

RESEARCH REPORT



SWARM

Students With Ambition to Reunite Miami

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THE TEAM

Yi-Fan Chen

Yi-Fan's research interests aim to understand how users utilize mobile media to fulfill information and networking needs in everyday life. She is in training to be a design researcher to make more user-friendly mobile media interface to access information at a location with/ without their social network co-present at the same time.

Julia Henkel

Julia is a highly interactive Graphic Design major with a focus in Studio Art and Entrepreneurship. Julia loves to connect and interact with all walks of life. She is known to use these connection to influence her design work. She will be interning in New York this summer for a small intensive design studio. Post Graduation, she hopes to continue her education at a grad school to receive a masters in fine arts. From there she would love to work in a small studio in New York or Denver where she can incorporate her design and studio skills.

Libby Swofford

Libby is an outgoing Junior Graphic Design major with a focus in Interactive Media. Libby loves design because she gets to utilize creativity and make something useful and impactful with it. She hopes to one day use her degree to work with a Cincinnati Startup, branding and expanding a product or service through design. But for now, she will be putting her design education to work for Western & Southern Financial's Creative Services Department this summer.

THE TEAM

Brianna Burck

Brianna is an aspiring graphic designer with a creative yet equally analytical mind. She has a passion for vectoring and layout design because of the mathematical quality to both of these processes. Currently designing for Miami University's SLANT, she has discovered the power design has in influencing people as well as evoking emotion. Brianna feels experiences are the best source of inspiration and plans to travel to everywhere and try everything to collect all the experiences she can. In the future, she hopes to work at a design firm where she can have a hand in many different projects, all with various design aesthetics. But for now, she's living from day to day, looking for her next adventure.

Clara Yang

Clara has full of passion for design just like other designers in her class. No matter if the design for a school project, or for a freelance job, design occupies 80% of her time except eating, sleeping and working out. She enjoys doing various design such as packaging, branding, and advertising. Coding is not her thing but she is willing to learn more skills for better opportunity in her future career so that she codes hard while she is not designing. One day, she wants to open her own studio and work with her designer friends to build a successful design agency, but most importantly, she is the boss, so she would have time to travel around the world.

WICKED PROBLEM

Miami is a residential university (Miami University, 2017c) and was original built by faculty, staff, students, and local citizens who, in the words of Harriet Tubman, had “the strength, the patience, and the passion to reach for the stars to change the world” (Miami University, 2017a). Miami University has a long tradition of Greek life. One-third of the undergraduate students affiliates with the Greek community. In addition, Miami University has over 400 student organizations (Miami University, 2017d). On campus, students are organized by different groups. Some students do not affiliate with any groups might feel isolated.

Our team finds that there is a lack of student engagement on campus. This issue qualifies as a wicked problem, or a social or cultural problem that is difficult or impossible to solve (Rittel & Webber, 1973) at Miami University. This is because:

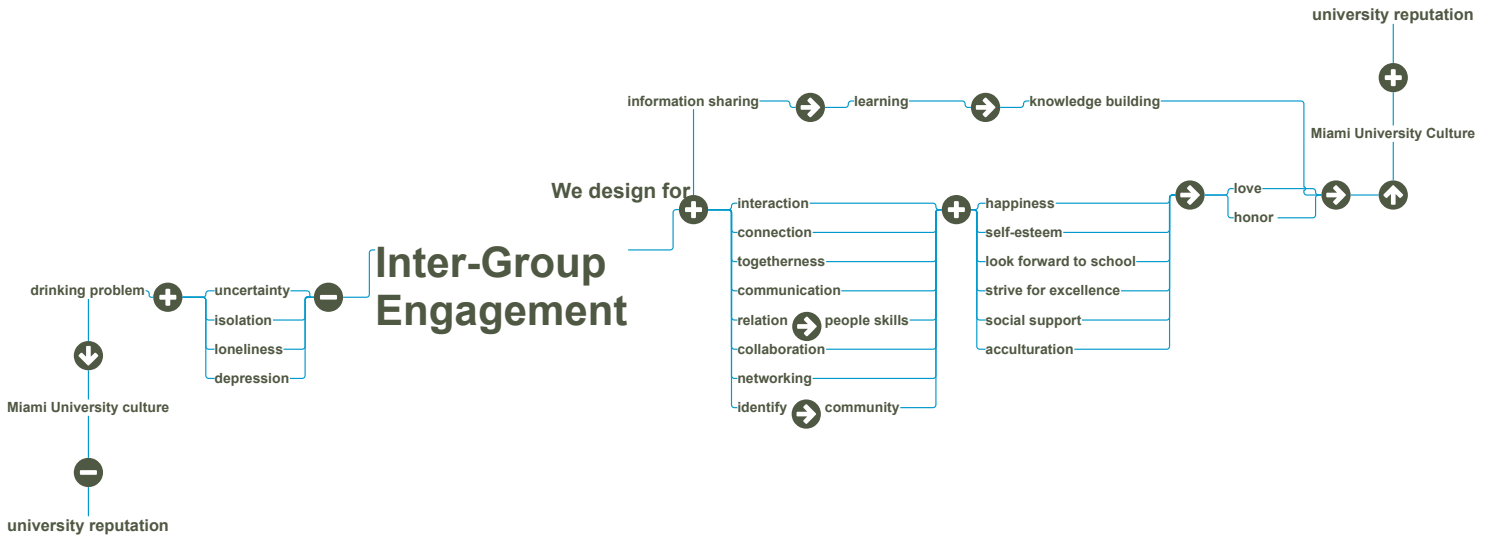
It is a human nature to fit in with a group of common interests, and Miami University pushes its students to find our niche on campus. But the problem is these niches promote an isolation from other groups. There is a lack of engagement between groups. But, if we take away the groups, we take away the appeal of Miami and certain groups that people fit in. This is essentially unique for Miami only (please see Appendix A for more details).

How do we approach this problem? We first conducted primary and secondary research of the wicked problem and design solutions to the wicked problem. Our wicked problem is a “one shot operation” and no given alternative solutions.

PROCESS DOCUMENTATION

The following pages contain documentation of the different iterations and designs we made in the process of this project.

CONCEPT MAP



Documentation of inter-group engagement.

RESEARCH METHODS

This project uses a triangulation of research methods including observations, in-depth interviews, and an online survey to understand the level of Miami University students' engagement between groups. The triangulation research method combines two or more forms of evidence with respect to an object of research interest (Fielding & Fielding, 1986).

The goal was to seek convergence of meaning from more than one direction. If data from two or more methods seemed to converge on a common explanation, the research finding was enhanced (Linflor & Taylor, 2002; Maxwell, 2005). In this study, both quantitative and qualitative data was collected.

OBSERVATIONS

Two observations were conducted for this study. Observation one took place at the Hall Auditorium at Miami University at 7pm on May 31, 2017, at a Vision Dance Company performance. Observation two was conducted at Uptown Oxford the next day, April 1, 2017.

When Miami students have leisure time, they might decide to go Uptown for some food, shopping, or socializing. Uptown was selected because Uptown has become the hub for day hangouts as well as the club scene at night for Miami students; whereas Hall Auditorium was selected because it is located on campus and it had a late night university-sponsored event. These two locations were chosen based on Muratovski's argument that "places often have the power to influence people's behavior" (2016, p. 64). Field notes and photos were taken.

OBSERVATION FINDINGS



This picture was taken 10 minutes before the event started at the Hall Auditorium. As you can see, most of the audience members were interacting with each other since they came as groups. We observed two people who came alone and sat alone but we didn't catch them with photos. The pink balloons suggest the photoed group came to support friends.



These three images were taken on Saturday afternoon around 3pm in uptown Oxford. As you can see, the photographed people are in groups, and some groups share similar style on the way they dress.

When we went to the Hall Auditorium to conduct observations, we observed that about half of the people there were parents and families while about half were friends of the performers. Family groups came early whereas friends groups came 20 minutes before the event. After they got their tickets, they went to the table which had all of performers' portraits posters for people to sign and write down encouraging notes. There were about 180 people total at the event, with less than 5 of those people being international students. We also recognized a couple art students. At least half of the Miami Students went there were in sororities based on the similar type of clothing and sorority raincoats they were wearing and based on our interview data. As for Uptown, we didn't observe really anyone hanging out by themselves. Groups hanging out was common, and it is human nature, because the stigma is that people would be seen as some sort of "weirdo" at public spaces if they were there alone. Unfortunately, we were unable to observe if different groups were interacting with one another, as it was hard to distinguish group divides.

INTERVIEWS

We conducted six in-depth interviews to understand Miami Student group engagement. In-depth interviews allow us to explore opinions and experiences in more detail (Morgan, 1988). Each interview took less than 5 minutes. The interview questions included three parts.

First, we asked those participants why they came to the event and who they came with. This part of the question that we tried to understand if the participants came with groups or come to support their groups.

Second, we asked those participants where they found engagement at Miami. Finally, we asked if their group had chances to mix with other groups, and why or why not. We also asked that the participants give us examples. No tape recordings were made due to the situations and the locations. However, notes were taken immediately after the interviews.

