

Inclusion of College Community in the Self: A Longitudinal Study of the Role of Self-Expansion
in Students' Satisfaction

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ABSTRACT

Consistent with predictions derived from the self-expansion model, this three-year longitudinal study found that: participation in more college groups during sophomore year predicted increases in inclusion of the college community in the self at the end of junior year, which further predicted increases in satisfaction with the college experience at the end of senior year (full mediation). This study offers college community connectedness as a theoretically-grounded mechanism to explain why extra-curricular involvement is such an important piece of the college experience, confirming what student affairs professionals already know: connectedness matters.

Keywords: college satisfaction, inclusion of community in the self, connectedness, self-expansion model, student involvement

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Social relationships define who we are. They “influence the type of people we are, the things we do, the attitudes and values we hold, and the way we perceive and react to people around us” (Hogg, 2003, p. 462). The college experience is impactful, in part, because it provides students an opportunity to form many relationships, including those with peers, teachers, mentors, and career contacts (Colvin & Ashman, 2010; Frazier & Eighmy, 2012; Lee, Keough, & Sexton, 2002). The current study examines how students can also form an important and powerful relationship with the college community itself, one that might promote satisfaction with their college experience. College students have opportunities to involve themselves in new academic and social contexts, and in doing so, have unique relational and developmental experiences. Examining the formation and function of students' relationships with their college community will provide the higher education field with insight into the psychosocial development of their students and inform the study of relationship processes across contexts. Building on the theoretical framework and methodological traditions provided by the self-expansion model (Aron & Aron, 1986; Aron, Aron & Smollan, 1992), the current research aims to contribute to the higher education literature at several intersections: it connects the self-expansion model to the existing student development literature, especially regarding identity development and self-efficacy; it also integrates the model with the college impact literature regarding student involvement.; and finally, it seeks to elucidate the relationships between identity development, student involvement, and college satisfaction by examining how the process of self-expansion operates within those relationships.

Identity Development

The formation of identity is one of the hallmark psychosocial developmental tasks of college-aged students. Much of the student development literature references the foundational

theory espoused by Erikson (1968, 1980) that purports that development takes place across the life span within a series of age-related sequential stages. Erikson holds that resolving the issue of identity is important work of college-aged students. For Erikson, identity is shaped by how one organizes and interprets experiences within the environment that surrounds oneself, one's context (Erikson, 1968, 1980). Building on Erikson's theory, Chickering (1969) proposed and then revised with Reisser (1993), a theory of identity development that was less linear than Erikson's, but continued to hold that an important component of college students' development was establishment of identity. As the college population has expanded and diversified, so have theories relating to identity development. With the foundational theories as a base, modern theories of identity development in college students have evolved to become more inclusive, nuanced, and interdisciplinary (see Bilodeau & Renn, 2005; Delgado, 2002; Delgado & Stefancic, 2001; Zambrana & Dill, 2009). Recent studies have focused on the intersectionality of identity development acknowledging students many roles, expectations, and beliefs (Josselson, 1996; Zambrana & Dill, 2009). The prism of power and privilege has added new a new lens to the study of identity, especially as it is experience by marginalized populations (Abes, 2009; Jones & Abes, 2013).

However, regardless of the context and content of individual theories, the basic question of "Who am I?" remains a fundamental and essential challenge facing college-aged students. The self-expansion model provides a framework that might provide insight into how students answer that question. Within the college community context, the model holds that the basic human motivation to expand one's identity, to increase one's self-efficacy by acquiring new resources, perspectives and knowledge, encourages the college student to include the college community itself into his/her identity.

College Impact Models

While identity theories suggest college-aged students should expect and welcome change and growth in their identities, college impact models look at the origins and processes of change (Pascarella & Terenzini, 2005). They examine how outcomes are affected by the environment surrounding the student including such factors as peer group experiences and the values, interests, and culture of the campus. Higher education professionals, dedicated to enhancing student development, regularly conceptualize, design, implement, and evaluate their practices to foster successful student outcomes, which are shaped by the changes experienced. Student success is measured by positive outcomes such as GPA, commitment to the institution, satisfaction with college experience, and persistence (Krumrei-Mancuso, Newton, Kim, & Wilcox, 2013; Pascarella & Terenzini, 2005). Identifying indicators that predict student success has been a priority and many studies have found student involvement to be one of the most significant (Astin, 1999; Mullin, 2012; DeBard & Sacks, 2012; Schroeder, 2000; Tinto, 1993).

The theories of Astin (1993, 1999) and Tinto (1993) examine the origins and processes of the changes students undergo throughout college and the important role of student involvement in college academic and social activities (Pascarella & Terenzini, 2005). Astin's (1999) theory of student involvement holds that students learn by becoming involved. It suggests several basic assumptions including: involvement requires an investment of psychosocial and physical energy; the amount of student learning and development is proportional to the quality and quantity of the student's involvement; and the effectiveness of any educational policy or program is directly related to its capacity to increase student involvement.

