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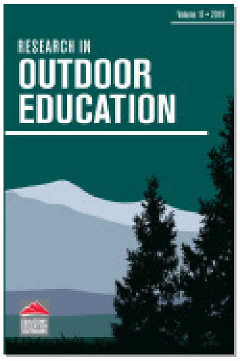

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Abstract

Outdoor adventure education programs are strategically positioned to provide a multitude of positive social outcomes for youth. The social connections adolescents develop with their peers are critically important for positive youth development. This study sought to understand how sense of belonging develops within a wilderness-based outdoor adventure education program while using a dynamical systems theory (DST) framework and analysis. The findings showed that group-based components, such as process conflict influenced the rate of change while instructor support increased the level of sense of belonging students felt. Implications for research and practice are discussed.

Keywords: dynamical systems theory, social development, wilderness trip, positive youth development, wilderness leader

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Adolescence is a developmental stage when many young people struggle with self-confidence, self-concept, identity, and social development (Gilmore & Meersand, 2015). During this stage, peers play a major role in how these different aspects develop (Scholte & Van Aken, 2006). Outdoor adventure education (OAE) programs designed to serve adolescents are in a strategic position to help this developmental process because they often require students to interact in small cooperative groups for an extended period of time, occur in unfamiliar environments, and use challenge as a mechanism for growth. One outcome that is particularly important for adolescents is how they develop a sense of belonging with their peers and within a group; however, little is known about how sense of belonging develops and changes over time in OAE programs.

Researching social development variables in the context of OAE programs can be challenging because of issues due to sample size, instrumentation suitability, and the many variables that may influence development (Scrutton & Beames, 2015). Ewert and Sibthorp (2009) have noted that one of the challenges of research in OAE is the presence of many confounding variables that can influence the findings within a study. It is well documented that OAE programs are comprised of multiple components, such as the physical environment, social environment, types of activities, instructors, and students, which work together to produce rich learning experiences (McKenzie, 2000; Sibthorp & Jostad, 2014). However, very few researchers recognize the multi-component nature of these programs and often do not have the means to control particular aspects of a study (Scrutton & Beames, 2015). Furthermore, there are shortcomings of the conceptualization that the outcomes in OAE programs stem from linear and causal effects, which is why systems thinking theories are primed for this challenge (Jostad, Sibthorp, Butner, Rochelle, & Gookin, 2017). This study embraces these challenges by using dynamical systems theory (DST) to theorize and model sense of belonging for adolescents.

The use of a systems theory approach to conceptualize and direct research design in the OAE literature is relatively new; however, there are a few exceptions (Brymer & Renshaw, 2010; Carden, Goode, & Salmon, 2017; Sibthorp & Jostad, 2014). Dynamical systems theory is a type of systems thinking that recognizes the complex interactions between multiple components within a system and seeks to better understand developmental patterns (Vallacher, Read, & Nowak, 2002). Rather than measuring every component within the system and trying to understand the linear effects between components, the goal is to track the temporal pattern, or change, of phenomena under study (Vallacher et al., 2002). These temporal patterns are depicted by markers of stability (attractors) and instability (repellers). The complex interactions between the components of OAE programs, such as instructors, students, activities, and the physical environment, provide an appropriate venue to implement DST. Therefore, the purpose of this paper is to explore the development of sense of belonging on OAE courses using DST as the theoretical and methodological foundation.

Sense of Belonging and Outdoor Adventure Education

Developing a sense of belonging is imperative for adolescents as they develop toward adulthood. The need to feel psychologically and emotionally connected to others has remained of interest to both youth research and practice. Baumeister and Leary (1995) suggested that humans have a fundamental motivation to belong and describe their belongingness hypothesis as "the drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (p. 497). There are two criteria that are necessary for humans to meet this motivation. First, people must have frequent and affectively pleasant interactions with others. Second, interactions must be temporally stable and show affective concern for each other (Baumeister & Leary, 1995). These criteria suggest that people must interact with others on a timely basis and that these interactions emit some type of emotional response. These criteria mirror the OAE social setting due to the time students must interact with one another along with the idea that students must work together to be successful. The OAE social structure is one of the prime mechanisms that lead to social outcomes for students.

