

**Network and Proximity Effects on LGBTQ Youth's Psychological Outcomes  
During a Camp Intervention**

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### Abstract

Research has found a tendency for youth's psychological states to influence their friendship development, and vice versa. Whether this occurs among LGBTQ youth in the context of identity-affirming intervention programming has not been established. The current study provides a longitudinal assessment of self-esteem, depressive symptoms, and anxiety in a network of 238 youth ages 12 to 18 participating in a summer camp for young LGBTQ people. Results showed youth experienced significant increases in self-esteem and decreases in depressive symptoms and anxiety at camp. Peer proximity based on cabin assignment influenced youth's depressive symptoms over time. The network processes of peer selection and influence did not significantly affect psychological outcomes. Our findings highlight the impact of affirming programming on the self-esteem, depressive symptoms, and anxiety of LGBTQ youth and the influence of intervention-based proximity on youth's depressive symptoms over time.

## **Network and Proximity Effects on LGBTQ Youth's Psychological Outcomes During a Camp Intervention**

LGBTQ youth (i.e., lesbian, gay, bisexual, transgender, queer, and related identities) experience lower self-esteem and elevated depressive symptoms and anxiety, compared to their heterosexual/cisgender peers (i.e., those who are straight and whose gender identity aligns with their birth sex) (American Psychological Association, 2015; Fish & Pasley, 2015; Jones et al., 2017; White et al., 2018). These mental health disparities exist despite cultural shifts toward acceptance of LGBTQ people and an increasing proportion of young people in the United States identifying as LGBTQ – a record 15.9% of people ages 18 to 23 in 2020 (Jones, 2021). Yet, living in an environment where heterosexual and cisgender identities are the statistical norm, and where LGBTQ identity has been historically stigmatized, can harm LGBTQ youth's mental health (Hatzenbuehler, 2009). In contrast, becoming integrated into a social environment or network that affirms LGBTQ identity can improve psychological well-being.

The current study examines longitudinal network data from a summer camp for LGBTQ youth in order to understand youth's psychological outcomes over time. The roles of peer selection, peer influence, and physical proximity in psychological changes as youth become a part of the emerging camper network are tested. The following sections discuss the effects of identity affirmation and friendship networks on LGBTQ youth mental health, the methodology and findings of the current study, and study implications, limitations, and future directions.

### **The Camp Program**

The nonprofit organization Brave Trails, founded in Los Angeles, CA in 2014, hosts an annual leadership summer camp for LGBTQ youth ages 12 to 18. The camp programming and environment are designed to affirm LGBTQ identity. Programming includes workshops (e.g.,

LGBTQ history, “Queering Sex Ed”), drag class, activism training, and traditional camp programming (e.g., swimming). All camp housing and facilities are gender-inclusive. Campers are assigned to cabins based on age rather than gender identity or birth sex. See Gillig and colleagues (2019) and Gillig (2020) for additional description.

For summer 2019, Brave Trails hosted four camp sessions occurring between June 26 and August 18. Three sessions took place in California and one in Maryland. Each session lasted one to two weeks, and 292 youth attended.

### **Theoretical Background**

The current study draws from theorizing of identity affirmation and the networks concepts of peer selection and influence.

#### **Identity Affirmation**

Self-affirmation theory posits that individuals have a fundamental psychological need to maintain a sense of self-worth (Steele, 1998; Sherman & Cohen, 2006). When people feel affirmed in their identity, they have higher levels of self-esteem. A variety of experiences can prompt this (e.g., participating in an intervention designed to affirm a relevant social identity).

Across populations, an affirmed identity protects against negative mental health outcomes, such as depression (Cruwys et al., 2014) and anxiety (Greenberg et al., 1992). Among LGBTQ youth, increases in self-esteem are associated with decreases in depressive symptoms (Gillig et al., 2019). Likewise, lower levels of self-esteem may contribute to an increased risk of developing an anxiety disorder (Jones et al., 2017).

Little research has longitudinally examined the psychological experiences of young LGBTQ people participating in affirming groups and contexts (Barbosa et al., 2020). However, research has found that LGB (lesbian, gay, bisexual) people are more likely to trust and disclose

information to healthcare practitioners who affirm their LGBTQ identity (Utamsingh et al., 2016). As such, youth in affirming environments like camp may be inclined to discuss their personal experiences and to receive support, resulting in better mental health outcomes.

