized socialization, we calculated three sets of composite scores using the mean of the responses to the items for context, content, and social. We then treated these composites as indicators of a general institutionalized factor (e.g. Gruman, Saks, & Zweig, 2006; Kim et al., 2005). Six items indicated supervisor autonomy support, and organizational commitment and withdrawal cognitions were each represented by three items. Individual Confirmatory Factor Analyses (CFA) for each of these constructs yielded acceptable fit and factor loadings. Need satisfaction was modelled via the bifactor-ESEM discussed above. Intentions to accept an offer was included in the CFA as a single manifest variable.

The complete measurement model as specified above yielded good fit to the data, SBS- $\chi^2(145) = 389.38, p < .001, CFI = .95, RMSEA = .06, SRMR = .06$. This model displayed better fit compared to other, simpler models, such as an eight-factor model with socialization tactics and supervisor support as one factor, SBS- $\chi^2(153) = 861.90, p < .001, CFI = .84, RMSEA = .10, SRMR = .08$; a three-factor model separating the items by data collection period, SBS- $\chi^2(322) = 2289.758, p < .001, CFI = .72, RMSEA = .11, SRMR = .09$; and a single-factor model, SBS- $\chi^2(324) = 3532.12, p < .001, CFI = .55, RMSEA = .14, SRMR = .12$.

Table 1 displays descriptive statistics and bivariate correlations. Of interest, institutionalized tactics and supervisor autonomy support were positively associated with global need satisfaction and organizational commitment, and negatively related to withdrawal cognitions. Institutionalized tactics also were negatively correlated with the autonomy S-factor. As expected, global need satisfaction was positively related to organizational commitment and negatively correlated with participants' withdrawal cognitions.

Insert Table 1 about here

Structural Model

To test our hypotheses, we specified a structural model with the hypothesized pathways. Figure 2 depicts our final structural model and includes all the standardized path coefficients. This model yielded a good fit to the data ($SBS-\chi^2(155) = 437.11, p < .001, CFI = .94, RMSEA = .06, SRMR = .08$). In examining fit relative to the measurement model, $\Delta CFI (.008), \Delta RMSEA (.002),$ and $\Delta SRMR (.013)$ at three decimal places yielded differences smaller than the recommended critical values, supporting the adequacy of this structural model. Altogether, the predictors accounted for 55.3% of the variance in organizational commitment, and 43.3% of the variance in withdrawal cognitions.³

Insert Figure 2 about here

Hypothesis Testing

In light of the bifactor-ESEM representation of need satisfaction, we first report results relating to the global need satisfaction factor as hypothesized, followed by an additional section on results for the specific need factors.

Global Need Satisfaction. Interns who reported experiencing more institutionalized socialization tactics also tended to report relatively higher levels of global need satisfaction, $\beta = .120, p < .05,$ supporting Hypothesis 1. The indirect effect of institutionalized socialization to organizational commitment, through global need satisfaction, was significant, $\beta = .080,$

³ Given that we measured need satisfaction, organizational commitment, and withdrawal cognitions at the same time, we examined an alternative structural model where we reversed the causal order of the mediators and dependent variables. This model yielded a significantly poorer fit to the data, providing further support for our pathways hypothesizing need satisfaction to explain the relationship between predictors and outcomes.

95% CI [.018, .141], supporting Hypothesis 2a. The indirect effect of institutionalized socialization tactics on withdrawal cognitions, via global need satisfaction, also was significant, $\beta = -.055$; 95% CI [-.098, -.011], supporting Hypothesis 2b.

Hypothesis 3 was supported as supervisor autonomy support was positively related to global need satisfaction, $\beta = .475$, $p < .001$. The indirect effect from supervisor autonomy support to organizational commitment through global need satisfaction was significant, $\beta = .315$; 95% CI [.242, .388], supporting Hypothesis 4a. Finally, the indirect effect from supervisor autonomy support to withdrawal cognitions via global need satisfaction also was significant, $\beta = -.216$; 95% CI [-.276, -.156], supporting Hypothesis 4b.

Specific Need Satisfaction Factors. Institutionalized tactics positively related to participants' relatedness not accounted for by global need satisfaction, $\beta = .128$, $p < .05$, but was negatively related to the autonomy S-factor, $\beta = -.232$, $p < .001$. Supervisor autonomy support was positively related to participants' autonomy need satisfaction, $\beta = .303$, $p < .001$. There were no significant indirect effects between the predictors and outcomes via the specific need factors.

Exploratory Moderation Analysis

To assess the potential interactive effects of institutionalized tactics and supervisor autonomy support on need satisfaction, we conducted an exploratory, *post hoc* moderator analysis⁴. To this end, we specified an interaction term between institutionalized tactics and supervisor autonomy support using the XWITH command in Mplus, and regressed the G-factor and the three S-factors on the interaction factor in addition to the institutionalized tactics and supervisor autonomy support factors. We found a significant negative interaction between the two on global need satisfaction, $\beta = -.084$, $SE = .042$, $p < .05$, with the plot displayed in Figure 3. The results suggest that institutionalized tactics have a weaker

⁴ We would like to thank an anonymous reviewer for suggesting this *post hoc* analysis.