INTERVIEW FINDINGS

A majority of Miami students came as groups, they did not tend to come to events of this nature if it was not for supporting their friends. Two participants were there to support their family members. Only a couple students who came by themselves were there for fun because they did not have any other plans. Our interview data came from a group of the sorority girls and a group of the international students.

For the sorority participants, they were there to support their friends and they found their belonging in their sorority because they mentioned that they spent most of the time with their sisters. They mentioned that their groups often mixed, as their sisters also were their classmates or in shared organizations.

For the international students, some of them came for fun and some of them came to support friends. They were not affiliated with greek life, but they were really involved in student organization where they found their belonging. One girl said “there is very little chance of my groups mixing because it seems everyone has different schedules...” The participants spend time with their classmates when there is a group project or something related to the class, and hang out with other international students during free time. When it comes to student organizations, the members only spend time together when it came to the events their organization is holding.

For the non-sorority and non-international participants, they came to the show to support friends and their groups mix occasionally. Some of them said they met in class, and are now hanging out outside of that class. One girl was Child Education major and she said their classmates were always the same so they knew each other pretty well and therefore also hang out outside of the classroom.

SURVEY

An online self-administered questionnaire was developed (See Appendix C) and conducted the week of March 27, 2017. A questionnaire was used in this study because this study intends to describe trends, attitudes, and opinions (Fowler, 2002) of Miami students' group engagement.

SURVEY INSTRUMENTS

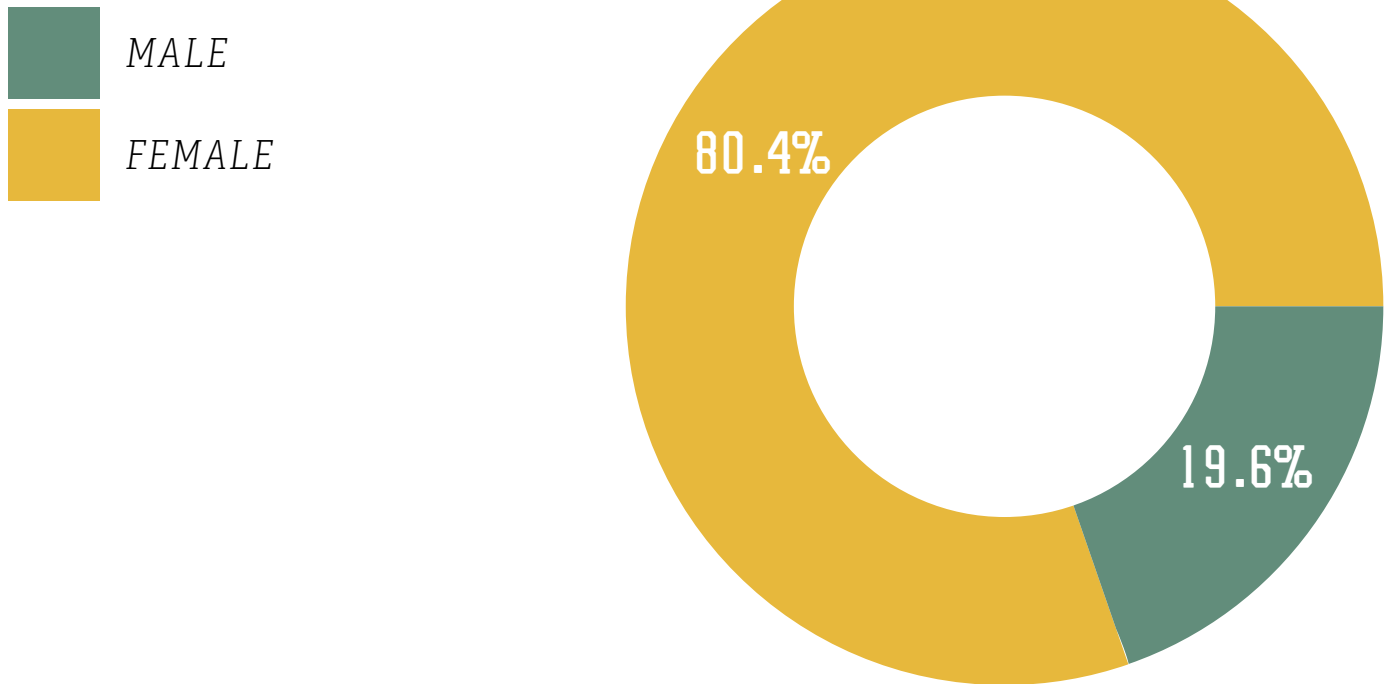
Two prior existing scales (i.e., “UCLA Loneliness Scale”, 1996, and Cheek and Buss’s “Sociability Scale”, 1981) were utilized to examine the research questions. The Revised UCLA Loneliness Scale (Russell, 1996) has been the most widely used measure of loneliness in the social science literature. In our study, we tried to see if there was a relationship between loneliness and groups mixing. Participants were asked to express how they feel about each statement on a 4-point scale: (1) never, (2) rarely, (3) sometimes, and (4) always. Three revised items were included in the scale.

Cheek and Buss (1981) created a 5-item Sociability Scale focusing on people’s desire to be with others. Participants responded to the item of Sociability Scale on a 5-point scale as being strongly disagree to strongly agree. Finally, a single item “People in different groups oftentimes mix. For instance, your club sport teammate could also be in your social fraternity. How often do your groups mix?” was created to examine the degree of groups mixing at Miami. The question was pre-tested with several people before including it in the final questionnaire.

The following pages break down the participant data we received from the online administered survey.

CHART 1: GENDER

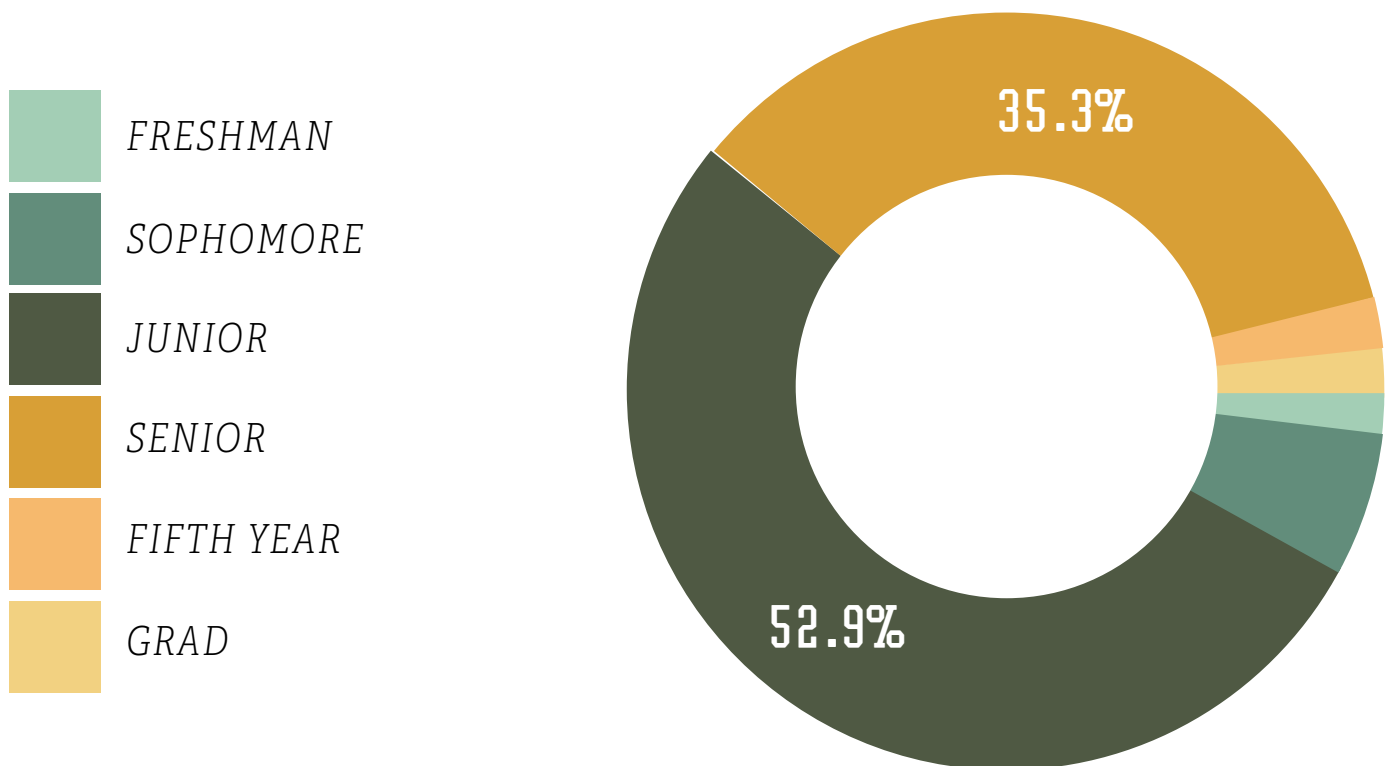
WHAT GENDER DO YOU IDENTIFY WITH?