Based on existing evidence for the positive impact of affirming communication on psychological experiences, including among LGBTQ youth, the following hypothesis is posed:

H1a-c: LGBTQ youth will experience (a) increases in self-esteem, (b) decreases in depressive symptoms, and (c) decreases in anxiety over time at camp.

Prior research suggests the camp in this study will bolster youth's well-being. However, at camp, youth are not only experiencing the intervention programming itself. They are also interacting with peers. A substantial body of literature shows that individuals' social networks can influence their psychological well-being (e.g., Lee et al., 2018). Thus, we test the impact of two network processes (peer selection, peer influence) on psychological outcomes.

### **Network Effects**

Individuals tend to develop social ties with "similar others" (see McPherson et al., 2001, for a review). In other words, people are more likely to connect, congregate, and communicate with individuals with whom they share a salient identity. This process is known as homophily through *peer selection*. The selection of similar peers occurs in many social contexts, such as friendships (Valente et al., 2009). The process may be driven by characteristics based on external dimensions (e.g., perceived gender, physical appearance) or the internal states of social actors (e.g., attitudes, psychological states).

Research involving the U.S. adult general population has found that similarities in health status predict selection of peers in online social networks (Meng, 2016). However, little research has tested the impact of mental health on peer selection among LGBTQ youth. One cross-

sectional analysis of an online network found LGBTQ youth tend to associate with peers who have similar levels of depressive symptoms (Homan et al., 2014).

Based on evidence for psychological states driving peer selection, the following hypothesis is posed:

H2a-c: Psychological experience-based peer selection will occur, such that youth in the camp network will tend to associate with peers who have similar levels of (a) self-esteem, (b) depressive symptoms, and (c) anxiety at both Time 1 and Time 2.

An alternative to the peer selection model of homophily is the *peer influence* model. In this case, an individual's attitudes and psychological states can influence the psychological experiences of their social connections, and vice versa. This would result in the same outcome as peer selection, where individuals are connected to others who are similar to them. However, longitudinal data can untangle whether influence or selection is at work (e.g., Osgood et al., 2013; Hall & Valente, 2007). Some research has found that emotions diffuse or spread through networks in face-to-face/in-person (Fowler & Kristakis, 2008) and mediated contexts (Kramer et al., 2014). However, other work has not found evidence for the propagation of depressive symptoms among youth, but rather convergence toward the average depressive symptoms of peers (Kiuri et al., 2011).

Based on evidence for peer influence in friendship networks and mixed findings regarding the spread of psychological states, we seek to test the following hypothesis:

H3a-c: Youth's psychological experiences will be influenced by friends in the camp context, such that (a) youth developing friendships with peers who had higher pre-camp self-esteem will experience a greater increase in self-esteem, (b) youth developing friendships with peers who had lower pre-camp depressive symptoms will experience a

greater reduction in depressive symptoms, and (c) youth developing friendships with peers who had lower pre-camp anxiety will experience a greater reduction in anxiety.

Just as friends may influence an individual's attitudes and perceptions, other (non-friend) peers that a person regularly interacts with or is in proximity to, can influence well-being.

### **Proximity**

Research has demonstrated that the peers surrounding – or proximal to – youth in their social environment can influence youth's psychological outcomes over time (McPherson & Smith-Lovin, 1987). Young people are attuned to the attitudes and behaviors of their peers, which affect their own attitudes and behaviors (Valente et al., 2009). When the physical spaces in which youth dwell or interact (e.g., schools, dormitories) foster greater proximity between some individuals or groups compared to others, more proximal individuals tend to exert more influence than more distant – or distal – individuals. More proximal contacts may also have a greater likelihood of becoming friends (Gillig & Bighash, 2019), but most youth likely do not forge friendships with every peer with whom they regularly come into contact. Proximal, non-friend peers may still influence youth, due to ongoing exposure.

In the Camp Brave Trails context, youth are assigned to cabins based only on their age, rather than sex or gender as is often the practice at traditional camps. Youth spend more time in their cabin groups than in any other structured groups at camp. Daily, campers have one hour of “in-cabin chill time,” where they may socialize, play games, make music, plan outfits/costumes for camp activities, or do individualized activities like reading. Also, youth manage personal hygiene and sleep in their cabins. Campers interact with peers from outside their cabin during other activities. Specifically, the 2019 camp schedule ran as follows: campers in cabins (9:30 p.m. to 8:15 a.m.), campers assigned to miscellaneous, non-cabin groups for breakfast (8:30 to

9:15 a.m.), campers in programming with non-cabin peers and eating lunch with chosen peers (9:15 a.m. to 1:20 p.m.), campers in cabins (1:30 to 2:15 p.m.), campers in programs with non-cabin peers (2:25 to 5:45 p.m.), campers eating dinner with cabin groups (5:55 to 6:30 p.m.), campers attending evening programming with all peers (6:30 to 9:30 p.m.).