Student affairs professionals know involvement matters. Extensive research regarding involvement has been conducted in multiple settings and with multiple populations to better understand the reasons students get involved, the benefits they receive from their involvement, and the long-term outcomes of involvement on the students' futures. Studies, often based in the theory

of student involvement (Astin, 1999), have shown that the behavior of involvement promotes positive outcomes including satisfaction with the college experience. For example, participation in sports was shown to benefit academic performance (Schroeder, 2000); membership in the Greek community was demonstrated to promote retention (DeBard & Sacks, 2012); academic success of minority students was enhanced by involvement (Montelongo, 2003; Palmer, Maramba, and Holms, 2012; Museus, 2011); membership in campus religious organizations positively impacted retention (Butterfield & Pemberton, 2011); students who participated in service programs were more satisfied with their college experience (Holland & Huba, 1991); student government presidents experienced more college satisfaction (Miles, 2010); and graduate students who were involved in field-affiliated activities had increased GPA's and sense of satisfaction (Strapp & Farr, 2010).

While the theory of student involvement (Astin, 1999) allows for an active student investing physical and psychological energy into the college experience, some find the theory more of a general principle, lacking a process by which growth and change occur (Pascarella & Terenzini, 2005). The longitudinal theory of withdrawal (Tinto, 1993), also referred to as the integration model, offers such a process. The theory holds that students' integration into both formal and informal social and academic environments of their institution predicts whether they are likely to graduate from that institution. According to the theory, the student enters college with personal attributes, goals, and commitments. These characteristics are then shaped by his/her institutional experiences leading to *integration*, the extent to which the student shares similar values to the institution and abides by the structural requirements to bring the student a sense of membership in the community. Rewarding interactions lead to greater student integration in the institutional systems and thus to persistence. However, if their experiences are negative, the student can become marginalized and ultimately withdraw (Tinto, 1993, 2012).

In testing the validity of Tinto's model, researchers measured academic integration by looking at indicators such as the number of hours students studied, the number and duration of informal contact with faculty, and participation in honors programs. Psychosocial integration has been measured by looking at the number of weekends the student spent on campus, participation in organized student extra-curricular activities, resident hall activities, and participation in organized team or intramural sports, among other activities (e.g., Braxton, Doyle, Harley, Hirshey, Jones, & McLendon, 2014; French & Oakes, 2004; Halpin, 1990; Pascarella & Chapman, 1983).

Psychological Motivations behind Involvement Behavior

Observing that studies testing the psychosocial aspects of Tinto's models are predominately behavioral in focus, some researchers contend that important psychological aspects of integration should be examined. For example, when students become integrated into their institution they develop a sense of belonging to that institution. A sense of belonging has been defined as a psychological sense that one is a valued member of the college community (Hausmann, Schofield, & Woods, 2007). Psychological research has shown that the sense of belonging is a basic human need that can powerfully influence behavior (Baumeister and Leary, 1995; Deci & Ryan, 2000).

In the higher education literature a sense of belonging was tested as a stand-alone factor in institutional commitment and intention to persist in both white and African American 1st year students. It was found to have a direct effect on institutional commitment and an indirect effect on intentions to persist (Hausmann et al., 2007; Hausmann, Ye, Schofield, & Woods, 2009). In examining the impact of outside-the-classroom involvement on developing a sense of belonging, researchers found that students who were moderately or highly involved perceived a greater sense of belonging to their college community (Elkins, Forrester, Noel-Elkins, 2011). Other studies have examined closely related psychological concepts such as mattering (the belief that one matters to others in the college community; Schlossberg, 1989); and having a good institutional

fit (the extent to which a student feels they “fit in” at the university; Bean, 1985). These concepts mirror a sense of belonging.

The Self-Expansion Model

Although the studies reviewed above suggest psychological motivations for integration, the current study proposes that a different and compelling psychological need drives the integration process—the basic human need to expand one’s self—to enhance one’s potential efficacy through the acquisition of novel resources, perspectives, and identities (Aron, Lewandowski, Mashek, & Aron, 2013).

Originally crafted to explain the dynamic enhancing interpersonal romantic relationships, the self-expansion model asserts that individuals consciously seek to fulfill the need for personal growth, and one way they do that is by entering into relationships with partners who will presumably offer new knowledge, perspectives, and resources that they then assimilate as part of their new identity (Aron, Norman, & Aron, 1998). Additionally, partners can participate conjointly in novel or challenging activities that enhance opportunities for expansion (Aron, Norman, Aron, McKenna, & Heyman, 2000). The partners mutually incorporate each other into the expansion process and, in that way, “you and me” becomes “us” (Aron et al., 2000). Individuals then associate the relationship with expansion and greater self-efficacy, which leads to increased relationship quality (Aron et al., 1992). Thus in brief, the model acknowledges the human need for personal growth and expansion of one’s identity and suggests that expansion leads to the inclusion of other in the self, which leads to increased relationship quality.