Questionnaires were administered to 51 participants online via Google Forms. Question number three was omitted from data, as only one graduate student took the survey. The participants were 10 male (i.e., 20%) and 40 female (i.e., 80%) undergraduate Miami students (Please see Chart 1).

CHART 2: GRADE/YEAR

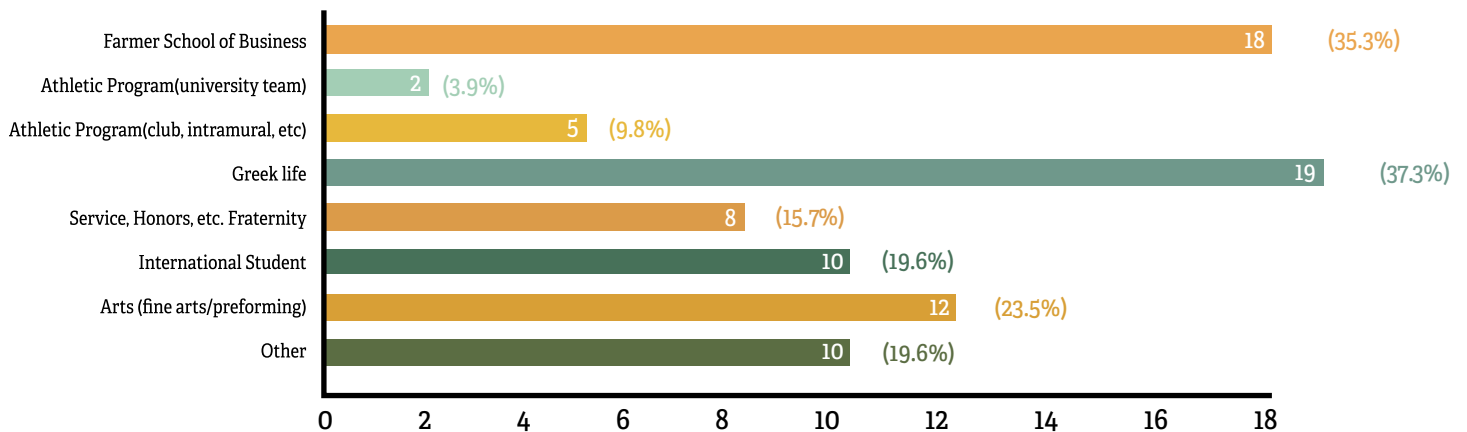
WHAT YEAR ARE YOU?



With regards to years at Miami, 2% were freshman, 6% were sophomores, 54% were juniors, and 38% were seniors in this study (Please see Chart 2).

TABLE 1: GROUP AFFILIATIONS

WHICH OF THE FOLLOWING ARE YOU AFFILIATED WITH? (51 RESPONSES)



In terms of asking their group affiliations, most of participants reported that they belong to either Farmer School of Business (35%) or Greek Life (37%) group. Many of the participants selected more than one groups that they are affiliated with (Please see Table 1).

TABLES 2 & 3: LONELINESS & SOCIABILITY

TABLE 2

Reliability	
Cronbach's Alpha ^a	N of Items
-.832	6

TABLE 3

Reliability	
Cronbach's Alpha	N of Items
.733	5

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check items codings.

As soon as the survey was administered, an SPSS data spreadsheet was created. Both UCAL Loneliness Scale as well as the Sociability Scale were examined with Cronbach's alpha tests to measure the reliability. Two variables (e.g., Loneliness with Cronbach alpha of -0.83 (Please see Table 2) and Sociability with Cronbach alpha of 0.73 (Please see Table 3) were created.

In order to answer research questions, this study first defined dependent and independent variables. Years at Miami and gender were the independent variables, whereas loneliness, sociability, and group mixing were the dependent variables. Pearson correlation analysis was performed to test relationships among variables. An independent T-test was computed to assess differences between genders and a self-reported group mix, self-reported loneliness, and a self-reported sociability.

SURVEY DATA ANALYSIS & FINDINGS

There was no difference between genders in self-reported group mix, self-reported loneliness, and self-reported sociability. The following pages break down the data we received from the online administered survey.

TABLE 4: T-TEST

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df.	Sig.(2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Group	Equal variances assumed	6.764	0.12	-1.247	48	.218	-.275	.221	-.718	.168
	Equal Variances not assumes			-.848	10.167	.416	-.275	.324	-.996	.446
Loneliness	Equal variances assumed	.210	.649	2.261	48	.028	.17917	.07923	.01987	.33847
	Equal Variances not assumes			2.525	16.152	.022	.17917	.07096	.02886	.32948
Sociability	Equal variances assumed	4.721	.035	-1.336	48	.188	-.31500	.23571	-.078893	.15893
	Equal Variances not assumes			-1.022	10.876	.329	-.31500	.30837	-.99466	.36466

T-Test results showed that there was no statistical significance (1) between gender and self-reported loneliness; (2) between gender and self-reported sociability; and (3) between gender and self-reported group mix in this study (Please see Table 4).

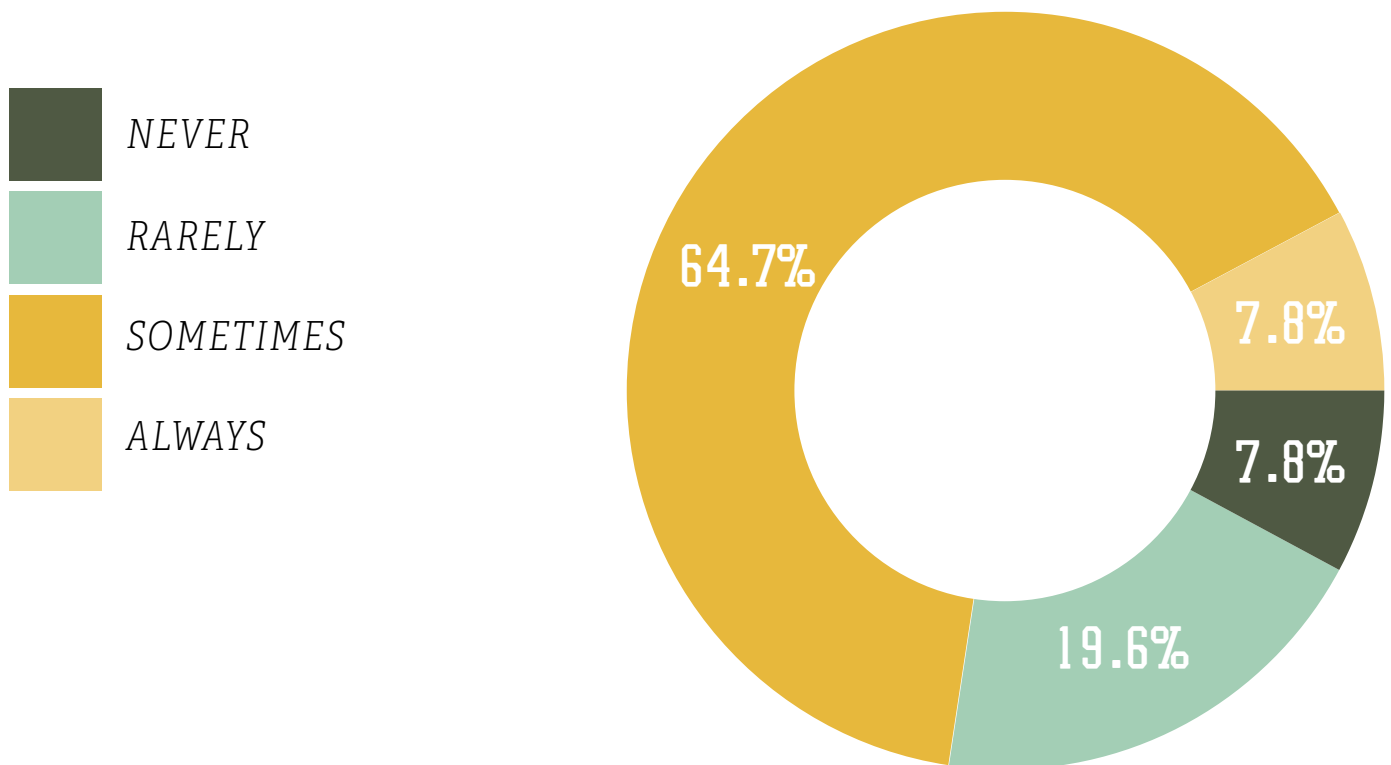
TABLE 5: CORRELATIONS

		CORRELATIONS				
		gender	year	group	loneliness	sociability
gender	Pearson Correlation	1	.060	.177	-.310*	.189
	Sig.(2- tailed)		.678	.218	0.28	.188
	N	50	50	50	50	50
year	Pearson Correlation	.060	1	.209	0.44	-.274
	Sig.(2- tailed)	.678		.144	.760	.055
	N	50	50	50	50	50
group	Pearson Correlation	.177	.209	1	-.322*	.397**
	Sig.(2- tailed)	.218	.144		.023	.004
	N	50	50	50	50	50
loneliness	Pearson Correlation	-.310*	.044	-.322*	1	-.259
	Sig.(2- tailed)	.028	.760	.023		.070
	N	50	50	50	50	50
sociability	Pearson Correlation	.189	-.274	.397**	-.259	1
	Sig.(2- tailed)	.188	.055	.004	.070	
	N	50	50	50	50	50

The more groups mix the more increasing sociability and decreasing loneliness and in this study, Pearson correlation analysis indicated that group mix was positively correlated with sociability ($r = 0.4, p < 0.01$) whereas negatively correlated with revised loneliness ($r = -0.32, p < 0.01$). The results suggested that Miami students whose groups had more mixed with other groups were more likely to be more sociability and less loneliness. For the individual level, gender was negatively correlated with revised loneliness ($r = -0.31, p < 0.05$). The result suggested that female students felt less lonely than male students (Please see Table 5).