Based on the potential for cabin-based proximity to affect peer influence among youth beyond the effect of the friendship network alone, the following hypothesis is posed:

H4: Cabin assignment will influence changes over time in (a) self-esteem, (b) depressive symptoms, and (c) anxiety.

### **Method**

This study examines network data from a two-wave longitudinal study of youth participating in Camp Brave Trails during summer 2019.

### **Procedure**

Two months prior to the first camp session, on April 26, 2019, all registered campers and their parents were informed of the opportunity for research participation through a secure, online camp administration portal and provided with consent information and a link to the first questionnaire. Youth were assured that their choice regarding study participation would not affect their role at camp. They were also informed that completing two waves of data collection would make them eligible to enter a drawing for a \$100 Visa gift card.

Both youth assent and parental permission were obtained online. For consenting youth, questionnaires were administered online prior to and on the last day of camp, which lasted one or two weeks, depending on session. The pretest opened when youth and parents were informed of the research two months before camp started, closing on the first day of camp. The first author administered the posttest on-site. Participants used Samsung tablets to complete the post-camp

questionnaire in a location where other youth and staff would not see their responses. Four camp sessions occurred, with identical research procedures. Youth participating in multiple sessions ( $n = 7$ ) were invited to take the posttest during their final session.

To match participants across waves of data collection, they were asked to write their names with their responses. Those entering the raffle were asked to provide an email address. The research procedure was implemented in conjunction with camp staff certified by the Collaborative Institutional Training Initiative (CITI) for human subjects research. Washington State University's Institutional Review Board approved the process.

### **Measures**

Participants completed online survey items including scales for self-esteem, depressive symptoms, anxiety, and demographics. Demographics were assessed at pretest, and health outcomes were measured at both waves of data collection.

#### ***Self-Esteem***

Self-esteem was assessed using Rosenberg's self-esteem scale (1965). Participants reported on scale of 1 = Strongly disagree to 7 = Strongly agree the extent to which they experienced various thoughts toward themselves. Items included, "I am a person of worth" and "I have much to be proud of." All items loaded on one dimension at both waves (Principal components analysis), with high reliability (Time 1:  $\alpha = .94$ , Time 2:  $\alpha = .95$ ).

#### ***Depressive Symptoms***

Depressive symptoms were measured using the Center for Epidemiologic Studies Depression Scale Short Form (CES-D-4) (Lewinsohn et al., 1997; Melchior et al., 1993), which has been used in prior research with LGBTQ youth (Rhoades et al., 2018; Gillig, 2020). Participants selected on how many days during the past week they experienced each of four

emotions or behaviors, including sadness. Principal components analysis showed items loaded on one factor. Reliability was moderate (Cronbach's  $\alpha = .84$  at Times 1 and 2). The items were averaged to create one depressive symptoms score for each participant.

### ***Anxiety***

Anxiety was assessed using the Generalized Anxiety Disorder subscale of the Youth Anxiety Measure for DSM-5 (YAM-5-I) (Muris et al., 2017). Participants indicated on how many days during the past week they experienced each of six psychological or physical states. Items included, "I found it hard to stop worrying" and "I didn't feel well because I worried so much." All items loaded on one dimension at both waves (Principal components analysis), with high reliability (Time 1:  $\alpha = .90$ , Time 2:  $\alpha = .91$ ).

## **Results**

Matching pre-post data from 238 campers who participated in both waves of data collection was used for the analyses, representing a relatively complete longitudinal network. Response rates were 97.3% at wave 1 (284 responses of 292 total campers) and 91.4% ( $n = 267$ ) at wave 2. Participant average age was 15.0 years. The most prevalent gender identities were transgender male (33.9%), cisgender female (20.6%), and gender nonconforming (16.3%). The most prevalent sexual/romantic orientations were bisexual/pansexual (42.1%), gay/lesbian (29.6%), unsure/questioning (12.0%). Most participants were White (71.1%), then multiracial (13.8%) and Latinx (6.5%). See Table 1 for complete demographics.