Closeness as the Mechanism of Self-Expansion in Dyadic Relationships

The self-expansion model has been investigated as the *direct* link between expansion and relationship quality (e.g., Aron et al., 2000; Graham, 2008; Reissman, Aron, & Bergen, 1993).

However, others have begun to examine closeness as the *mechanism* by which expansion leads to

increased relationship quality. To measure closeness, Aron et al. (1992) developed a simple pictorial measure of interpersonal interconnectedness, the Inclusion of Other in the Self (IOS) Scale, which depicts closeness as overlapping selves. This widely used instrument in the field of psychology has been shown to be commensurate with more complex, multi-item measures of closeness, have high psychometric suitability and has been used cross-culturally (e.g., Aron et al., 1992; Le, Dove, Agnew, Korn, & Mutso, 2010). Utilizing this tool, researchers tested the full process of the self-expansion model by examining inclusion of other in the self as the mechanism by which expansion leads to increased relationship quality. In a longitudinal study, the effect of boredom—simple lack of excitement—on later relationship satisfaction was shown to be fully mediated by changes in closeness (Tsapelas, Aron, & Orbuch, 2009). This study offered compelling evidence that participation in exciting activities may facilitate closeness, which, in turn, may enhance relationship quality over the long term.

Extension of the Model to Non-Dyadic Relationships

Departing from the emphasis on close dyadic relationships, researchers have extended the inclusion of the self facet of the self-expansion model to non-dyadic (i.e., not person-to-person) relationship domains. For example, studies have provided evidence that individuals include diverse entities in the self, such as sports teams (Blanchard, Perreault, & Vallerand, 1998), products and brands (Reimann & Aron, 2009), and natural environments (Schultz, 2000).

Key to the current study, the idea that one can also include *communities* in the self offers another extension of the model to a non-dyadic domain. Mashek and colleagues developed a pictorial measure of community connectedness, the Inclusion of Community in Self (ICS) Scale (see Figure 1; Mashek, Cannaday, & Tangney, 2007; Mashek, Stuewig, Furukawa, & Tangney, 2006), that parallels the IOS Scale. In two diverse communities of jail inmates and college students, the essence of community connectedness, defined as the inclusion of the community in the self, was shown to

have strong test-retest reliability, convergent validity, and discriminant validity (Mashek et al., 2007). Furthermore, results showed that the ICS differentially assesses connectedness to the community, as compared to close relationship connectedness, suggesting that the Inclusion of Other in the Self Scale and the Inclusion of Community in the Self Scale are conceptually and empirically distinct (Mashek et al., 2007). The confirmation of this scale, particularly within the college sample, holds promise for the current study and for its application in future student development practice.

Select the picture that best describes your relationship with the College Community.

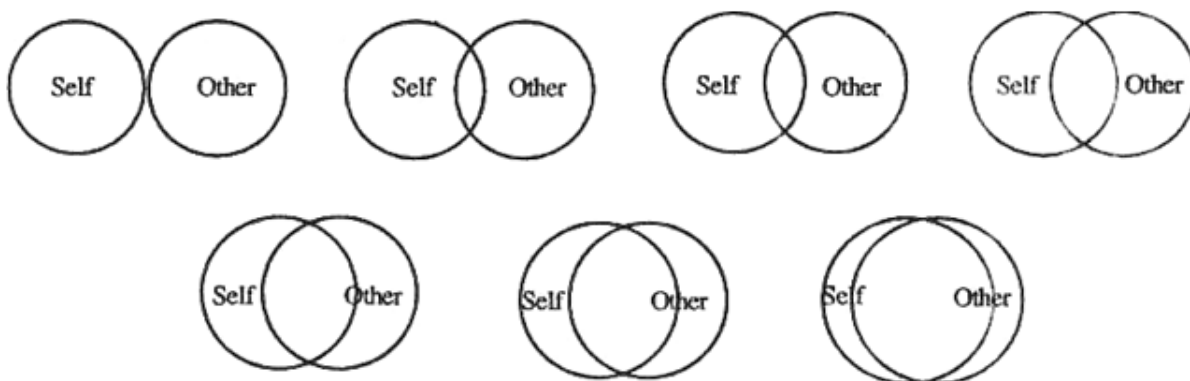


Figure 1. Inclusion of Community in Self Scale (ICS)

Although some of the self-expansion model's key ideas and measurements—the notion of including other in the self and the use of overlapping circles as a strategy for tapping that inclusion—have been convincingly exported from the dyadic relationship domain (e.g., the relationship to a romantic partner) to non-dyadic contexts (e.g., relationship to a community), a key question remains. It is not yet clear whether the *processes* hypothesized by the model likewise generalize across contexts. In close dyadic relationships, expansion through participation in novel and arousing activities enables inclusion of the other in the self, which leads to greater relationship quality. Does a parallel process unfold in non-dyadic relationships? That is, in non-dyadic relationships, such as the one between a student and the college community, might expansion enable

inclusion of the group or community in the self, and, in turn, does this inclusion lead to greater relationship quality?