CHART 3: GROUP MIX

PEOPLE IN DIFFERENT GROUPS OFTEN MIX. FOR INSTANCE, YOUR CLUB SPORT TEAMMATE COULD ALSO BE IN YOUR SOCIAL FRATERNITY. HOW OFTEN DO YOUR GROUPS MIX?



Limited group mix at Miami:

When we asked about group mixing, most participants answered their groups either never or rarely mix with other groups (84.3%). These results suggested Miami student groups were not likely to mix with other groups (Please see Chart 3).

CONCLUSIONS & IMPLICATIONS

Both survey and interview results show that there is a lack of group mixing at Miami University. Students have a strong relationship within their groups. However, the group-to group engagements are limited. The survey result shows that students' groups that have mixed more with other groups are more likely to be sociable and less loneliness. The results imply that there is a need to increase group mix to reduce loneliness and increase sociability. It is more true in male students than female students.

THEORETICAL FRAMEWORK

Uncertainty Reduction Theory is developed in 1975 by Charles Berger and Richard Calabrese. The theory argues that people need to reduce uncertainty when they meet others. They can exchange verbal and nonverbal information to predict the others' behavior and make relationships. The theory proposed three different steps of human interactions: the entry stage, the personal stage, the exit stage.

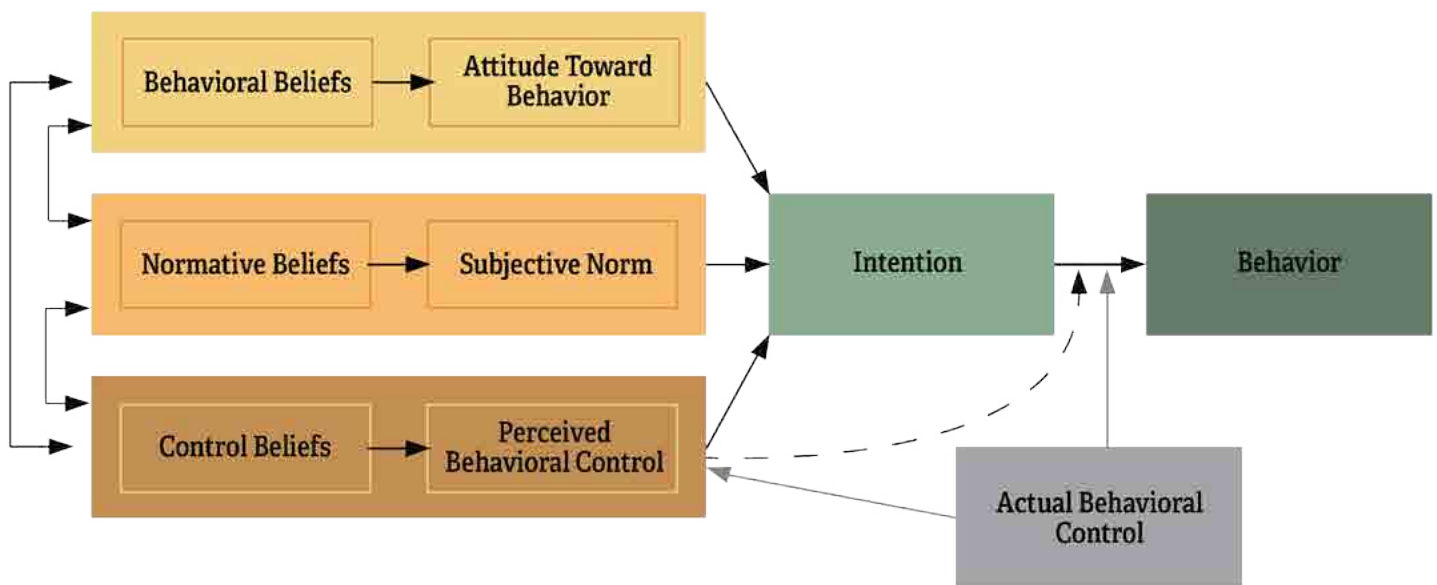
In the entry stage, Berger (1986) define it as the beginning stage of an interaction between strangers. It is guided by both implicit and explicit rules and norms. The personal stage can occur during an initial encounter, but it is more likely to begin after repeated interactions. Finally, the exit stage refers to the stage during which individuals make the decision about whether they wish to continue integration with each other in the future.

In Miami situation, we will encourage each group to interact with other groups (the entry stage) and exchange personal information (the personal stage). We are hoping to the exit stage, those groups could decide that they want to continue to develop a relationship.

THEORETICAL FRAMEWORK CONTINUED

Theory of planned behavior by Ajzen explains human behavior. In the theory, people's attitude toward the behavior, subjective norms, and perceived behavioral control make an individual's behavioral intentions and behaviors (Ajzen, 1991). Ajzen (1991) explains the attitudes toward behavior, subjective norms, and perceived behavioral control as followed:

“The first is the attitude toward the behavior and refers to the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question. The second predictor is a social factor termed subjective norm; it refers to the perceived social pressure to perform or not to perform the behavior. The third antecedent of intention is the degree of perceived behavioral control which [...] refers to the perceived ease or difficulty of performing the behavior and it is assumed to reflect past experience as well as anticipated impediments and obstacles” (p. 188).



In our case, we are trying to make everyone to believe interaction with other groups is important, the behavior will make the person and other people happy, and it is not hard at all to communicate with other group people. By doing so, we hope to encourage engagement among groups.

Note: The 3-page annotated literature review is in Appendix B

PERSONAS



ADAM MONTGOMERY

Age: 22 / Senior

Gender: Male

Miami Involvement: Service/Academic Fraternity, Club Tennis, Social Fraternity

Major: Accounting/finance/Business (FSB)

Frequently Attended Events: meetings, weekend retreats, Late Night Miami, matches, chapter, brotherhood events

Adam has been a highly involved individual on campus. He has maintained his reputation at the Farmer School of Business by remaining incredibly active in his business/ service fraternity. He knows a wide range of students on campus but he becomes discouraged because he often finds himself too spread thin to really attend all the events he wants to go to. He feels because he is too spread thin and is surrounded by so many different groups he has had a hard time finding a sense of belonging because he is constantly moving from one event to the next.