Preliminary data (2018) were analyzed using SPSS v26. Little's Test indicated data were missing at random ( $\chi^2 = 1.29$ ,  $p = .53$ ) (Little, 1988). Listwise deletion was used for missing data.

First, three repeated measures ANOVAs were conducted to test for changes in youth's psychological outcomes (self-esteem, depressive symptoms, anxiety) (H1). Self-esteem

significantly increased from 4.82 ( $SD = 1.27$ ) to 5.30 ( $SD = 1.24$ ) ( $F(1, 231) = 48.33, p < .001$ ). Depressive symptoms decreased from 2.23 days/week ( $SD = 1.54$ ) before camp to 1.28 days/week ( $SD = 1.32$ ) at the end of camp ( $F(1, 236) = 85.50, p < .001$ ). Anxiety decreased from 3.07 days/week ( $SD = 1.98$ ) before camp to 1.37 days/week ( $SD = 1.58$ ) at the end of camp ( $F(1, 237) = 175.99, p < .001$ ).

Next, stochastic actor-based models (SABM) were used to investigate how the friendship network and mental health outcomes changed simultaneously (H2, H3), with changes in the network structure and individual behavior/attitude modeled as a Markov process (Snijders et al., 2010). This means that the network's current configuration (both structural and individual characteristics) probabilistically determines the configuration of the network at the next point in time. Conducting analysis via the program Simulation Investigation for Empirical Network Analysis (SIENA) in R allows for testing each causal mechanism while controlling for the other, to isolate whether people are choosing others with similar mental health scores (selection) or if they are influencing others to become similar to them (influence) or neither in the camp environment. R's RSiena package (Ripley et al., 2020) was used for the modeling.

Four functions make up the model: the rate function (i.e., how fast the dependent variable(s) change), the evaluation function (i.e., the focus of model specification that determines the probabilities of changes in the network based on actor "satisfaction" of current conditions), the creation function (i.e., component of probabilities of change only for upward changes), and the endowment function (i.e., component of probabilities of change only for downward changes). In the modeling for this study, creation and endowment effects were not included and the rate function was left as constant, as suggested by Ripley et al. (2020) for most cases. All functions include "effects," defining which characteristics of actors and the network determine the

probabilities of changes in the network. Model parameters are estimated through a series of Markov-chain Monte Carlo simulations. The model converges when  $t$ -statistics for deviations from targets are below 0.1 and the overall maximum convergence ratio is less than 0.25.

In this model, three mental health measures and the network structure itself were included as dependent variables. The mental health measures were transformed into ordinal variables with 8 levels (i.e.,  $0.5 < x = 0, 0, 0.5 \geq x < 1.5 = 1, \dots$ , up to a max of 7), rounding to the closest number of days of week for depressive symptoms and anxiety, and closest whole number score for self-esteem.<sup>1</sup> Missing data for all variables are less than 10% except self-esteem (10.8%), and no variables have more than 20% missing, so distortions are not expected. The Jaccard index between the networks shows how different the two networks are from one another, with a Jaccard index greater than 0.6 considered appropriate. The Jaccard index between the two instances of the network is 0.109, indicating “the turnover in the network may be too high to consider the data as an evolving network” (Ripley et al., 2020, p. 21). However, since the network is sparse (see Table 2), the estimation procedure completed and converged.

The effects estimated for the endogenous network variables include control variables that have been considered in previous work, including structural effects (reciprocity, transitive triplets, and 3-cycles) and actor variables, including gender of alters, gender of the ego, gender similarity, cabin assignment of alters, cabin assignment of the ego, and cabin similarity (Gillig & Bighash, 2019). Behavioral effects included as controls include ego effects (i.e., choosing to be friends with others based on their own level of a variable; *egoX* in RSiena) and alter effects (i.e., choosing to be friends with others based on the other’s level of a variable; *alterX* in RSiena),

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<sup>1</sup> RSiena currently does not allow continuous dependent measures. Eight to ten categories are recommended by Ripley et al. (2020, p. 27). Previous work examining non-behavioral dependent variables using RSiena has similarly discretized mental health outcomes like depression (e.g., Zhao et al., 2020). The results are consistent when we use quartiles as the discrete cutoffs.

both for the three mental health outcomes (i.e., depressive symptoms, anxiety, self-esteem). The effects estimated for the selection hypotheses (H2) were similarity measures to see if campers chose others similar to them on each of the mental health outcomes, defined as the sum of centered similarity scores between  $i$  and the other actors  $j$  to whom that camper is tied ( $simX$  in RSiena). Average similarity effects were estimated for the influence hypotheses (H3) for each mental health outcome, where average similarity ( $avSim$  in RSiena) is the average of centered similarity scores between  $i$  and the other actors  $j$  to whom they are tied, with the dependent variable as the mental health outcome (behavioral effects) rather than the network ties.