The Current Study: Applications to the College Community

Higher education research has confirmed the importance of developing identity during college and the pivotal role involvement in social contexts plays in that process; it has also established a direct relationship between involvement and satisfaction with the college experience. The higher education research has not, however, considered the need for self-expansion as a motivation and process behind these relationships. The self-expansion model accounts for both connections and identity and nicely integrates key insight from both involvement models and identity development models in the college student development literature (Aron & Aron, 1986). The study will test whether the processes of the self-expansion model extend to the relationship between a student and his/her college. The self-expansion model argues that students should join multiple groups, as each new experience offers more opportunity for expansion, more expansion allows for greater connectedness, and that connectedness results in greater satisfaction with the relationship. Involvement then is about the expansion process, one that unfolds over time. The longitudinal nature of this study allows one to view and appreciate the progression.

Because of the college community's impact on personal growth and development, it is one of the most important communities with which an individual, especially an individual college student, can connect. A better understanding of how to enhance that connection so that the relationship is positive, productive, and long-lasting will provide benefits to both the student and the community. Drawing from the higher education literature and the self-expansion model, the current study examines whether college students who partake in more expansion by participating in more groups at their college subsequently include more community in the self, and therefore experience more satisfaction with their college experience.

In terms of evolution of the self-expansion model, being able to demonstrate that the hypothesized processes of the self-expansion model hold in non-dyadic contexts would bolster claims about the generalizability and applied significance of the framework. Furthermore, if this model holds in the college community context, student affairs professionals would have another theoretical lens through which to think about—and influence—student satisfaction with the college experience. It would suggest that providing students with multiple ways of expanding themselves throughout their college years would allow the student to further include the college community into their identity and thus increase their satisfaction.

To test the model, the study examined three hypotheses in a three-year longitudinal sample of liberal arts college students. *Hypothesis 1* predicted that college students who reported participation in more college groups at the end of their sophomore year would report higher levels of connectedness to the college community at the end of the junior year. *Hypothesis 2* predicted that students higher in connectedness at the end of their junior year would report greater satisfaction with their college experience upon graduation. *Hypothesis 3* predicted that connectedness to the college community at the end of the junior year would mediate the relationship between participation in college groups during the sophomore year and satisfaction with the college experience upon graduation. To more rigorously test the model, we examined whether these associations remained robust when controlling for prior levels of connectedness to the college community and prior levels of satisfaction with the college experience; in other words, in addition to testing longitudinal relationships among variables, we evaluated whether our key variables could predict change in desirable student outcomes over time.

METHOD

Participants

Data come from a four-year, six-wave longitudinal study of one cohort of college students with the overall goal of understanding community connection in relation to college experiences. In August 2006, all incoming first-year students of a small, undergraduate, private college focused on engineering, science, and math were invited to participate in the study; 119 participated at Wave I as part of their college orientation. We later invited all non-participants to enroll in the study at the end of their first semester (Wave II); 30 additional students participated, bringing total enrollment to 149 (82.3% of the entering class). Additional assessments occurred after the first year in college (Wave III: May 2007) and annually each subsequent year at the end of spring semester (Wave IV: May 2008, Wave V: May 2009, Wave VI: May 2010). Participants were compensated \$10 for Waves I through V and \$20 for Wave VI. Data were collected via paper-and-pencil survey in Wave I and computer-based, self-report surveys in later waves.

At Wave II (after recruitment of full sample), participants ranged in age from 17 to 20 years ($M = 18$ years, $SD = .40$), and, consistent with the demographics of the college, most participants were male (69%). The ethnicity of the sample was 53.8% White, 17.3% Asian, 9.6% Hispanic, 1.3% Black, 1.3% Native American, and 16.7% not reported. Additionally, 2.6% of the total sample identified as non-citizens.

The current study used data from Waves IV (89.4% participation), V (72.7% participation), and VI (81.5% participation), as only these waves included the indicators of interest; hereafter, these waves are referred to as sophomore, junior, and senior year, respectively. Structural equation modeling using Mplus version 6.12 handled missing data with Full Information Maximum Likelihood (FIML) estimation. FIML yields acceptable parameter estimates and standard errors in a single step by using all available data to estimate each parameter (Graham, Cumsille, & Elek-Fisk, 2003). Maximum N for analyses was 133.

Measures

Means and standard deviations of the primary study variables are shown in Table 1.