1 relationship to general need satisfaction when supervisor autonomy support is stronger. There
2 were no significant interactions between supervisor autonomy support and institutionalized
3 tactics on the specific need factors.
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10 Insert Figure 3 about here
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14 Discussion

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16 We investigated socialization tactics and supervisor autonomy support as key levers to
17 improve organizational commitment and reduce withdrawal cognitions through their positive
18 impact on newcomers' psychological need satisfaction. Reports from two waves of data
19 collection from a large sample of MBA interns supported our proposed self-determination
20 model of socialization. More specifically, institutionalized tactics and supervisor autonomy
21 support, experienced prior to mid-internship, led to affective commitment and intentions to
22 stay in the organization at the conclusion of the internship, after controlling for pre-entry
23 intentions to remain. These relations were explained through the global satisfaction of needs
24 for autonomy, competence, and relatedness.
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39 Our findings extend previous research on newcomer adjustment in the socialization
40 process, particularly around the advantages of institutionalized tactics over individualized
41 tactics. The positive influence of institutionalized tactics on global need satisfaction suggests
42 that socializing newcomers in a more structured fashion such as providing information
43 through formal channels, helping newcomers learn their roles in a practical sequence, and
44 providing positive social feedback that affirms their competencies and personal
45 characteristics likely provided a social-contextual environment in which their psychological
46 needs for competence, relatedness, and autonomy were met. Less emphasis on
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1 institutionalized tactics (i.e. more emphasis on individualized tactics) on the other hand, did
2 not provide sufficient support for newcomers' psychological needs in general.
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5 Whilst our findings largely support previous research in this regard, results also
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7 revealed a negative association between institutionalized tactics and the specific autonomy S-
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9 factor not accounted for by global need satisfaction. A reasonable interpretation of this
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11 finding is that individualized tactics supported unique variance in autonomy not accounted
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13 for by global need satisfaction, possibly by encouraging newcomers to question the status quo
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15 and to develop their own unique approach to their roles. This result, however, should be
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17 interpreted with caution due to the relatively low specific factor loadings and small
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19 uniqueness that the autonomy S-factor carried. Nevertheless, it represents a novel finding that
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21 suggests, pending further investigation and replication, a paradoxical effect of
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23 institutionalized versus individualized tactics on autonomy. Specifically, while
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25 institutionalized tactics largely supported newcomers' need satisfaction for autonomy in
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27 conjunction with competence and relatedness (seen in global need satisfaction), a highly
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29 structured and orderly socialization experience may also have slightly thwarted employees'
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31 sense of autonomy in the socialization process (seen in the specific autonomy need). Put
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33 differently, while individualized tactics did not support newcomers' overall psychological
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35 needs, they may also have supported some level of autonomy. We discuss this in more detail
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46 Results further indicated that supervisor autonomy support significantly contributed to
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48 the satisfaction of psychological needs, which in turn predicted increased affective
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50 commitment and decreased withdrawal cognitions at the end of the internship. Prior research
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52 has demonstrated a spillover effect of newcomers' relational identification with their
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54 supervisors to their own organizational identification (Sluss, Ployhart, Cobb, and Ashforth,
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56 2012). We extend this finding by showing how supervisors' embodying specific behaviors
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1 can also have strong, positive influences on newcomers' commitment towards and intentions
2 to stay within the organization. Indeed, supervisor autonomy support exhibited a stronger
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4 positive influence on newcomer need satisfaction than institutionalized tactics as indicated by
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6 the larger standardized beta weight.⁵
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10 Interestingly, our *post hoc* moderation analysis suggests that newcomers'
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12 psychological needs were more likely to be satisfied when they experienced higher levels of
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14 supervisor autonomy support, regardless of whether they were socialized using low (i.e.
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16 individualized) or high institutionalized tactics This finding highlights that supervisor
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18 autonomy support serves as an important, albeit overlooked relational mechanism in shaping
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20 positive socialization experience and outcomes. The interaction effect suggested that
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22 institutionalized tactics had a weaker relationship to psychological need satisfaction when
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24 supervisors were perceived as autonomy supportive; however when newcomers experienced
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26 lower levels of supervisor autonomy support, institutionalized tactics had a more positive
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28 influence on global need satisfaction. We do recommend caution in interpreting these results
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30 as this was a *post hoc* analysis, the *p*-value (.043) was close to the alpha level (.05), and we
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32 tested four moderators (raising the risk of Type I errors).
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40 Nonetheless, the moderation result may shed additional light on the mixed body of
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42 findings on interactions between relational and structural antecedents of socialization,
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44 specifically that “the use of institutionalized tactics does not always produce synergetic
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46 interactions with the relational drivers of adjustment” (Nasr, El Akremi, and Coyle-Shapiro,
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48 2019, p.771). We found a negative interaction term where supervisor autonomy support
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50 substituted for institutionalized socialization and did not produce synergistic effects in
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57 ⁵ Following the suggestion of an anonymous reviewer, we conducted Relative Weights Analysis to test for the
58 unique and relative contribution of our predictors on newcomers' psychological need satisfaction. Consistent
59 with our discussion, supervisor autonomy support was a stronger predictor as it explained more variance in
60 global need satisfaction than institutionalized tactics. Full results are reported in detail in the supplementary
61 document.
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1 influencing newcomers' global need satisfaction. This was surprising as research in
2 educational settings shows autonomy support and structure as complementary, rather than
3 antagonistic, with engagement-fostering instructional styles (Jang et al., 2016). We encourage
4 further study of the interdependencies and interactions between structural and relational
5 antecedents of newcomer adjustment to include autonomy support as a valuable predictor of
6 socialization. Autonomy support as defined by SDT differs from permissiveness and neglect
7 (i.e. lack of structure or involvement; Moreau & Mageau, 2012). Research to disentangle the
8 interplay between autonomy support and structured entry experiences will add theoretical and
9 practical contributions to our understanding of the newcomer socialization process.
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21 **Theoretical Implications and Future Directions**