JACLYNN HOHMAN

Age: 21 years old / Junior

Gender: Female

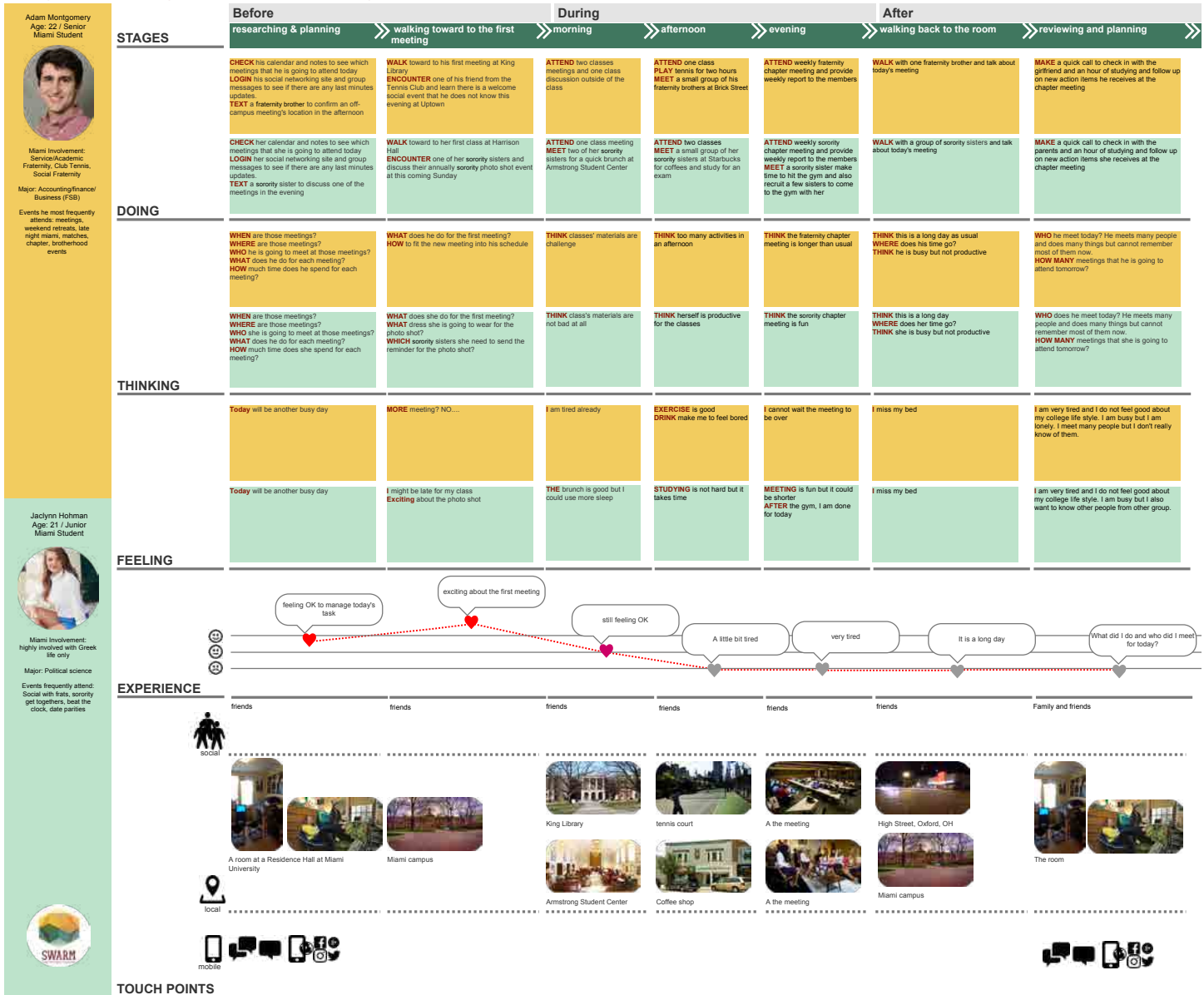
Miami Involvement: highly involved with Greek life only

Major: Political science

Frequently Attended Events: Social with frats, sorority get-togethers, beat the clock, date parities

Jaclynn always feels like she is apart of something and very rarely feels like she is not a part of this campus, but realistically she only knows a very small amount of her peers. She has been a member of a sorority at Miami university's campus for the past three years and she does everything with her sisters. She very rarely attends on campus events or really any events that are not planned by the greek community. It is not because she doesn't support Miami she just does not communicate with the students who are attending these events/ the students putting these events on. How can we get Jaclynn more involved on campus? How can we spread communication between all organizations on campus?

USER EXPERIENCE MAP I: PERSONAS



Both personas do different things and have different thinking, feeling and touch points for their day at Miami University. However, they share a similar experience-- a busy day with lacking group engagement.

BRAND/IDENTITY



SWARM

Students With Ambition to Reunite Miami

Primary, vertical logo mark



SWARM

Students With Ambition to Reunite Miami

Secondary, horizontal logo mark

COLOR PALETTE



Color palette pulls right from the logo mark, and is utilized in every design aspect

TYPEFACES

PROMESH REGULAR

ABCDEFGHIJKLMNOPQRSTUVWXYZ

1234567890 !#\$%&C]

Adelle Condensed

Thin Light Regular **SemiBold Bold**

ExtraBold Heavy

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxy

1234567890 !@#\$%^&*()

SERVICE DESIGN

The solution to our problem of student engagement at Miami is in and of itself a service design. Our solution is a weekend-long event called SWARM: Students With Ambition to Reunite Miami. We have planned, organized, and branded all materials that go into the event. They will be showcased and explained throughout the next couple of pages.

ADVERTISEMENTS



Banner ads will be displayed across campus on light posts. The main text “Expand your hive!” intrigues and invites viewers to come closer and read the smaller text on the banners.

ADVERTISEMENTS



TV ads will be displayed across campus in Armstrong, Dining Halls, or wherever TVs are present.

ADVERTISEMENTS



Large banner will be outside of Shriver Center. This is where the event will take place, and will also act as a beacon during the event itself.

ADVERTISEMENTS



A Frame will also promote the event before and during at Shriver Center.

SWAG BAG



Students will get a bag upon check in with T shirt, pens, planner, name tag, and bag. Students will utilize these items throughout the weekend at SWARM.

BROCHURE



Brochure contains schedule of events and all pertinent information for the weekend at SWARM.

ENVIRONMENTAL GRAPHICS



First entry into the event.

ENVIRONMENTAL GRAPHICS



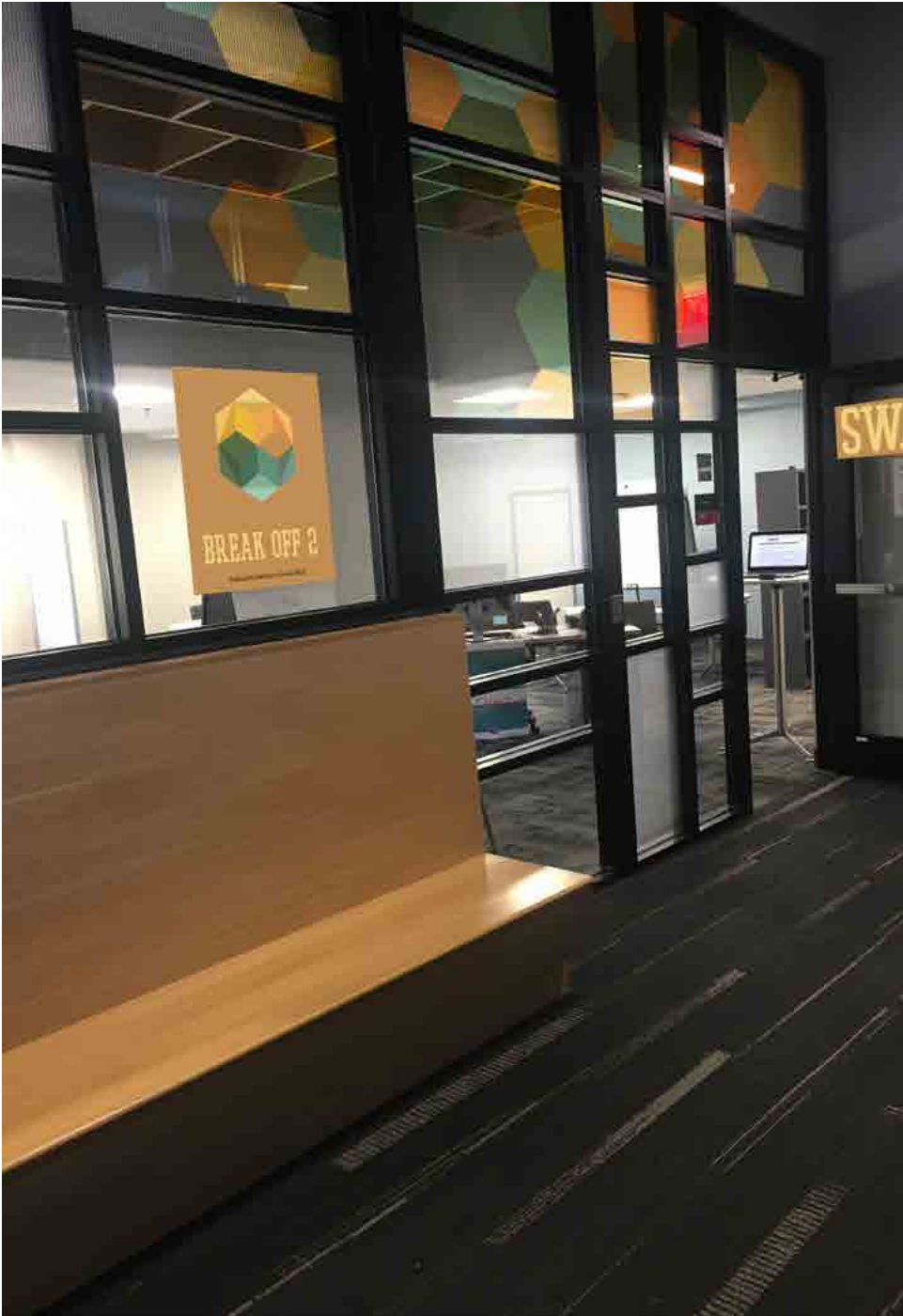
Next entry into event.