Outdoor adventure education programs have explicitly been tied to a variety of social outcomes for adolescents (Norton & Watt, 2014). These programs bring disparate individuals together to form a group in a natural environment (most often wilderness), which are then given problem-solving tasks or challenges to overcome. The inherent components of these courses are ripe for social development and belonging. Deane and Harre (2013) describe the small group social setting as an intense social experience where "participants can assume different social roles, explore new behaviors, and gain feedback by observing the consequences of their actions" (p. 299). This type of setting allows for the development of many types of social outcomes such as prosocial behaviors (Furman & Sibthorp, 2014), character development (Goldenberg, McAvoy, & Klenosky, 2005), responsibility and commitment (Norton & Watt, 2014), social competence (Allison & Von Wald, 2010), and communication (Paisley, Furman, Sibthorp, & Gookin, 2008). Sense of belonging, while similar to other social connectedness constructs such as group cohesion, have also been found to occur in OAE programs (Eys, Ritchie, Little, Slade, & Oddson, 2008; Mirkin & Middleton, 2014). However, what is less understood are the factors that contribute to sense of belonging and how it develops over time in the context of OAE programs within a systems framework.

Outdoor Adventure Education Programs as Dynamical Systems

The notion that OAE programs are comprised of multiple components that interact with one another to produce particular outcomes has long been recognized (McKenzie, 2000; Sibthorp & Jostad, 2014). Many of the common components include a novel physical environment, a small social group, the challenges or activities that are programmed, the instructors leading the program, and the students who participate in the program. These components are common among most, if not all, OAE programs.

The social group is an inherent component of the OAE experience and has also been recognized as consisting of multiple interacting parts. Sibthorp and Jostad (2014) developed a model of the social group that recognized some of the main components within the social system, such as contextual factors, student factors, instructor factors, goals, group level factors, and time. There are not one or two variables that can fully explain why one student connects better with another, rather, multiple variables interact simultaneously which contribute to this process. Dynamical systems theory recognizes the complex interactions between multi-component systems and holds a different set of assumptions than the traditional research paradigm.

The primary task of DST is to track the developmental patterns, or change, in the phenomena under study (Wiese, Vallacher, & Strawinska, 2010). Rather than assuming that one component within the system is what creates or "causes" the outcome variable to change, DST recognizes that multiple components interact with one another to produce change. One of the primary foundations of DST is the notion of self-organization, which suggests that system-level behavior occurs through the interactions of the components within the system (Thelen & Smith, 2006). A unique aspect of self-organizing systems is the concept of emergence, meaning system level behavior develops spontaneously through the interaction of the components within the system (DiDonato, England, Martin, & Amazeen, 2013). Emergence also suggests that the current state of the system can be used to predict future states of the system (Howe & Lewis, 2005).

The overall system does not guide or tell the components how to interact, rather, patterns emerge through these interactions.

There are a variety of personal and interpersonal phenomena that exemplify emergent behavior; for example, group norms or public opinions often develop due to the spontaneous coordination of individual's actions and beliefs (Vallacher et al., 2002). In the context of sense of belonging, the emergent feeling may be a result of individuals' personalities, goals they have for the course, or their perception of support from their instructors. The way these components interact can change the pattern of the emergent phenomena, such as sense of belonging.

Dynamical systems theory uses the notion of stability (attractors) and instability (repellers) to describe emergence and the changes within the system. Although many types of system behavior may exist, systems typically only exhibit a few behaviors (Thelen & Smith, 2006). Thus, attractors represent a state of stability (no change), whereas repellers represent a state of instability (change will occur). For example, an adolescent on an OAE course may typically gravitate toward higher levels of sense of belonging and stabilize at this level over time. Though systems may stabilize over time, they can also become less stable.

Few components within a system have the ability to alter the level of stability (Butner, Gagnon, Guess, Lessard, & Story, 2015). However, DST recognizes that there are key components within the system that can produce different patterns of change than what developed through emergence. These components can change the level of stability and the rate by which someone moves (changes) toward that stable state. A perturbation is a term used to describe small interactions within the system that knocks the emergent phenomena around its stable state, but it does not alter the overarching temporal pattern (Butner et al., 2015). For example, the natural elements during an OAE experience (rain, snow, sun, mosquitoes) may act as a perturbation for a student's sense of belonging. This means that these natural elements do not drastically change the stable state, but may contribute to small fluctuations around this stable state. However, conflict within the group may act as a component within the system that could potentially change the stable state and developmental pattern of belonging for an adolescent.