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24 Our findings add to the socialization literature in several ways. First, we found
25 psychological need support as a key mediating mechanism of newcomer adjustment,
26 demonstrating the importance of psychological need satisfaction in this critical phase of
27 organizational life. We offer SDT as a new lens for explaining newcomer adjustment by
28 focusing on psychological need satisfaction—a prerequisite for high quality motivation,
29 enhanced performance, and well-being—as a proximal outcome. By organizing the
30 commonly used indicators of newcomer adjustment (i.e., task mastery, self-efficacy, and
31 social integration) and accounting for newcomers' need for autonomy under an established
32 motivational framework, SDT provides a fitting framework to enhance our understanding of
33 the proximal outcomes of socialization by focusing on psychological states that can increase
34 newcomers' commitment and decrease withdrawal cognitions. That is, SDT provides a novel
35 lens to re-envision proximal socialization outcomes as psychological states of basic need
36 fulfillment. Basic fulfillment of these needs, according to SDT, should provide benefits that
37 go beyond the distal outcomes measured in this study.
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Second, our results extend the role of institutionalized tactics as addressing newcomers' overall psychological need satisfaction. On the other hand, the finding that individualized tactics also may satisfy certain aspects of the specific need for autonomy by allowing newcomers to shape their own socialization experience is reflected through the negative association of institutionalized tactics on the specific autonomy need factor.

Third, in line with prior research, our study highlights the critical role that supervisors play as socializing agents on adjustment, particularly via satisfying newcomers' psychological needs. Importantly, our results suggest supervisor autonomy support had a stronger influence on newcomers' adjustment- as indicated by psychological need satisfaction- compared to organizational tactics. Indeed, our *post hoc* moderation analysis showed institutionalized tactics were less important to newcomers' need satisfaction when they reported high levels of supervisor autonomy support.

This initial investigation of psychological need satisfaction as a mediating mechanism in the organizational socialization process also opens up several additional interesting research avenues. To date, research has overlooked the role of motivational quality in understanding newcomer socialization. Though we did not directly measure the various regulatory processes (i.e. amotivation, external, introjected, identified, and intrinsic; see Gagné et al., 2015) that range from controlled to autonomous motivational quality, according to SDT, basic need satisfaction is a psychological state that facilitates individuals' autonomous motivation. Our findings suggest that structured organizational entry experiences (i.e., institutionalized tactics) and autonomy supportive supervision during newcomers' socialization experiences independently satisfy basic psychology needs that—according to SDT—foster autonomous motivational processes that drive adaptive behavior. Future research should examine the role of socialization experiences on newcomers' motivational orientations as theorized by SDT. Such empirical examination will allow a deeper

1 understanding of the development of autonomous, or controlling, motivation within
2 employees from the start of the employment relationship.
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5 Whilst the nature of our study and data somewhat limits the extent to which we can
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7 develop a nuanced understanding of the role of autonomy in the socialization process, we
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9 recommend future research to investigate the dynamics of the need for autonomy as an
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11 outcome of socialization practices and the role it plays in facilitating or hindering
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13 newcomers' adjustment. For example, how would the increased use of technology and self-
14
15 guided learning influence newcomers' autonomy? Over-reliance on technology, for instance,
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17 may thwart newcomers' relatedness needs. Could there be a sequencing-of-needs effect
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19 during the socialization process? It may be possible that tactics that overemphasize
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21 newcomers' autonomy needs during the immediate entry period may not enable effective
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23 socialization; rather, the need for autonomy may become more relevant over time, as
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25 newcomers feel more competent and relationally connected in their roles. This suggest a
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27 potential sequencing during entry that focuses on competence and relatedness needs, with a
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29 gradual increase in emphasis on autonomy needs as newcomers begin to adjust to their new
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31 work role. Research using intensive longitudinal or experimental methods may help answer
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33 these research questions.
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41 Building on the above, there is a growing body of work on need frustration and
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43 thwarting (Gillet, Fouquereau, Forest, Brunault, & Colombat, 2012; Vander Elst, Van den
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45 Broeck, De Witte, & De Cuyper, 2012). Distinct from an absence of need satisfaction, need
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47 frustration is experienced when basic needs are thwarted within social contexts (Gillet et al.,
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49 2012). More specific investigations of the role that structural and relational socialization
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51 antecedents play in newcomers' need satisfaction *and* frustration may better inform our
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53 theoretical understanding of the inner workings of the adjustment process, such as
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1 disentangling the paradoxical effect of socialization tactics on need for autonomy, as well as
2 the potential staging of needs.
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4 A major advantage of incorporating SDT into a model of organizational socialization is
5 that it provides theoretical ground for understanding how socialization efforts may relate to
6 many other critical, yet understudied, outcomes of the process, such as newcomer wellbeing
7 and innovative behaviors. According to SDT, satisfaction of these basic psychological needs
8 constitutes the central psychological process through which people experience psychological
9 growth and greater well-being (Deci & Ryan, 2000). Conversely, thwarting of these
10 psychological needs yields alienation, diminished motivation, and ill-being (Ryan & Deci,
11 2000).
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24 Role innovativeness is also an outcome of socialization that requires more research
25 attention (Bauer et al., 2007). There is some evidence that more institutionalized tactics may
26 reduce role innovation (Jones, 1986, Allen & Meyer, 1990). Given that intrinsic motivation is
27 a critical ingredient for creativity (Amabile, 1998), innovation suffers when work
28 environments do not support autonomy (Amabile, Conti, Coon, Lazenby, & Herron, 1996).
29 Our finding that individualized tactics supported unique variance in autonomy need
30 satisfaction provides further suggest SDT may offer a useful framework to examine the
31 relation between socialization and newcomers' innovative behaviors.
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43 **Study Limitations**