Table 2 reports the descriptive statistics of the network at both time points, and Table 3 presents the parameter estimates, standard errors, and statistical significance. The model converged, as all convergence  $t$ -ratios are  $< 0.07$  and the overall maximum convergence ratio = 0.242. None of the network-based hypotheses (H2, H3) have significant results in the SIENA model. However, one significant result to note is cabin similarity. This replicates results from a previous study (Gillig & Bighash, 2019), providing evidence that campers are choosing to be friends with other campers more often if they belong to the same cabin.

Finally, to understand the impact of cabin assignment (H4), three ANCOVAs tested whether cabin assignment predicted mental health outcomes at Time 2 (T2), when controlling for each state at Time 1 (T1). Cabin assignment did not significantly predict self-esteem at T2, when controlling for self-esteem at T1 ( $F(34, 227) = 1.33, p = .12, \eta^2 = .19$ ). Cabin assignment was a significant predictor of depressive symptoms at T2, when controlling for depressive symptoms at T1 ( $F(34, 232) = 2.04, p = .001, \eta^2 = .26$ ). Cabin assignment did not predict anxiety at T2, when controlling for anxiety at T1 ( $F(34, 233) = 1.18, p = .24, \eta^2 = .17$ ). See Figure 1 for a visualization of changes in depressive symptoms by cabin.

### Discussion

The results of this study demonstrate the positive impact of affirming intervention programming on LGBTQ youth's mental health, with camp outcomes including increased self-esteem, decreased depressive symptoms, and decreased anxiety. Our findings show the role of intervention-driven proximity to peers (here via cabin assignment) on depressive symptoms over time. Finally, peer selection and influence network processes did not significantly affect changes in psychological well-being, in contrast to prior literature.

This study advances understanding of the influence of health intervention programming on the psychological and social experiences of LGBTQ youth. First, the findings confirm prior research showing the positive impact of affirming programming on LGBTQ youth mental health (Gillig et al., 2019). The results also extend the scientific literature by revealing that intervention-driven peer proximity had a significant influence on youth's psychological experiences, specifically depressive symptoms, while the well-established network effects of peer selection and influence did not have a significant effect in the short-term camp context. In this way, the study highlights the critical impact of peer proximity on youth mental health. Whether proximal peers are considered friends or not, their communication and behavior can affect the well-being of others with whom they come into consistent contact.

Study results can inform the design and implementation of interventions seeking to improve the mental health of LGBTQ youth and youth in general. First, the finding that self-esteem increased, while depressive symptoms and anxiety decreased, bolsters emerging research elucidating the positive impact of identity-affirming programming on LGBTQ youth mental health. Interventions using similar approaches to address the unique needs of youth from other marginalized groups show promise to improve mental health. Second, the finding that

intervention-based proximity affects youth's psychological outcomes suggests that special attention should be paid to small group dynamics in the context of programming serving a sizeable youth population. In the camp context specifically, staff should consider how they are assigning youth to cabins. Traditional approaches such as assigning campers to cabins based on gender or sex may not be the most effective way to promote positive outcomes. Assigning cabins based on another shared characteristic or interest could promote greater social cohesion and well-being. Camp staff cannot choose who others become friends with, but they can choose with whom campers are housed. This study shows that camp housing – and the socializing that occurs within – can have an important effect on mental health, giving camps a greater opportunity to provide a positive experience.

While this study bolstered the scientific literature pertaining to a hard-to-reach youth population, some limitations – which suggest potential fruitful directions for future research – warrant discussion. First, this study involves a youth network that may not be representative of the general population of LGBTQ youth in the U.S. because study participants self-selected into a camp program. Random assignment of study participants to an intervention condition and a control condition was not feasible in this naturalistic context. However, social dynamics are commonly examined in organizational contexts where the potential for selection bias exists, as networks cannot usually be analyzed by random selection. Second, data collection occurred at two time points: pre-camp and at the end of camp. Follow-up data collected after camp (e.g., three months later) would help elucidate the enduring effects of camp on LGBTQ youth well-being, particularly in terms of network effects that did not emerge in the short-term camp environment. Finally, campers' attitudes toward and experiences with the all-gender cabins were

not measured. Understanding campers' attitudes toward and experiences with the all-gender cabins could inform other camps considering implementing all-gender housing.