Participation in college groups. Participants were asked to list the number of groups they belonged to in nine categories of campus activities: college academic clubs, consortium academic clubs (the college collaborates and shares resources with neighboring institutions), college cultural clubs, consortium cultural clubs, recreational clubs, music groups, on campus jobs, and on campus research groups. The number of groups was summed across categories for each participant during their sophomore year and ranged from 0 to 8. The self-expansion model suggests that the more groups the students are exposed to, the greater opportunity for expansion of new knowledge, resources, and identities. For the purpose of testing the self-expansion model within the college community context, participation in groups is operationalized as the number of groups that students self-identify as members of.

Connectedness to college community. During both sophomore and junior years, participants completed the Inclusion of Community in Self Scale (Mashek et al., 2007). The ICS is a single-item pictorial measure consisting of seven pairs of overlapping circles, with each pair of overlapping circles overlapping slightly more than the preceding pair (See Figure 1). The instructions were to “select the picture that best describes your relationship with the college community.” Responses ranged from 1 (*circles tangentially touching*) to 7 (*circles almost entirely overlapping*). In a prior study of college students, the ICS Scale demonstrated sound test-retest reliability ($r = .63$; $n = 48$); furthermore, the scale converged with measures of key facets of psychological sense of community and with self-reports of community helping and hurting. Moreover, the scale did not correspond with indicators of socioemotional functioning, which provided evidence of its discriminant validity (see Mashek et al., 2007 for more information).

Satisfaction with college experience. Participants were asked three questions regarding their satisfaction with their college experience: (a) “How much have you enjoyed your time at college

thus far?” (b) “How much do you feel like you’ve made the most of your time at college?” (c) “When you look back on your college experience, to what extent will you feel regretful?” (reverse-coded). Participants responded on a 7-point likert scale ranging from 1 (*not at all*) to 7 (*very much*). Item scores were averaged to form a composite with a higher score indicating greater satisfaction with the college experience. Cronbach’s alpha was .78 for junior year and .68 for senior year. Moderate alpha coefficients are expected when using a small number of indicators to capture the breadth of a construct. In a previous study, this three item scale was found to have positive associations with other student development constructs such as GPA, satisfaction with life, positive affect, engagement, and achievement, and a negative association with psychological distress (Author citation, under review).

Analytic Plan

Preliminary analyses examined descriptive statistics and correlations for all study variables. As a test of Hypotheses 1 and 2, a longitudinal path model was specified with Mplus 6.12 using maximum likelihood estimation, and measures were included as manifest variables into the path analysis (see Figure 2). To more rigorously test our hypotheses, a second model was specified that controlled for previous year measures of key study variables (see Figure 3). In order to test the role of connectedness to college community as a mediator (Hypothesis 3), a bootstrapping procedure was utilized providing a significance test of the indirect effect as well as confidence intervals. To test further evidence of mediation, a final model was specified to include the coefficient of the direct path.

RESULTS

Table 1 shows means, standard deviations, and intercorrelations of the primary study variables. The correlations offer preliminary support for Hypotheses 1 and 2: sophomore year participation in college groups is significantly and positively associated with junior year

connectedness to the college community ($r = .40, p < .001$), and junior year connectedness to the college community is significantly and positively associated with senior year satisfaction with the college experience ($r = .41, p < .001$). The parallel correlation between sophomore year connectedness and junior year satisfaction is marginally significant ($r = .18, p = .08$), suggesting that this relationship starts early, but strengthens over time. As expected, substantial rank-order stability across two time points was found for connectedness to the college community ($r = .39, p < .01$) and satisfaction with the college experience ($r = .75, p < .001$), meaning that, in general, people who connected with the college community tended to remain so across time, and people who were satisfied with the college experience tended to remain so across assessments, as well. Moreover, while there appears to be a slight decrease in means for connectedness to the college community from sophomore year to junior year; a paired samples t-test indicated that these means are not significantly different from each other, $t(95) = .36, p = .72$. Likewise, no significant difference was found between means for satisfaction with the college experience at sophomore and junior year, $t(80) = 1.54, p = .13$.

Table 1

Means, SDs, and intercorrelations of primary variables (N = 133)

Variable	<i>M</i>	<i>SD</i>	Correlation Coefficient				
			1	2	3	4	5
1. Participation in college groups (sophomore)	2.76	1.94	--	.20*	.40***	.09	.24*
2. Connectedness to the college community (sophomore)	3.70	1.31		--	.39***	.18 [†]	.19 [†]
3. Connectedness to the college community (junior)	3.59	1.23			--	.25**	.41***
4. Satisfaction with the college experience (junior)	5.00	1.13				--	.75***
5. Satisfaction with the college experience (senior)	5.04	1.10					--

Note: [†] $p < .08$; * $p \leq .05$; ** $p \leq .01$; *** $p \leq .001$ two-tailed.