44 Our contributions should be considered in light of several study limitations. Given that
45 our sample was comprised of MBA interns, generalizing our results to other newcomer
46 populations may be limited. For this reason, we measured newcomers' adjustment outcomes
47 at relatively earlier and shorter time periods than typical socialization studies, where
48 researchers have tended to collect information at 6 months, 9 months, and 1 year intervals
49 following entry for distal outcomes (Bauer et al., 2007). Despite this, our study generated
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1 findings that could apply to various employment relationships including professional
2 internship programs, contingent work arrangements, and full-time jobs with probationary
3 entry periods for new employees—especially since the internships in our sample typically are
4 viewed as recruiting experiences that may lead to permanent employment. Furthermore, a
5 recent review of socialization (and mentoring) research noted that “the way in which we
6 define and operationalize socialization may need to evolve as socialization processes become
7 more short term with more rapid life cycles” (Allen, Eby, Chao, & Bauer, 2017, p.334),
8 suggesting a need to capture ‘quicker’ socialization processes - what HR practitioners
9 sometimes call “rapid onboarding”.

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22 This study employed self-reports, commonly seen as a study limitation as it raises
23 concerns of common method bias and the accuracy of respondents’ perceptions (Podsakoff,
24 Mackenzie, Lee, & Podsakoff, 2003). The data were collected over two time periods
25 separated by 5-7 weeks and via different scale anchors between variables as steps to reduce
26 such potential bias. Furthermore, in the context of socialization research, “accommodation
27 and affective outcomes seem most appropriately assessed by the newcomer; for example, no
28 other person can more accurately assess how accepted a newcomer feels” (Bauer & Green,
29 1994: 220). Nevertheless, future studies should seek to include multiple sources of data not
30 only to mitigate such bias, but also to contribute different perspectives and meaningful
31 insights to newcomer adjustment. These sources can include those from managers, peers, and
32 objective measures such as absenteeism and actual turnover data.

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49 We also recognize that existing socialization research acknowledges the important role
50 that employees can play in the organizational entry process, especially through proactively
51 seeking information and networking with insiders (Ashford & Black, 1996; Bauer & Green,
52 1998; Wanberg & Kammeyer-Mueller, 2000). Although we did not test this interactionist
53 approach in our study, future research could extend our findings by examining the role of
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1 newcomer proactivity. An SDT approach fits well with the proactive tactics literature as
2 being proactive, by definition, involves self-regulated efforts (Parker, Bindl, & Strauss,
3 2010). This is particularly relevant should future research examine the role of autonomous
4 versus controlled motivation for newcomers. In contrast to controlled forms of proactivity,
5 autonomously motivated newcomer proactivity should lead to more effective change and goal
6 attainment, as well as enabling the satisfaction of psychological needs which in turn
7 contributes to a virtuous self-reinforcing cycle of sustained proactivity (Strauss & Parker,
8 2014).

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19 Finally, the scale items used in the current study did not allow for a complete separation
20 of the three psychological needs, or provide *strong* unique variance for each of the specific
21 factors (i.e. competence) after accounting for global need satisfaction. This could stem from
22 the nature of the scale (seen in other studies e.g. Johnson & Finney, 2010), or possibly having
23 too few items restricted by field study considerations. Future studies could consider using a
24 different and more comprehensive scale that consistently distinguishes the three needs (Van
25 den Broeck et al., 2010). This will allow a more in-depth examination of the contribution of
26 each need, and thus the mechanisms by which they may explain variance in distinct
27 socialization outcomes.
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41 **Practical Implications**

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43 Organizations that can fast-track the transition and integration of new hires into their
44 roles are at a competitive advantage because they can start benefiting from the newly hired
45 employees and their accompanying skills and knowledge sooner (Perrot et al., 2016). Our
46 results show that organizations that ensure a proper integration that is rooted in self-
47 determined behavior, indicated by need satisfaction, are likely to benefit immensely in the
48 form of employee commitment and retention. Employers should evaluate how currently
49 employed socialization tactics and entry experiences may satisfy or thwart newcomers'
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psychological needs for autonomy, competence, and relatedness. For example, in the absence of mentors or previous incumbents for the specific role, it is important to look at other means to satisfy newcomers' relatedness, such as the assignment of an informal buddy, or even organizing casual 'coffee catch-ups' with a few team members to help the new hire feel relationally connected.

In addition, organizations increasingly are leveraging information and communication technologies in human resources and socialization practices. Such technology-based socialization experiences including web-based orientations and virtual learning modules are typically defined by their self-management features, thereby representing more individualized than institutionalized tactics (Gruman & Saks, 2018). Organizations should be cautious of the negative consequences of these tactics on newcomers' needs, and by extension, their commitment towards the organization. When employing technology-based socialization tactics, it is important for organizations to focus on maintaining an environment in which newcomers' needs for competence, relatedness, and autonomy can be met by for example, strategically implementing institutionalized forms of e-learning rather than defaulting to its typical individualized forms. As suggested by Gruman and Saks (2018), possible approaches to this include ensuring that newcomers who undergo online training are given the opportunity to discuss learnings collectively with others, and providing new employees with online mentors to coach them and affirm their individual identities and competencies.