Therefore, this paper will use DST to conceptualize and model how adolescents develop sense of belonging in the context of OAE programs. Using the Sibthorp and Jostad (2014) model of the social group as a framework, three components of the social system will be used to better understand the development of sense of belonging: goal conflict, process conflict, and instructor support.

Conflict

There are multiple types of conflict that may influence individuals and groups (Myers & Anderson, 2008; Wilmot & Hocker, 2007), but two of the most common that occur are goal and process conflict. Goal conflict occurs in relation to the outcomes members want within groups (Slocum, Cron, & Brown, 2002), while process conflict is in reference to how work is completed within the group (Jehn & Mannix, 2001). One of the main reasons that conflict commonly exists in groups is due to the inherent interdependence of groups (Hackman & Katz, 2010). Goal conflict and process conflict were the two types of conflict included in this study.

Though conflict may manifest for a variety of reasons, goals are one of the main aspects of why conflict develops in groups. Goals are the foundation for groups and the reason they exist; one of the main types of conflict is due to incompatible goals, which influences group member interaction (Anderson, Foster-Kuehn, & McKinney, 1996). Goal conflict is a construct developed from goal setting theory (Locke & Latham, 2002); however, this theory has mainly been applied to intrapersonal conflict and not to interpersonal conflict. We define goal conflict as a difference, or incompatibility, between the goals or outcomes that students on a course are seeking. Boudreaux and Ozer (2013) suggests that the empirical evidence for goal conflict is surprisingly limited though the importance of the construct within contemporary motivation and social theories is evident. Jostad, Sibthorp, Pohja, and Gookin (2015) showed that goal conflict was negatively related to how students connected with one another within OAE courses. Students participate in OAE programs for a variety of reasons and the social connections that develop may be a result of the commonality between these goals.

A second type of conflict is process conflict, which Jehn and Mannix (2001) define as “an awareness of controversies about aspects of how task accomplishment will proceed” (p. 239). While most studies look at the influence of conflict on group performance, there is also support that process conflict can negatively affect the feelings of belonging. In a meta-analysis of 116 studies, process conflict was shown to decrease member satisfaction and group cohesion (De Wit, Greer, & Jehn, 2012). Part of living in the wilderness in a group requires chores and work to be completed (cooking food, setting up the tent, collecting water, etc.). When students do not complete their work or do not contribute toward group objectives, the relationships between students can deteriorate.

Based on the theoretical foundations of the small group and sense of belonging literature, we believe that these two types of conflict are components within the system that can alter the pattern of sense of belonging development. That is, these types of conflict should change the stable state of the emergent phenomenon (sense of belonging). For example, when adolescents do not have the same goals of others or disagree about how work should be done within the group on a daily basis, this may change how sense of belonging develops and the type of stable state that may emerge. Another aspect of OAE experiences that is important for adolescents to feel a sense of belonging is the level of support provided by instructors.

Instructor Support

Instructors play a vital role on OAE courses and are often seen as taking on the role of "teacher," "guide," and "mentor." However, instructors often fill the "parent role" for adolescents and help them work through the difficulties of being away from home. The behavior or relationships instructors are able to develop with students may have an important role in helping them feel a sense of belonging during these experiences.

A similar concept in the educational literature is known as teacher support, which is the perception that students believe their teachers care for them and value them as an individual (Klem & Connell, 2004). There is a strong body of research in the educational literature that shows teacher support positively influences outcomes such as well-being, engagement, and motivation (Klem & Connell, 2004; Van Ryzin, Gravely, & Roseth, 2009). However, the impact that it may have on students' sense of belonging in an OAE group is not clearly understood.

The OAE literature has long recognized the importance of the instructor to student outcomes (McKenzie, 2000). While the OAE literature has often focused on instructor skill sets such as technical competence, leadership, and decision-making abilities as important competencies (Priest & Gass, 2018), there is a need to better understand the impact that instructor support can have on student outcomes. Sibthorp, Paisley, and Gookin (2007) identified the need for instructors to have positive relationships with the students. They state, "participants need to feel they matter to program leaders or facilitators to feel safe and to allow for full participation" (p. 6). In their study, they found that instructor support was positively associated with learning communication. Others have also recognized the importance of the instructor. Mirkin and Middleton (2014) liken the instructor as the "social engineer" and suggest that when instructors provide more social support to members of the group the social climate becomes more positive. Furthermore, Jostad et al. (2015) showed that considerate behaviors and support by the instructor were positively related to social connections. To better understand the role of the instructor in regards to sense of belonging, the construct of instructor support will be used as a third component within the system that may alter the stable state.