In testing the hypothesized longitudinal paths (see Figure 2), the model approximated the underlying data to produce an excellent fit; $\chi^2(1) = .54, p = .46$, CFI = 1.00, TLI = 1.05, RMSEA = .00, 90% CI [.00, .21]. All paths were significant at $p < .001$ level, thus providing simultaneous support for Hypotheses 1 and 2. College students who reported participating in more groups at the end of their sophomore year exhibited higher levels of connectedness to the college community at the end of their junior year. Higher levels of connectedness in junior year were, in turn, related to higher reports of satisfaction with the college experience upon graduation.

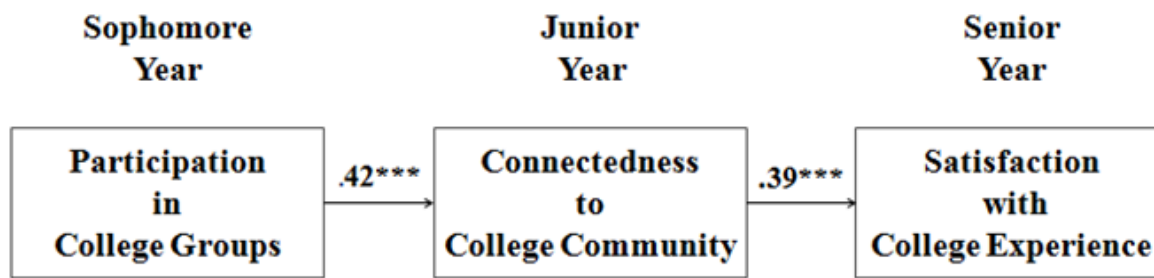


Figure 2. Hypothesized Longitudinal Path Model. Standardized coefficients (beta weights) reported.

$\chi^2(1) = .54, p = .46; CFI = 1.00; TLI = 1.05; RMSEA = .00, 90\% CI [.00, .21]$

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

An expected critique of this model, of course, is that it fails to account for the observed stability in both students' levels of connectedness to the college community and levels of satisfaction with the college experience. Thus, to more rigorously test our hypotheses, we estimated a model that controlled for previous year measures of connectedness to the college community and satisfaction with the college experience (see Figure 3). Such a model tests whether one variable (e.g., community connectedness) predicts *change* in another variable (e.g., satisfaction with the college experience). Fit indices for this model were good; $\chi^2(3) = 4.43, p = .22, CFI = .99, TLI = .97, RMSEA = .06, 90\% CI [.00, .17]$. Therefore, paths to connectedness and satisfaction predict rank-order change over time.

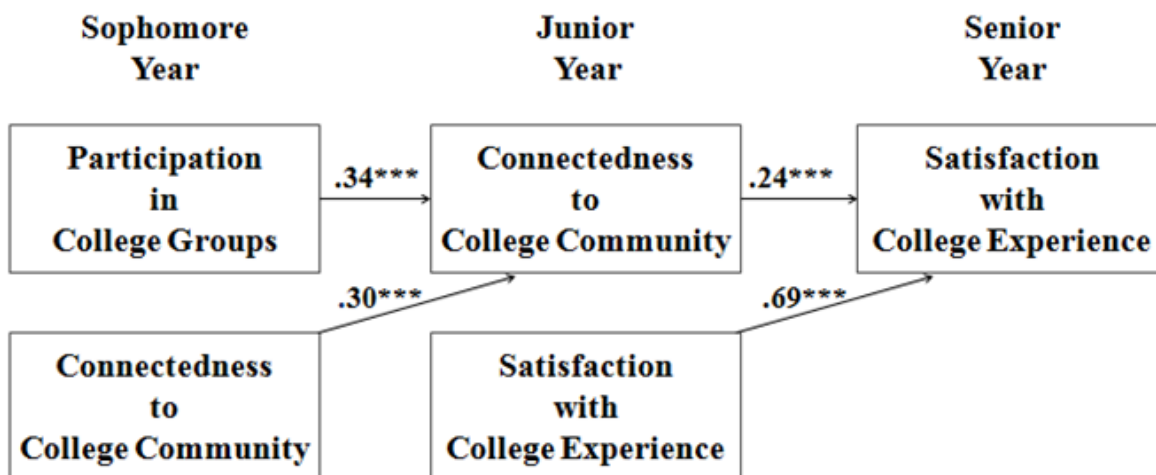


Figure 3. Longitudinal Path Model with Controls. Standardized coefficients (beta weights) reported.

$\chi^2(3) = 4.43, p = .22; CFI = .99; TLI = .97; RMSEA = .06, 90\% CI [.00, .17]$

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

All paths were statistically significant, thus providing evidence that participation in more college groups predicted relative increases in connectedness to the college community one year later.

Likewise, connectedness to the college community predicted increases in satisfaction with the college experience across one year.