From a managerial perspective, our findings underscore the significance of an autonomy supportive approach in satisfying newcomers' need satisfaction and facilitating newcomers' adjustment. That is, providing newcomers with supervisor support that involves choice and a rationale for completing work tasks, acknowledging employees' perspectives and feelings, and encouraging participation and initiation, goes a long way in making employees feel committed and wanting to stay in an organization. Furthermore, given the

1 negative interaction between institutionalized tactics and supervisor autonomy support on
 2 global need satisfaction, companies that do not have the resources to implement highly
 3 institutionalized socialization tactics, or those who adopt individualized socialization should
 4 prioritize efforts to better equip managerial personnel to facilitate the transition of
 5 newcomers. Accordingly, organizations should train (Hardré & Reeve, 2009) and encourage
 6 supervisors who are responsible for newcomers to be autonomy supportive to enhance
 7 newcomers' socialization experiences and integration.
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16 **Conclusion**

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 18 Our findings provide unique and meaningful insight into the organizational
 19 socialization process. To our knowledge, this is the first empirical study to test and
 20 demonstrate the role of psychological need satisfaction in newcomer socialization, thereby
 21 extending both organizational socialization and self-determination theory research. Our
 22 findings suggest need satisfaction, and motivation by extension, as practical and appropriate
 23 mechanisms to explain newcomer adjustment and socialization outcomes. Accordingly, we
 24 expect future efforts in this line of research to be fruitful and beneficial for both
 25 organizational theory and practice.
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Table 1.

Means, Standard Deviations, and Correlations between Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
Survey 1										
1. Institutionalized Tactics	3.60	0.79	(.89)							
2. Supervisor Autonomy Support	4.77	0.96	.38***	(.93)						
Survey 2										
3. Global Need Satisfaction factor	5.38	1.04	.30***	.51***	(.91)					
4. Autonomy S-factor	5.45	1.20	-.14**	.18***	-	(.81)				
5. Competence S-factor	5.20	1.16	-.02	-.12**	-	-	(.82)			
6. Relatedness S-factor	5.49	1.15	.12*	.02	-	-	-	(.83)		
7. Organizational Commitment	3.34	0.96	.32***	.44***	.67***	-.08*	-.23***	.16***	(.90)	
8. Withdrawal Cognitions	3.20	1.05	-.43***	-.31***	-.48**	.13**	.21***	-.10*	-.63***	(.80)
Control										
9. Job Acceptance Intentions	4.58	1.12	.16**	.04	.09*	-.12**	-.02	-.05	.16*	-.43**

Note. $N = 489$. S-factor = bifactor-ESEM-derived specific factor not accounted for by global need satisfaction. Numbers in parentheses represent coefficient alpha reliability. Time lag between Survey 1 and Survey 2 is 5-6 weeks.

* $p < .05$. ** $p < .01$. *** $p < .001$.

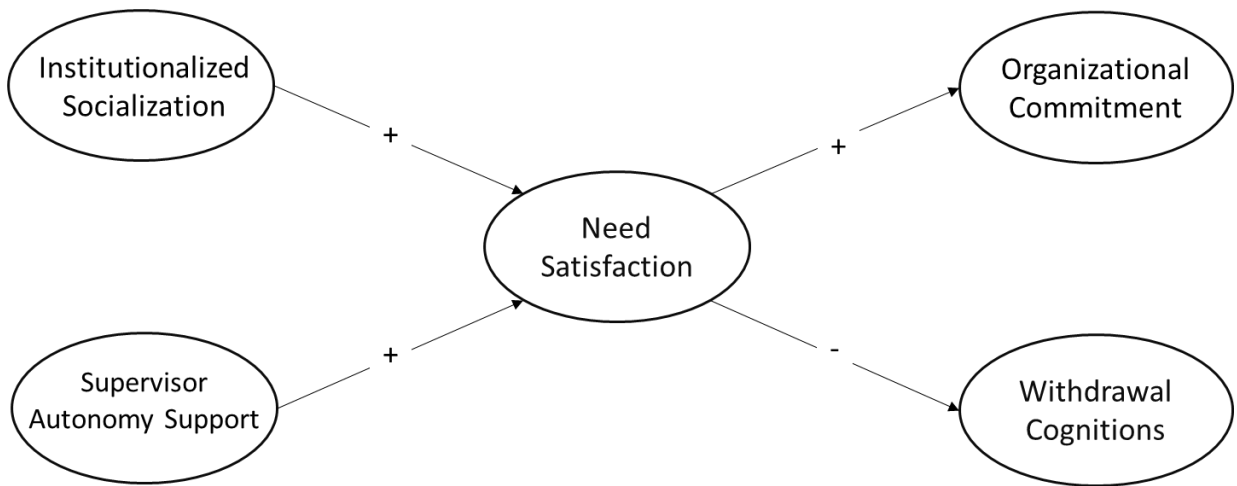


Figure 1. Hypothesized model.