Therefore, the purpose of this study was to understand how adolescent students develop a sense of belonging with others on OAE courses through the theoretical lens of dynamical systems. The following hypotheses were tested:

- H1: Goal conflict will lower the stable state (value) and alter the rate of change for sense of belonging.
- H2: Process conflict will lower the stable state (value) and alter the rate of change for sense of belonging.
- H3: Instructor support will increase the stable state (value) and alter the rate of change for sense of belonging.

Methods

Data were collected on six, 14-day adolescent backpacking courses at the National Outdoor Leadership School (NOLS). These courses took place in the Rocky Mountains and were programmed for the adolescent population. A total of 63 students, which included 40 males and 23 females between 14 and 15 years of age, took part in the study. Data were collected toward the end of each full day they were in the field by having students complete a questionnaire. Students were asked to find space away from others so as not to influence their responses. Because of a day in town at the beginning and end of the course, data were collected for a total of 12 consecutive days. All data were sent to the research team following the course.

Instrumentation

Sense of belonging was measured using the 10-item Feeling of Social Belonging Scale (Richer & Vallerand, 1998) and has shown strong internal consistency reliability ($\alpha = .90$) with this population. Examples of questions from this scale include, “In my relationships with others students on this course, I feel . . . [supported], [understood], and [valued]. Goal conflict was measured with one item written by the authors, which stated, “I want different things from this course than other people in this group.” This particular item has been used in previous studies and shown to be an effective predictor variable within this context (see Jostad et al., 2015). Process conflict was measured with two items based on Jehn and Mannix's (2001) Intragroup Conflict Scale and contain questions that focus on how group work is completed. An example is "Doing work in this group is frustrating because only a few people do the majority of the work." Instructor support was measured using a modified four item sub-scale of the Classroom Life Scale (Johnson, Johnson, Buckman, & Richards, 1985), which was designed to measure instructor support (all scales were shown to have measures of internal consistency reliability above $\alpha = .81$). Examples of questions include "My instructors really care about me" and "My instructors care about my feelings."

Analysis

There are a variety of different analyses that can be performed using DST as the theoretical framework. The analysis type that was conducted in this study is called a "change as outcome model" and uses multilevel modeling techniques to analyze these data. To develop the initial model (the emergent pattern), a student's current sense of belonging was used to predict it's change in sense of belonging (following the theoretical concepts of emergence). Once this initial model is developed and stable states are identified, the three components of the system that might alter these stable states were added as a main effect and as an interaction with the current value of sense of belonging. Time was modeled at level one and students were modeled at level two (all values were grand mean centered). For a complete description of this analysis and how this can be used with data, see Butner et al., (2015) and Jostad et al., (2017).

Results

Data were cleaned for missing responses and to identify outliers. If students did not respond or missed more than three responses from their 12 days of data collection then they were removed from the study. A total of 82 students participated in the study but only 63 students' data were used in this study.

The stable state (value) of the initial model (emergent pattern) was 0.16. That is, on an average day the stable state in this model was 0.16 units above the grand mean of sense of belonging. This model shows that, on average, when a student's level of belonging is below the value of 0.16 or near the grand mean, he/she develops a stronger sense of belonging over time. Because students will most likely develop a sense of belonging at different rates and have different stable states, random effects on the intercepts and slopes were found to be significant ($p < .001$). This suggests that students vary in both their rate of change and their stable state of sense of belonging. The three components, process conflict, goal conflict, and instructor support, were added into the model to see how they may alter the stable state of the system.

Process conflict was added as a level one main effect and as an interaction with the current level of sense of belonging. The reason process conflict was added as a level one effect is because process conflict is most likely to change on a daily basis and is therefore a within subjects variable. Process conflict did not have a significant main effect ($\beta = -0.02$, $p = .45$), but did have a significant interaction ($\beta = -0.03$, $p = .03$). This negative coefficient suggests that for every one unit increase in process conflict on an average day, a student's sense of belonging becomes more stable. That is, students with higher levels of process conflict move toward the stable state at a faster rate.