ENVIRONMENTAL GRAPHICS



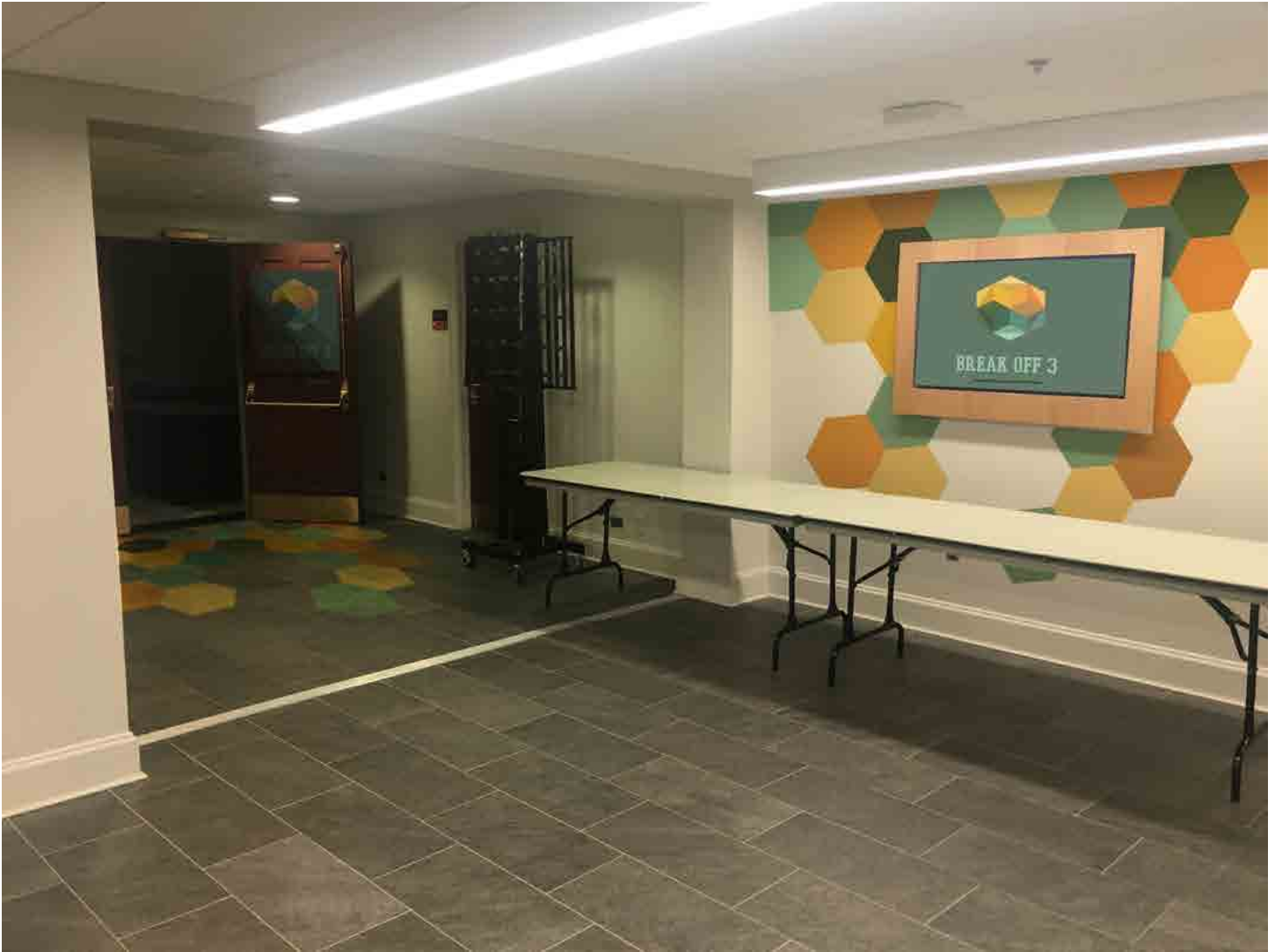
Break off room one.

ENVIRONMENTAL GRAPHICS



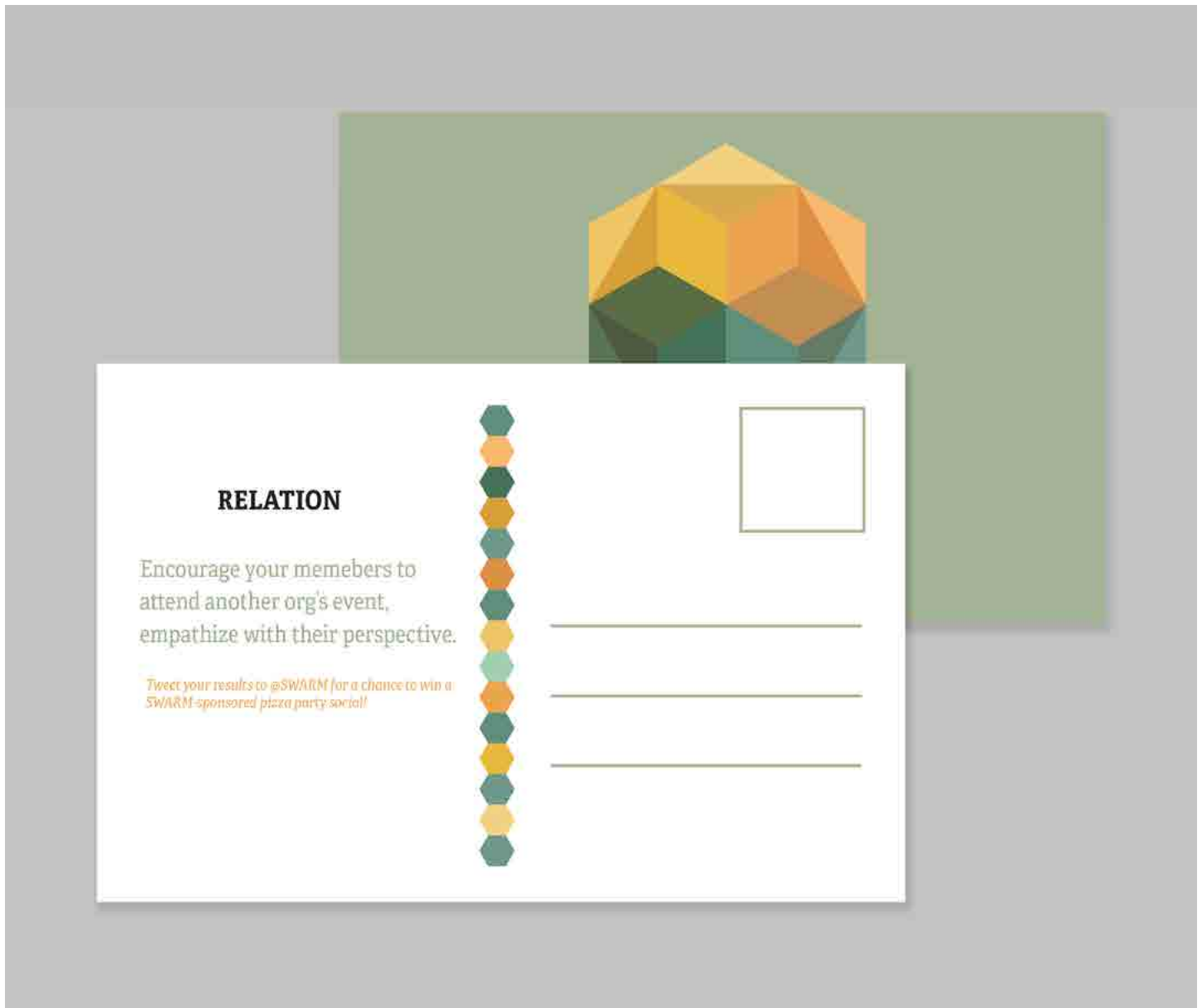
Break off room two.