To test whether connectedness to the college community mediated the path between participation in college groups and satisfaction with the college experience, a test of the indirect effect was conducted. In support of Hypothesis 3, a significant indirect effect of .045 was found (95% CI [.004, .086]; $p = .03$), indicating that satisfaction with the college experience increases .091 units per 1 unit increase in participation in college groups, indirectly through connectedness to the college community. Likewise, the direct path from participation in college groups to satisfaction with the college experience was included in the model. This path was non-significant ($\beta = .04, p = .34$), providing further evidence that connectedness to the college community mediates the relationship between participation in college groups and satisfaction with the college experience.

Both theoretically and practically one could imagine a different ordering of effects across time. For example, it could be that students who feel more connected to the college community choose to participate in more groups, and subsequently feel more satisfied with their college experience. To address this possibility we tested an alternative model whereby participation in groups mediated the relationship between inclusion of the college community in the self and satisfaction with the college experience. Although this alternative model had acceptable fit, our hypothesized model was superior with a lower AIC value and stronger beta weights among the variables over time.

One might also wonder about the timing of these effects. It could be that connectedness forms earlier, in the sophomore year, and impacts satisfaction in the junior year. Due to the restrictions of secondary data analysis, we do not have data regarding freshman year group participation to examine the full process from an earlier starting point; however, we do have sophomore year connectedness and junior year satisfaction. When this path was tested alone it

approached significance ($\beta = .16, p = .07$). However, when added to our hypothesized model, this path no longer approached significance suggesting that the effects unfold and strengthen as the student progresses, lending weight to our original model.

DISCUSSION

The current study informs the traditional conceptualization of student involvement, a construct at the center of the higher education literature, by illuminating how participation in multiple student groups offers opportunity for expansion of the self and inclusion of the college community into the self. The study looks beyond cognitive and behavioral factors related to student involvement in an attempt to understand the underlying psychological mechanism that explains those perceptions and behaviors.

The current study hypothesized that the processes proposed by the self-expansion model would unfold in the college community context over time. The process suggests that expansion, through participation in multiple student groups, enhances connectedness to the college community, defined here as the inclusion of the community in the self, and that connectedness yields greater satisfaction with the college experience.

Key Findings

Predictions from the model held convincingly. Participation in college groups during sophomore year predicted increases in inclusion of the college community in the self at the end of the junior year, which further predicted increases in satisfaction with the college experience upon graduation. Furthermore, this study provided compelling support for the claim that inclusion of the college community in the self is a central, mediating link between involvement and satisfaction.

While it is widely accepted that student involvement in general is beneficial (Abrahamowicz, 1988; Astin, 1999; Krumrei-Mancuso et al., 2013), there is some conflict within the literature regarding whether it is better to engage more fully in a few (Friedlander & MacDougall, 1991; Pace

1982) or participate in multiple activities (Bergen-Cico & Viscomi, 2012). The results of the current study argue for participation in more groups as they provide more opportunities to accrue new resources, perspectives, and identities. In a previous study, Thomas (2000) found that students who possess broader social networks were able to more easily avail themselves of new resources, due to the multitude of paths available. Further, those students were found to perform better academically and were more likely to persist. This research provides support for the findings of the current study that highlight the importance of multiple group participation as a way of gathering new resources.

The findings of the current study also suggest connectedness to the college community (stemming from participation in multiple groups) is uniquely beneficial to identity development and satisfaction with the college experience. Students who reported a larger amount of overlapping identity with the college community were more likely to be satisfied with their college experience upon graduation. Further, while previous studies examined sense of belonging or fit with the college community (e.g., Bean, 1985; Elkins et al., 2011; Hausmann et al., 2007; Hausmann et al., 2009; Schlossberg, 1989), the current study suggests a powerful new mechanism to explain *why* getting involved in more groups has such a dynamic impact on satisfaction -- inclusion of the college community in the self.

The findings contribute to the theoretical literature as well. This study adds an important dimension to the work of theories regarding the process and benefits of student involvement. While the theory of involvement clearly delineates the relationship between involvement and satisfaction (Astin, 1999), and the integration model stresses the importance of integrating into the social and academic systems (Tinto, 1993), the current study offers a possible psychological mechanism operating behind those behaviors. Namely, the self-expansion model offers a clear theoretical bridge that connects these other theories: involvement leads to integration, which leads to satisfaction.

Furthermore, the study illustrates that self-expansion model processes generalize across contexts. The current study clarifies that the full processes of the model operate in the non-dyadic relationship of the college community and the student. Thus, our study adds strength and breadth to the development of the self-expansion model and argues for the process being tested in a diverse array of contexts across multiple research fields.