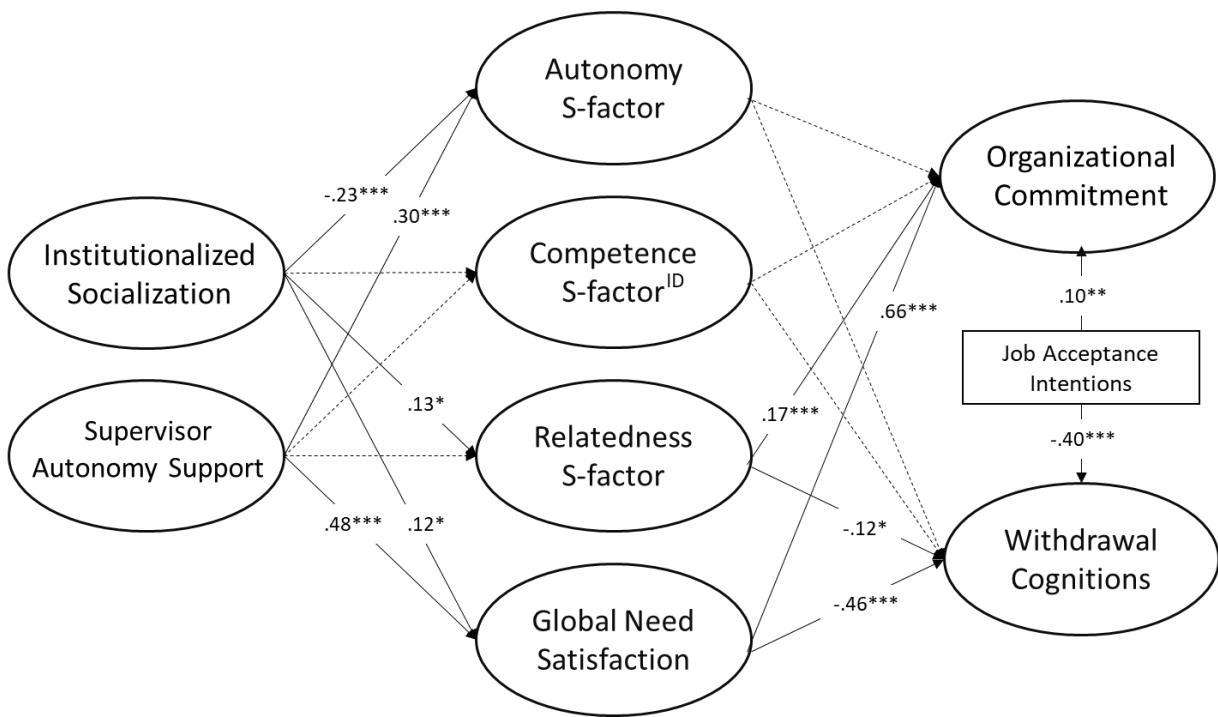


Figure 2. Final Structural Model with Standardized Path Coefficients.

Note. * $p < .05$. ** $p < .01$. *** $p < .001$. ID = Ill-defined factor. Dotted lines represent non-significant path coefficients.

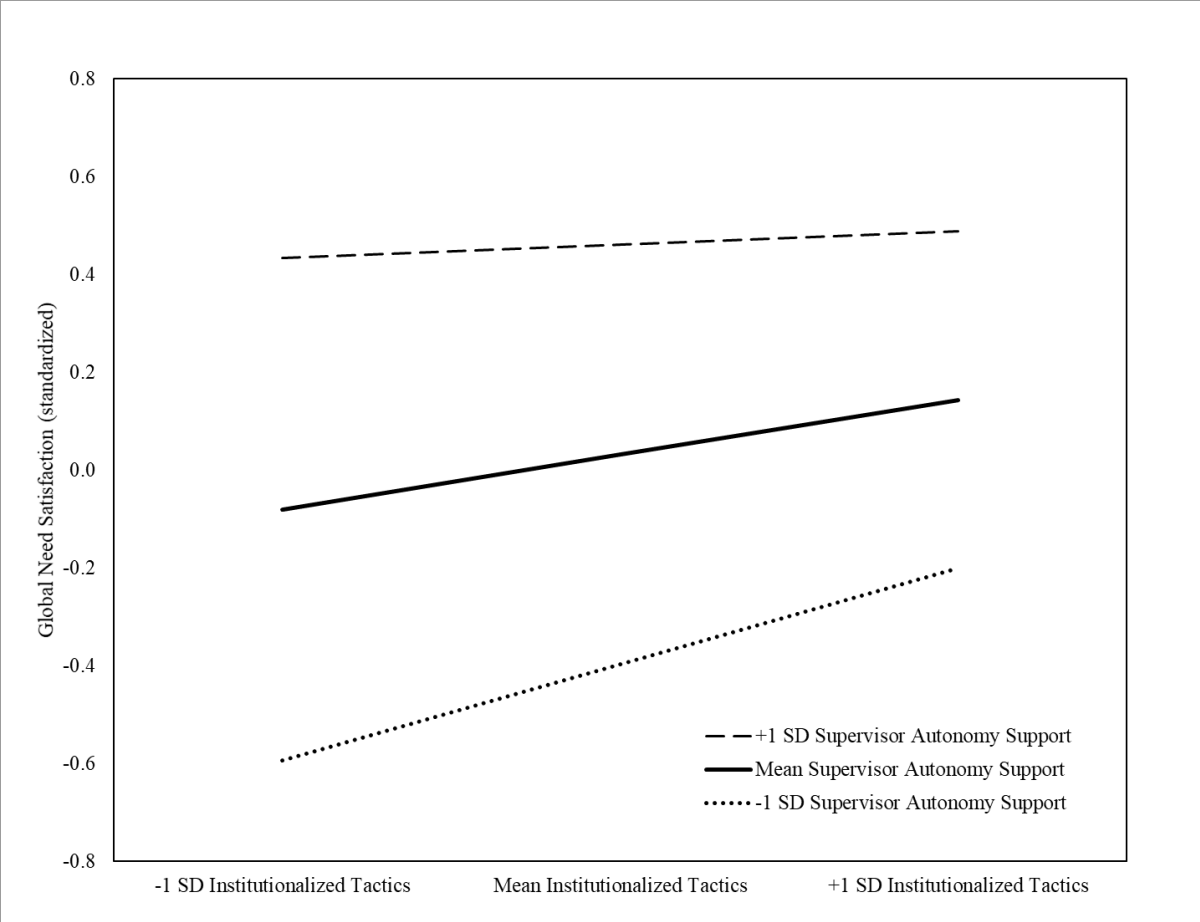


Figure 3. Post hoc interaction plot for the moderating effect of supervisor autonomy support on the relationship between organizational socialization tactics and global need satisfaction.