Goal conflict and instructor support were added as level two main effects and as an interaction with the current level of sense of belonging. These two variables were added as a level two effect because these variables are more stable over time for students but more likely to vary between students. Goal conflict ($\beta = -0.03$, $p = .26$) and the goal conflict by current level of sense of belonging interaction ($\beta = 0.02$, $p = .41$) were not significant. However, instructor support ($\beta = 0.20$, $p < .01$) had a significant main effect on the change of sense of belonging. The positive coefficient suggests that for every one unit increase in instructor support, a student increases in sense of belonging by 0.20 units. There was not a significant interaction for instructor support ($\beta = -0.04$, $p = .35$). The predicted standard deviation (PREDSD) and residual standard deviation (RESSD) were used to calculate the effect size and these three components accounted for 29% of the variance in the change of sense of belonging.

Discussion

The purpose of this article was to better understand the development of sense of belonging for adolescents within OAE programs while implementing DST analyses. These data suggest that on average, students change toward a higher stable state of sense of belonging over time. Understanding what influences the stability of an adolescent's sense of belonging in wilderness trips can be helpful for leaders and administrators.

Conflict

Though conflict is generated through a variety of means, we specifically modeled goal and process conflict. A variety of studies have shown that goal conflict is associated with negative affect (Bodreauxs & Ozer, 2013), decreased performance (Slocum, Cron, & Brown, 2002), and decreased psychological well-being (Riedeger & Freund, 2004). While the NOLS program has specific goals within their curriculum, students also have personal goals or do not have any goals at all for the course. The NOLS program also encourages and sets time aside for students to develop goals for their course. These data did not show a significant relationship with goal conflict and this may have been because adolescent students may not have well-articulated goals. Crane, Hattie, and Houghton (1997) conducted a study that looked at goal setting and found that many goals adolescents possessed were vague and not specific. These data suggest that goal conflict acts as a perturbation to the system, meaning it tends to knock the emergent phenomena around its stable state, but does not change the stable state or the rate adolescents move toward that state. That is, goal conflict does not significantly change how students develop a sense of belonging on a course over time.

There are two different theoretical views about the role process conflict plays in groups. One view suggests that process conflict deteriorates relationships within groups and limits the goals that the groups are able to achieve (Behfar, Mannix, Peterson, & Trocum, 2011; De Wit et al., 2012). Another view suggests moderate levels of process conflict actually benefits members of groups by increasing performance and strengthening relationships (Jehn & Mannix, 2001; Kellermanns & Eddleston, 2004). Given the context and population of this study, we theorized that process conflict would decrease the stable state of sense of belonging. However, process conflict did not decrease the stable state in these data but did change the rate at which students moved toward that stable state.

The significant interaction between process conflict and a student's current level of sense of belonging suggests two aspects of the stable state change. First, the rate students moved toward the stable state increased when students had higher levels of daily process conflict. Second, the strength of the stable state increased and suggests that sense of belonging is less likely to change in the future. Thus, students who had more daily process conflict are more likely to hover around this stable state despite perturbations within the system. Furthermore, the significant random effect also suggests that students have both "high" and "low" individual stable states.

One possible explanation of these data is to consider that moderate levels of process conflict may stabilize students at a particular level of belonging. To illustrate how this might work, a student who has higher levels of process conflict will "develop" their sense of belonging faster than a student with lower levels of process conflict. Concurrently, the student with high levels of process conflict is also more likely to maintain that level of sense of belonging over the entire course. Since students vary in their stable states, process conflict can actually move students toward both "high" and "low" stable states. That is, process conflict can be helpful for students if they have "high" stable states, but it can also have a negative effect when it moves students toward "low" stable states. In addition to altering the rate of change for students, process conflict also makes the stable state stronger (more stable), and thus more difficult to change in the future. When these stable states become more stable, students are less likely to be "pushed off" by perturbations within the system. Therefore, process conflict allows students to "lock in" on both "high" and "low" levels of belonging.

These findings support both theoretical views of process conflict. First, process conflict may actually be beneficial for some students. For the students who confront conflict when it exists and deal with the conflict in a timely manner, they actually move at a faster rate toward their stable state. For the students who avoid conflict, the rate at which they move toward their stable state is slower. Others have also found that process conflict can be beneficial when the conflict is resolved early in the process and not left to linger throughout the life of a group (Jehn & Bendersky, 2003). We are not advocating that process conflict should be intentionally programmed into OAE programs. Process conflict should occur due to the natural characteristics of the course. Furthermore, adolescents may also need help from their instructors to process, communicate, and work through the challenges that process conflict may create.