Caveat

As the college examined is a small, predominantly male, liberal arts engineering, science and mathematics college, future studies will ideally investigate the processes of the self-expansion model in other types of college communities in order to enhance generalizability. The college community in the current study has ninety-six percent of the students living on campus, allowing for easy access to student activities. Moreover, the college is part of a consortium of seven colleges that share one campus and this larger community may provide additional opportunities for involvement not found on a traditional single-college campus. Further research can examine other types of residence colleges with varying compositions. Additionally, recent research, acknowledging the growth in commuter colleges, has delineated a separate theory of student persistence for commuter colleges and universities (Braxton et al., 2013). Future research should also study how the self-expansion model relates to the experiences of the diverse commuter college population.

Further Directions for Research

While the current study addresses the subject of student satisfaction and suggests that the process of self-expansion contributes to the development of identity, the role and benefit of student involvement, and ultimately student satisfaction with the college experience, many questions remain. Recent theoretical work regarding identity development in college students asserts that identity includes personally held beliefs about one's self in relation to social groups (e.g., religion, ethnicity, race and sexual orientation). Thus identity is considered to be socially constructed; that is, it reflects

interactions with broad social context in which culturally-defined values direct norms and expectations (Torres, Jones, & Renn, 2009). Therefore, it would be insightful to test whether the findings in the current study would be replicated when observed in subsets of identity groups, e.g., racial, religious, or sexual orientation. Further, recent privilege-oppression literature could be supplemented with a study of identity development through self-expansion that examines whether students across the culturally-influenced power spectrum have similar or differing experiences.

Future studies could also explore which types of activities (e.g., academic, political, athletic, or social) most influence college connectedness. As Tinto (1993) differentiated between the formal and informal dimensions of the academic and social systems, the literature would benefit from a study that measured and compared the impact of self-expansion on the different types of activities aligned with those dimensions. Also, to further elucidate the debate between the whether engaging more fully in a few activities is more beneficial than engaging less deeply in many, a study directly comparing the connections experienced and the self-expansion attained in these different patterns of engagement would be beneficial. Finally, given our restrictions of secondary data analysis on variable selection, future studies could examine more typical student development measures of student satisfaction and alternate dependent variables such as persistence.

Applied Implications for Practice

This study has potentially important implications for student affairs practitioners and researchers in the higher education field regarding the role of self-expansion in achieving intended educational outcomes. The study contributes a piece to the solution of the retention puzzle, as it suggests one way students may increase their satisfaction with their college experience. According to the self-expansion model, campus strategies that increase ongoing opportunities to directly experience the acquisition of new resources, perspectives, and identities through participation in new and multiple groups will result in greater satisfaction among students.

Additionally, the model provides a lens to understand more clearly how students see themselves and enables educators to more effectively see not only what they perceive a student's identity to be, but also the process by which it is enhanced. This deeper understanding provides student affairs professionals with a perspective that will allow them to more efficiently engage in meaningful and individually-designed partnerships with students. The many ways this might be accomplished include: adding reflective components into identity-based courses; focusing co-curricular advising, counseling, and programming towards self-expansion; utilizing residence hall placement and living community decisions to promote exposure to new and diverse populations and expansion experiences; institute mentoring programs designed to encourage the student to expand across diverse campus cultures; integrate first-year seminars that feature identity development and expansion with community service experiences designed to broaden the student's perspective; include in 1st year orientation sessions presentations on the relationship between self-expansion and involvement; and incorporate self-expansion motivation into both career and academic advising.

According to the model, as the students' identity expands they bring more of the college community into the self and thus enhance their sense of the connectedness to the college community. This unique notion of overlapping identities provides student affairs professionals with a novel way of conceptualizing connectedness and included in this study is a tool that they could use to assess various programs, services, and activities. The Inclusion of the Community in the Self Scale (ICS), a simple pictorial representation of overlapping selves, is easy to administer, intuitive, and cuts to the core of community connectedness. The results of such evaluations could contribute to the development of effective student involvement strategies that provide each student with access to optimal expansion opportunities and thus greater connectedness.

In addition to providing benefits to the individual student and possibly impacting their persistence, implementing programs that encourage college connectedness via student participation

in college groups is likely provide benefits to the college itself. As demonstrated, participation has been shown to provide deeper and broader connections, which further relate to students' increased satisfaction with the college experience. Satisfied students have reason to stay and complete their curriculum (Sanchez-Leguinel, 2008) and, as alumni with positive perspectives on their college experience, they can better promote the college and provide ongoing financial support to their alma mater (Weerts & Ronca, 2007). Importantly, they may also possess a willingness to support the educational lives of current students through, for example, participation in alumni career networks (Diamond & Kashyap, 1997).

An Opportunity for Integration

The current study, through the application of the self-expansion model, offers an interdisciplinary perspective on the study of college student satisfaction. It integrates psychological and higher education research and theory to provide a potentially useful framework for practitioners and theorists interested in a transdisciplinary view. The self-expansion model provides a clear and accessible conceptual model of an effective path to student satisfaction through connectedness.

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