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Online Supplemental Document for:

Satisfying Newcomers' Needs:

The Role of Socialization Tactics and Supervisor Autonomy Support

Journal of Business and Psychology

Author's note:

These online appendices are to be posted on the journal website and hot-linked to the manuscript.

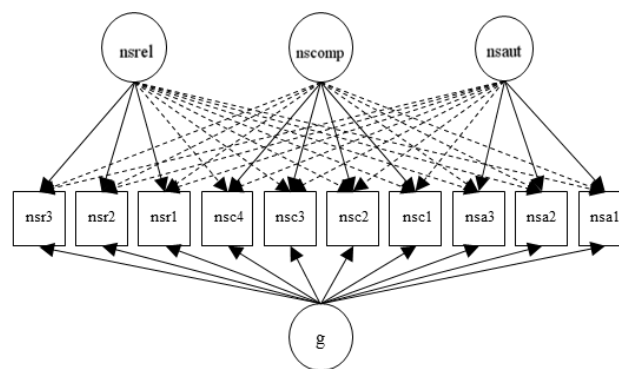
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Table S1.

Factor loadings for need satisfaction items derived from a bifactor-Exploratory Structural Equation measurement model

Items	Global Need Satisfaction		Autonomy		Competence		Relatedness	
	λ	SE	λ	SE	λ	SE	λ	SE
	Autonomy1	.708	.030	.495	.088	<i>.088</i>	.048	<i>.119</i>
Autonomy2	.660	.035	.347	.063	<i>.053</i>	.065	<i>-.054</i>	.036
Autonomy3	.668	.039	.288	.082	<i>-.059</i>	.047	<i>.146</i>	.054
Competence1	.664	.058	<i>-.019</i>	.051	.318	.165	<i>-.151</i>	.048
Competence2	.723	.072	<i>.013</i>	.086	.447	.108	<i>.060</i>	.066
Competence3	.775	.038	<i>-.180</i>	.037	.262	.166	<i>-.103</i>	.048
Competence4	.832	.026	<i>.023</i>	.042	-.074	.126	<i>.095</i>	.046
Relatedness1	.739	.031	<i>.024</i>	.035	<i>-.061</i>	.036	.486	.052
Relatedness2	.661	.036	<i>.091</i>	.045	<i>.148</i>	.035	.515	.057
Relatedness3	.633	.049	<i>.072</i>	.073	<i>-.175</i>	.047	.331	.066
$\omega_h(s)$.869		.194		.091		.257	

Notes. λ = standardized factor loadings; SE = standard errors; $\omega_h(s)$ = omega hierarchical composite reliability (subscale) ; bold = target factor loadings. Non-significant parameters ($p > .05$) are marked in italics.



Bifactor-ESEM

Figure S1. Graphical representation of the Bifactor-ESEM model retained for the study. Ovals and squares represent latent factors and observed items, respectively. Full unidirectional arrows linking ovals and squares represent the main factor loadings. Dotted unidirectional arrows linking ovals and squares represent the cross-loadings.

Table S2.

Standardized factor loadings for need satisfaction items for the CFA, ESEM, and Bifactor-CFA solutions

Items	CFA	ESEM			Bifactor-CFA	
	λ	AS λ	CS λ	RS λ	G λ	S λ
Autonomy1	.838	.554	.122	.271	.719	.555
Autonomy2	.733	.493	.327	.012	.650	.319
Autonomy3	.751	.313	.216	.312	.677	.242
Competence1	.667	.389	.477	<i>-.129</i>	.635	.228
Competence2	.734	.426	.253	.173	.745	.620
Competence3	.716	<i>-.263</i>	.904	.102	.740	<i>-.187</i>
Competence4	.830	.138	.768	<i>-.020</i>	.829	<i>-.082</i>
Relatedness1	.890	<i>-.015</i>	.067	.854	.737	.580
Relatedness2	.817	.198	<i>-.131</i>	.808	.678	.408
Relatedness3	.719	<i>-.032</i>	.185	.598	.629	.311

Notes. λ = standardized factor loadings; bold = target factor loadings; AS = autonomy satisfaction; CS = competence satisfaction; RS = relatedness satisfaction; CFA = Independent cluster model where each item was only allowed to load on the factor it was assumed to measure and no cross-loadings on other need satisfaction factors were allowed; ESEM = Exploratory structural equation modelling where all items were allowed to load on their a priori need factors and all cross-loadings were freely estimated but targeted to be as close to zero as possible; Bifactor-CFA = all items were allowed to simultaneously load on one global need satisfaction factor and on their corresponding specific factor, with no cross-loadings nor factor correlations across specific need factors. Non-significant parameters ($p > .05$) are marked in italics.