ENVIRONMENTAL GRAPHICS



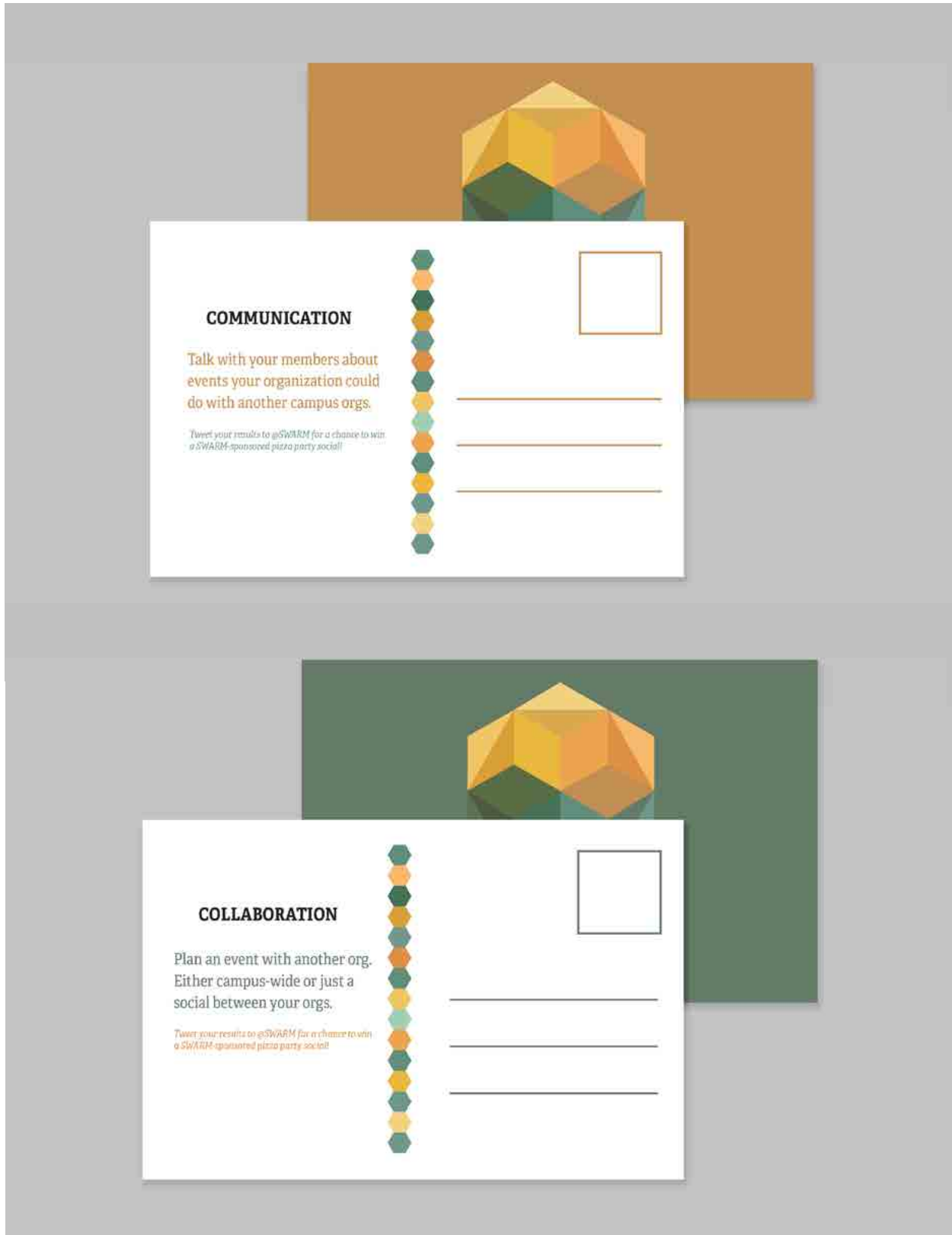
Break off room three.

POST CARDS

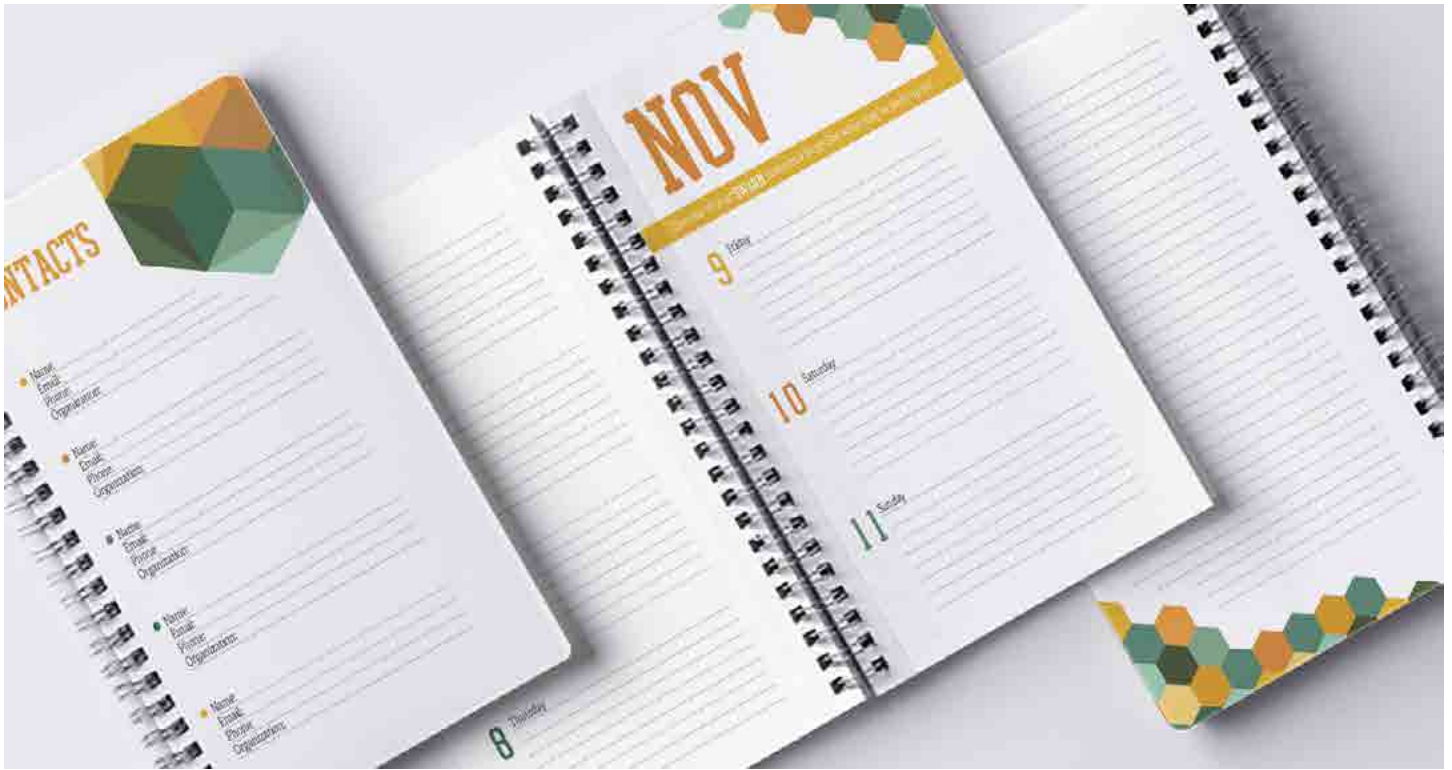


Post cards will be sent to participants in iterations for the weeks following the event. The post cards prompt participants to take action and continue their engagement with other student organizations.

POST CARDS



PLANNER



Planner is handed out at the event in the swag bag, but can continue to be utilized in the weeks and months following the SWARM event. Pages prompt students to take action and set goals for more engagement.

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APPENDIX A

A wicked problem is a social or cultural problem that is difficult or impossible to solve. Wicked problems are difficult or impossible to solve because their incomplete or contradictory knowledge, the number of people and opinions involved, the large economic burden, and the interconnected nature of these problems with other problems. According to Rittel and Webber (1983), a wicked problem has ALL ten characteristics as followed.

There is no definitive formulation of a wicked problem:

Miami has so many student groups. On campus, approximately one-third of the undergraduate student population are members of the fraternity and sorority community (Miami University, 2017b). Miami University website comments that fraternities and sororities have contributed to campus tradition, success, and pride. Groups are important parts of the Miami culture. On the other hand, for many youth in the U.S., moving out of the parental home and moving into a separate residence was a milestone in the transition to adulthood. During their late teens through their twenties, young adults learned foundational skills for their later adulthood (Arnett, 2000). College years are mentioned to be an important time period for students to learn how to be independent from their family and get ready to be responsible adults. Scholars (e.g., Arnett, 2004) from the social development field paid special attentions to how college students transitioned from children to adults. American college students learned their social skills and created their social capital on college campuses (Arnett, 2004).

When Miami undergraduate students strongly focus on their group life, they also have less chances to socialize with other groups and learn different skills. Moreover, there are another group of undergraduate students who do not affiliate with any groups. This is essentially unique for Miami only.

Wicked problems have no stopping rule

It is hard and maybe impossible to measure or claim success with wicked problems because they bleed into one another. When our team tries to design solutions for group mixing at Miami University, we will find more issues during and after the group mixing.

Solutions to wicked problems are not true-or-false, but good-or-bad

In this case, our team is seeking the solutions to improve a situation rather than solve it because our wicked problem does not have a true-or-false answer. We are seeking the greater good for most of the undergraduate students to socialize with other groups and have a smoothly transitioned to their adulthood when they graduate from Miami University.

APPENDIX A CONTINUED

There is no immediate and no ultimate test of a solution to a wicked problem

Although we utilize Theory of planned behavior (Fishbein & Ajzen, 2011) and Uncertainty Reduction Theory (Berger, 1986) to help our design, we also know that approaching the wicked problems must literally make things up as they go along.

Every solution to a wicked problem is a “one-shot operation”; because there is no opportunity to learn by trial-and-error, every attempt counts significantly

When we design solutions for Miami undergraduate students to interact, connect, communicate, and build the relationship with people from other groups, we focus on creating a major change at the event. We research the wicked problem and careful design solutions because we understand that this wicked problem is only a “one-shot operation” because a significant intervention changes the design space enough to minimize the ability for trial and error.

Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan

In our case, we think so many other solutions to solve the wicked problem. Each solution will have the different outcome. Therefore, we incorporate several designs, such as service, screen-based, ephemera, and create the brand/identity.

Every wicked problem is essentially unique

The wicked problem that we are trying solving is essentially unique for Miami University only because other universities have different university cultures and different student population. The Miami University's wicked problem, lacking group engagement, cannot apply to other institutions or university.

Every wicked problem can be considered to be a symptom of another problem

Every wicked problem is a symptom of another problem. The interconnected quality of group mixing systems illustrates how, for example, a change in training will cause new behavior in social networking and learning new skills.