LGBTQ youth are a growing population facing ongoing social challenges and related health disparities in the U.S. This study reaffirms the promise of tailored programming to improve the mental health of LGBTQ youth and it sheds light on how programming-driven proximity may affect the peer influence process as youth make friends and become integrated into an emerging social network. Peer proximity can help or hinder the positive effect of intervention programming. Given the challenges facing LGBTQ youth, increased attention by researchers, educators, practitioners, and policy makers to opportunities to maximize positive contact between LGBTQ youth can, over time, contribute to reducing the mental health disparities facing this expanding population.

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Table 1  
*Sociodemographic characteristics (N = 238)*

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Age	15.0 (1.72)
Gender identity	
Transgender male	33.9%
Cisgender female	20.6%
Gender nonconforming	16.3%
Unsure/questioning	7.3%
Cisgender male	5.6%
Transgender female	3.9%
Nonbinary	3.9%
Genderfluid	3.4%
Other	5.2%
Sexual orientation	
Bisexual/pansexual	42.1%
Gay/lesbian	29.6%
Unsure/Questioning	12.0%
Queer	8.2%
Asexual	3.4%
Straight/heterosexual	2.1%
Other	2.6%
Race/ethnicity	
White	71.1%
Multiracial	13.8%
Latinx	6.5%
Asian	3.0%
Black	2.2%
Native American	2.2%
Other	1.3%
Religion	
Atheist	33.6%
Unsure	18.5%
Agnostic	16.4%
Christian	11.2%
Jewish	7.8%
Pagan/Wiccan	4.7%
Other	7.8%

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Table 2  
*Pre-camp and post-camp friendship network descriptive statistics*

Variable	Pre-Camp (Time 1)	Post-Camp (Time 2)
Density	0.006	0.019
Average degree	1.592	4.935
Number of ties	414	1283
Depression (mean)	2.344	1.370
Anxiety (mean)	3.123	1.412
Self-esteem (mean)	4.895	5.318

Table 3  
*Results of SIENA analysis*

Hypothesis	Parameter	Parameter Estimate	Standard Error	
<i>Network Dynamics</i>				
	Rate	16.164	3.332	***
	Density	-3.021	0.526	***
	Reciprocity	2.116	0.417	***
	Transitivity	0.885	0.196	***
	3-cycles	-0.697	0.105	***
	Gender alter	-0.015	0.059	
	Gender ego	-0.015	0.071	
	Gender similarity	0.104	0.468	
	Cabin alter	-0.005	0.015	
	Cabin ego	-0.005	0.008	
	Cabin similarity	3.512	1.671	*
	Depression alter	0.006	0.078	
	Depression ego	-0.118	0.183	
H2b	Depression similarity	0.126	1.192	
	Anxiety alter	-0.004	0.197	
	Anxiety ego	-0.076	0.050	
H2c	Anxiety similarity	-0.109	1.085	
	Self-esteem alter	0.049	0.181	
	Self-esteem ego	-0.034	0.115	
H2a	Self-esteem similarity	-0.402	0.681	

<i>Depression Dynamics</i>				
	Rate	5.099	1.702	**
	Linear shape	-0.647	0.312	*
	Quadratic shape	0.017	0.579	
H3b	Average Similarity	5.600	26.121	
	In-Isolate	1.092	0.940	
<i>Anxiety Dynamics</i>				
	Rate	10.127	19.793	
	Linear shape	-0.476	0.446	
	Quadratic shape	0.058	0.397	
H3c	Average Similarity	3.576	24.769	
	In-Isolate	-0.200	2.385	
<i>Self-esteem Dynamics</i>				
	Rate	2.273	1.835	
	Linear shape	0.541	1.296	
	Quadratic shape	-0.081	0.959	
H3a	Average Similarity	2.026	15.211	
	In-Isolate	-0.817	4.238	

Note. \*\*\*  $p < 0.001$ ; \*  $p < 0.01$ ; \*  $p < 0.05$

Figure 1  
 Change in depressive symptoms (days per week) and standard deviation by session and cabin