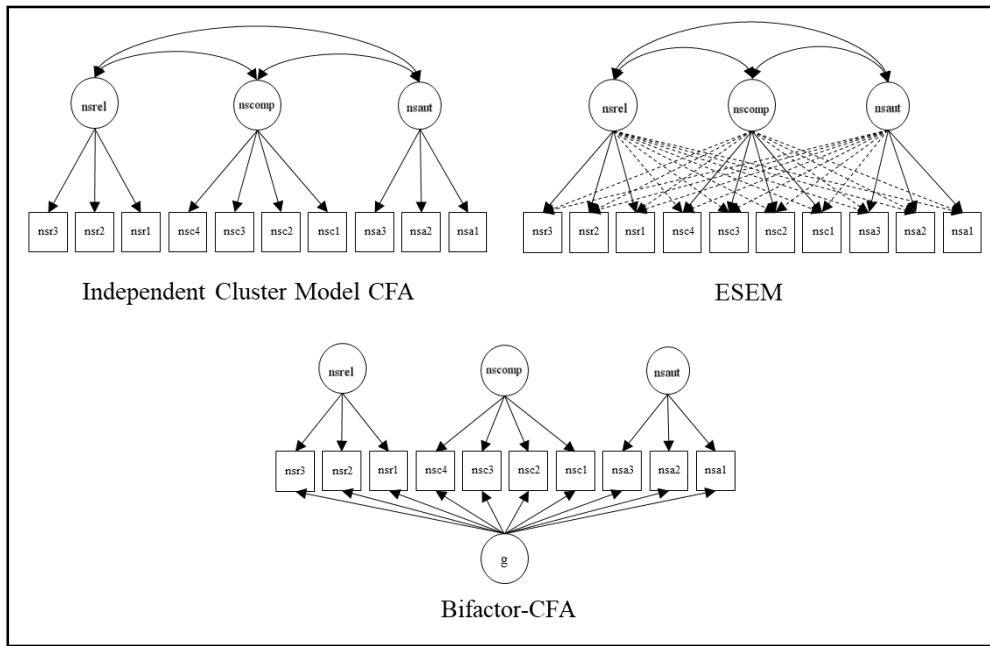


Figure S2. Graphical representation of the alternative models considered in this study. Ovals and squares represent latent factors and observed items, respectively. Full unidirectional arrows linking ovals and squares represent the main factor loadings. Dotted unidirectional arrows linking ovals and squares represent the cross-loadings.

Table S3.

Indirect effects of Institutionalized Socialization Tactics and Supervisor Autonomy Support on Organizational Commitment and Withdrawal Cognitions

Indirect Effects	B	SE	L95%CI	U95%CI
<i>Institutionalized Socialization Tactics on</i>				
Organizational Commitment through				
Global Need Satisfaction	0.080	0.031	0.018	0.141
Autonomy S-factor	0.014	0.009	-0.003	0.032
Competence S-factor	-0.002	0.013	-0.027	0.024
Relatedness S-factor	0.021	0.011	-0.001	0.043
Withdrawal Cognitions through				
Global Need Satisfaction	-0.055	0.022	-0.098	-0.011
Autonomy S-factor	-0.019	0.011	-0.041	0.003
Competence S-factor	0.001	0.011	-0.021	0.023
Relatedness S-factor	-0.016	0.010	-0.036	0.005
<i>Supervisor Autonomy Support on</i>				
Organizational Commitment through				
Global Need Satisfaction	0.315	0.037	0.242	0.388
Autonomy S-factor	-0.019	0.010	-0.039	0.002
Competence S-factor	0.020	0.015	-0.009	0.050
Relatedness S-factor	-0.005	0.011	-0.016	0.025
Withdrawal Cognitions through				
Global Need Satisfaction	-0.216	0.031	-0.276	-0.156
Autonomy S-factor	0.025	0.014	-0.003	0.053
Competence S-factor	-0.018	0.013	-0.044	0.008
Relatedness S-factor	0.004	0.008	-0.019	0.017

Note. $N = 489$. Significant indirect pathways indicated by bold texts.

Table S4.

Relative Importance of Institutionalized Socialization and Supervisor Autonomy Support on Need Satisfaction

Predictor	Relative Weight	95% CI	Rescaled Relative Weight (%)
Criterion: Global Need Satisfaction ($R^2 = .282$)			
Institutionalized Tactics	.057	.027, .096	20.227
Supervisor Autonomy Support	.225	.155, .297	79.773
Criterion: Autonomy-Specific ($R^2 = .080$)			
Institutionalized Tactics	.025	-.010, .056	31.715
Supervisor Autonomy Support	.055	.007, .105	68.285
Criterion: Competence-Specific ($R^2 = .009$)*			
Institutionalized Tactics	.001	-.008, .011	7.639
Supervisor Autonomy Support	.008	-.003, .047	92.361
Criteria: Relatedness-Specific ($R^2 = .019$)			
Institutionalized Tactics	.016	.001, .050	81.513
Supervisor Autonomy Support	.004	-.001, .028	18.487

Note. CI = confidence interval. *This factor was poorly-defined as it did not meet criteria as a distinct interpretable dimension of need satisfaction in this study.

We conducted relative weights analyses (RWA; Johnson, 2000) to further investigate the relative importance of institutionalized tactics and supervisor autonomy support in our model. RWA calculates both raw and rescaled relative weights; raw weights reflect the proportion of variance explained in an outcome that is attributed to each of the predictors, and its rescaled variant reflects the percentage of explained variance that is accounted for by the predictors. The analyses were conducted using RWA-Web (Tonidandel & LeBreton, 2015) and results are summarized in the table above. Based on Tonidandel, LeBreton, and Johnson (2009)'s recommendations, confidence intervals for the individual relative weights and all corresponding significance tests were based on bootstrapping with 10,000 replications. In all cases, 95% bias corrected and accelerated confidence intervals (CI) were used (corresponding to a significance testing alpha level of 0.05). The results indicate that a weighted linear combination of our two predictor variables explained roughly 28% of the variance in the global need satisfaction criterion and roughly 26% of the variance for organizational commitment and withdrawal cognition respectively. An examination of the relative weights revealed that both institutionalized tactics and supervisor autonomy support explained a statistically significant amount of variance in global need satisfaction as the 95% CIs for the tests of significance did not contain zero. Supervisor autonomy support appeared to be the more important in explaining variance in global need satisfaction and the specific autonomy need factor. On the other hand, institutionalized socialization tactics appeared to account for relatively more of the total variance explained in the specific relatedness need factor.

All in all, the relative weight results further support the findings obtained from the SEM. Specifically, both set of results point to the importance of supervisor autonomy support in influencing interns' global satisfaction of needs when compared with institutionalized tactics.