The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem's resolution

There is always more than one explanation for a wicked problem, with the appropriateness of the explanation

APPENDIX A CONTINUED

depending on the individual perspective of the designer. We have 5 people in a team with different backgrounds. Therefore, we have different interpretations of the wicked problem. Many communications and discussions involve concluding the “lack of group engagement” to be the main wicked problem for the project.

The planner has no right to be wrong

Designers attempting to address a wicked problem must be fully responsible for their actions. We do not know how our design will lead us and how many new issues will occur after our design solutions. However, we know that we try to make the Miami University a better place for undergraduate students to engage, learn, love, and honor. We are designing a change of Miami culture.

APPENDIX B

Ajzen, I. (1991). The theory of planned behavior. *Organizational behavior and human decision processes*, 50(2), 179-211. doi: [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)

In this article, Ajzen explains in details each factor (i.e., attitude toward the behavior, subjective norm, and perceived behavioral control) of Theory of Planned Behavior by many supporting pieces of evidence. Examples include utilizing the theory to predict problem drinking and leisure behavior. Ajzen tried to show that the theory of planned behavior provides a useful conceptual framework for dealing with the complexities of human social behavior. He also calls for more research to examine the theory.

Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480. doi: <http://dx.doi.org/10.1037/0003-066X.55.5.469>

Arnett's study on emerging adulthood focuses on development for the period from the late teens through the twenties, with a focus on ages 18–25. In this period, young adults learned foundational skills for their later adulthood. The research first presents a theoretical framework, then shows the evidence is provided to support the idea that emerging adulthood is a distinct period demographically, subjectively, and in terms of identity explorations. Finally, the article also shows the emerging adulthood in cultural context (i.e., the culture that allows young people a prolonged period of independent role exploration during the late teens and twenties).

Arnett, J. J. (2004). *Emerging adulthood: The winding road from the late teens through the twenties*. New York, NY: Oxford University Press.

Arnett studies people from age 18 to 29 in media use, social class issues, and the distinctive problems of this life stage. He argues that most people in industrialized societies have postponed their transitions from childhood to adulthood until at least their late twenties. They instead spend the time in self-focused exploration as they try out different possibilities in their careers and relationships. In his book, he emphasizes the people in the emerging adulthood have meaningful and satisfying work to a degree not seen in prior generations. He also addresses many challenges on the life stage. This is an indispensable reading for anyone wanting to understand the new young people of modern America.

APPENDIX B CONTINUED

Berger, C. R. (1986). Uncertain outcome values in predicted relationships uncertainty reduction theory then and now. *Human Communication Research*, 13(1), 34-38. doi: 10.1111/j.1468-2958.1986.tb00093.x

In this article, Berger responded Professor Sunnafrank's questions to the Uncertainty Reduction Theory to extend the Uncertainty Reduction Theory to account for the growth and decline of relationships due to positive and negative outcomes. Positively predicted outcomes will facilitate relationship grow whereas negatively predicted outcome will decrease relationship. Berger uses other scholars and researchers' findings to response to Professor Sunnafrank. He goes into the details to explain how the Uncertainty Reduction Theory might lead to different outcomes.

Berger, C. R., & Calabrese, R. J. (1975). Some explorations in initial interaction and beyond: Toward a developmental theory of interpersonal communication. *Human communication research*, 1(2), 99-112. doi: 10.1111/j.1468-2958.1975.tb00258.x

This research focus on explaining the initial entry stage of the Uncertainty Reduction Theory. It also includes explaining seven axioms (e.g., Verbal communication, Non-verbal affiliative expressiveness/warmth, Information seeking, Intimacy level of communication content, Reciprocity) and 21 theorems (eg, Amount of verbal communication and nonverbal affiliative expressiveness are positively related; Amount of verbal communication and intimacy level of communication are positively related.). Berger and Calabrese discussed some of the problems to be considered when applying the theory.

Cheek, J. M., & Buss, A. H. (1981). Shyness and sociability. *Journal of personality and social psychology*, 41(2), 330-339. doi:http://dx.doi.org/10.1037/0022-3514.41.2.330

Cheek and Buss study the relationship between shyness and sociability by 952 undergraduate students. In the finding, there is a relationship between shyness and sociability. They argue that scholars and researchers should be known whether people are shy but also they are low sociable. We use their scale to examine how sociable of Miami undergraduate students are to compare the group mixing.

APPENDIX B CONTINUED

Fishbein, M., & Ajzen, I. (2011). *Predicting and changing behavior: The reasoned action approach*. New York, NY: Taylor & Francis.

This book provides a definitive description of the reasoned action approach to predicting behavior. It goes into details to guide scholars and researchers who like to examine the Theory of Planned Behavior to their research. The book begins with a brief history of the research in predicting human behavior, noting how previous researchers struggled to explain why attitudes were such a poor predictor of human behavior. This book also serves as a tutorial on the proper aspects of designing a scientific study of human behavior.

Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy sciences*, 4(2), 155-169. doi: 10.1007/BF01405730

In this article, Rittel and Webber define what is a wicked problem. A wicked problem is hard to be solved because it changes all of the time. It is a social and culture problem. This article lists 10 distinguishing properties for designers and researchers to define if he or she is encountering a wicked problem. Those items are also very helpful to understand what issues might occur in a design research process.

Other references that used on this project are either online information or research tool books. Therefore, they are not included in the annotate list.

APPENDIX C

Survey Questionnaire

Answer the following questions with Never, Rarely, Sometimes, or Always

1. How often do you feel you are “in tune” with the people around you?
2. How often do you feel that you lack companionship?
3. How often do you feel there is on one you can turn to?
4. How often do you feel alone?
5. How often do you feel part of a group of friends?
6. How often do you feel you have a lot in common with the people around you?
7. People in different groups oftentimes mix. For instance, your club sport teammate could also be in your social fraternity. How often do your groups mix?

Answer the following questions with Strongly Disagree, Disagree, Neutral, Agree, or Strongly Agree

8. I like to be with people
9. I welcome the opportunity to mix socially with people
10. I prefer working with others rather than alone
11. I find people more stimulating than anything else
12. I'd be unhappy if I were prevented from making social contact

Answer the following questions from the options provided

13. What year are you? Freshman, Sophomore, Junior, Senior, Fifth Year, Grad Student
14. Which of the following are you affiliated with? Farmer School of Business, Athletic Program (university team), Athletic Program (club, intramural, etc), Greek Life, Service, Honors, etc. Fraternity, International Student, Other
15. Gender? Male, Female, Other

APPENDIX D

The following pages explore and document all designed items for SWARM. But to begin, here is a brief summary of what each group member accomplished:

Julia:

Environment Installations, Check in sign, Break-off signs, Mood Board

I wanted to keep simplistic look of our initial design. This is why the break off signs / check in designs match the initial logo layout. For the environment I wanted it to connect with our other elements; therefore, I put the the continuous pattern on the walls. (These are not permanent installations, we assume we would use vinyl wall stickers) The pattern on the walls/ground also acts as a wayfinding tool as it moves through the physical space.

Libby:

Report pdf, School spirit mood board, Brand guide, Name Tags, Light post banners, TV ads, T shirt front

Everything I designed reflects our brand guide. The name tags would be pre-printed and include first and last name, as well as what org you are representing. The Banners and TV ad 2 are promotional ads to let students know when SWARM is. TV ad 1 is a welcome ad to the actual event at Shriver center. The T shirt front is just the front pocket design mocked up on a man.

Clara:

Bag, Pens, notebook(cover+one of the pages), T-shirt, postcards, sticker

Following the brand guide with color scheme and playing with the hexagon shape, I made various patterns with the same idea to apply on the applications. To make our logo pop out more, we chose to keep most of the background white. Postcards use the same three colors from break off signs on the front with our logo, but on the back, divide into our three keywords(communication relation collaboration) with the question to make participants think deeper about our topic. Also provide a chance to win pizza party social if they tweet their thinking results @Swarm.

APPENDIX D CONTINUED

Yi-Fan:

UX Map, personas,

I was trying to map two different personas' experience in one map to identify the design wicked problem and hope to guide a design solution for their problems. Although there are two different personas in our projects, our team is able to find the similar issue from them. A day made of Miami students is busy but not much engagement with the different group of people.

Brianna:

Event Itinerary, Program, Planner/Notebook/Contact Book, Hexagonal Mood Board

In the initial ideation, I mocked up multiple itineraries for our event and then looked up and planned the speakers, activities, break-off topics, and venue. In keeping with our brand guidelines, I designed an accordion-folding program that is in the shape of a hexagon. I wanted to maintain the playfulness of our brand while still being easily understood and informative. I made sure to consider which "pages" participants would need to reference the most and made the easiest to access. Finally, I created a planner to be used during and after the event. The planner has contact pages and notebook pages to be used during the conference, as well as being a full academic planner so participants can use it after the event, thus having their SWARM contacts and notes close at hand. The planner also includes prompts to encourage participants to continue practicing the SWARM goals.