In the context of OAE, process conflict can occur between students over who is expected to set up the tent, what food should be cooked for dinner, or how to hang the bear bag. If left unresolved, these small but important issues may actually have a negative influence on the development of sense of belonging. However, instructors can help students resolve these conflicts by providing communication and problem solving assistance. When instructors help in this manner, process conflict may be a catalyst for the development of sense of belonging. Furthermore, these actions by an instructor may also show a level of support and care the instructor has for the students.

Instructor Support

There is a plethora of OAE and educational literature that notes the importance of the instructor in a variety of social outcomes for students (Mirkin & Middleton, 2014; Schumann, Paisley, Sibthorp, & Gookin, 2009). While instructors on OAE courses are expected to fulfill a variety of needs for programs and students, the level of support they should provide is often overlooked. Providing this support is important in the context of OAE programs because students are in a completely new physical and social environment. For many students, this is their first time away from home and among a new peer group.

The significant positive main effect increased a student's level of social belonging by 0.20 units for every one unit increase in instructor support. Therefore, the stable state of sense of belonging increased. This main effect does not shift the rate of change, but only the value of the stable state. For example, if a student feels more support from their instructor, then they will have a higher overall level of sense of belonging. When students receive more care, support, comfort, and relatedness by their instructors they will more belonging to their group. These findings support the importance that the instructor can play in helping students develop a sense of belonging on a course.

Others have found that the instructor plays a vital role in the development of interpersonal relationships by setting the tone for the group culture, role modeling positive behavior, and developing trust between students and instructors (Mirkin & Middleton, 2014; Shooter, Paisley, & Sibthorp, 2010). While the instructor has long been recognized as an important component of OAE, the role that instructors are expected to fill is slowly changing. Traditionally, instructors have been highlighted as needing great technical skill, decision making ability, and physical prowess (Priest & Gass, 2018). However, continued research highlights that the social dimension is becoming just as important as the technical dimension for instructors. Program administrators need to consider effective training practices that will help instructors provide students appropriate support. Some of these trainings may simply encompass how to relate to adolescent students. More extensive trainings could include emotional first aid trainings, which focus on helping instructors work with common every day psychological problems such as failure, loneliness, and rejection. Program administrators could also benefit from developing an instructor mentorship program where senior instructors can help junior instructors with both technical and human skills.

Limitations

This study was conducted using a DST lens because of the complex and changing nature of social connections within the context of OAE. Dynamical system models are models of change and it is vital to have phenomena that exhibits change. One of the reasons that goal conflict failed to be significant may be due to the relatively minor change in social belonging over the length of the course. The more change the phenomena exhibits the more there is to explain, and thus, provides a more interesting description of the system. Another limitation of this research was that linear equations were used to model these data. Researchers may also want to consider the nonlinear nature of dynamical systems and use quadratic and cubic equations in future analyses. This research uses one method of modeling DST data. Future research could use alternative methods within this theoretical framework to provide a more robust understanding of change.

Only using NOLS and not having other OAE programs to draw data from is another limitation. Being able to use data from multiple types of OAE programs would allow the results to be more generalizable and robust. Furthermore, this sample frame is limited to adolescents and could potentially benefit from having a wider spread of ages. A 14-day course is one of the shorter courses NOLS provides and this type of study may benefit further from a longer length such as a 30-day course.

Conclusion

Little is known about the development processes for many outcomes in OAE. This research highlights the development of social connections for adolescents participating in OAE courses and uses a DST lens to take on some of the challenges of researching OAE courses. By using a DST model, it is possible to understand how a student's sense of belonging changes given their current feeling of sense of belonging and how certain components within the system alter this pattern.

Conflict is inevitable when working with others and there are many forms of conflict that can exist between individuals. Though goal conflict was not statistically significant, it acts as a perturbation to the system. Process conflict showed that it altered the rate of change and strength of the stability in the system. Viewed in this context, one explanation of this result may suggest that moderate levels of conflict, when facilitated appropriately, may help students develop more robust feelings of belonging. This study also showed the importance for instructors to provide high levels of support with adolescent students. Program administrators should provide training and resources for staff to develop supportive behaviors and skills to help resolve conflict.

Further research is needed that uses system thinking theories and methodologies. If research is going to be able to unveil the "blackbox" of what occurs during OAE experiences, a theory that can explain development and change is needed. Dynamical systems theory is one approach that can help in this endeavor.

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