

# Designing a Social Support System for College Adjustment and Social Support

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## Abstract

A main characteristic of current social systems is that they are designed to never-endingly captivate the attention of users, but are rarely designed to give support to those that need it. We describe the development process of Buddy, a social support mobile app for college students. We created a message stream algorithmically designed to give more attention to those with low psychological wellbeing, hidden feedback metrics to discourage competition or social comparison, and bots to deliver automatic one-click feedback in the form of virtual hugs. Across two field studies, we found that these small design changes can facilitate different types of behavior and community norms.

## Introduction

Social support can play a pivotal role in improving both physical and mental health (Thoits, 2011) and, in the context of college, it is positively related to adjustment of students (Hays & Oxley, 1986). Several studies have examined how Facebook affect social experiences of first year undergraduate students and their social integration and adjustment (Yu et al., 2010; Kim et al., 2011; Wohn & LaRose, 2014). These studies show that social media platforms have a crucial role in bringing social support college students and their adjustment to college.

However, generic social media are not designed for social support goals, but arguably to maximize user engagement and attention. Algorithms on social media are generally more likely to bring attention to posts which are already popular (Muchnik, Aral, & Taylor, 2013). This could create situations in which people who do not have interesting content, or people who need attention but don't receive it, could become further isolated. Not receiving enough feedback on social media may lead to lower levels of self-esteem for users and endanger their belonging needs to social media (Tobin, Vanman, Verreynne, & Saeri, 2014).

## Buddy Features

Building on past examples of social media specifically designed for college environments (e.g., DeAndrea et al.,

2012; Wohn, 2012) we developed Buddy, a pseudonymous system that encourages social support in a college context. Buddy enables users to post short status updates, somewhat similar to Twitter or Yik Yak. Users can then respond to others' posts through one-click feedback or comments. Posts can also be flagged for inappropriate content.

Sorting posts based on popularity may make a portion of users become invisible (Bucher, 2012) so we added a Bell feature where users can indicate posts that they think need more attention than other posts. We thus had two different columns that curated the content in different ways. The "Newsfeed" showed posts within all the categories in reverse chronological orders and did not modify orders of posts based on popularity of users and/or their posts. No algorithm was applied to this feed. The "Special" feed was comprised of posts that received two bells, thus utilizing principles of community engagement to help identify people who need more attention.

Instead of Likes, we had Hugs as a form of one-click feedback (Hayes et al., 2016) based on research that Hugs were perceived as being more supportive (Ahmadi et al., 2016). We also created bots that automatically deliver Hugs to individuals when they post something. This was designed to give immediate attention to everyone who posts because while people with healthy mental health may not care about the lack of feedback, those in shaky mental health status may feel worse about themselves if they do not receive feedback. There were three bots: one that had a profile name that was stereotypically male (college dude), the second appeared female (cupcake princess), and the third claimed it was a bot (hugbot). When users signed up, they were randomly assigned to one of these three bots.

As part of the iterative design process while we were refining our paper prototype, in fall 2015 we conducted five focus groups with 26 participants of a variety of cultural, ethnic, and racial backgrounds (mean age=21). One thing that we had not considered, but emerged in our focus groups was that participants described how seeing the metrics on feedback received for posts may change how they would use social media platforms:

“If I looked at how I wrote something and someone wrote something, even if it’s vaguely similar or completely different, I would start comparing the number of hugs in my head.” (Male, 26, White)

These responses illustrated that at an interpersonal level, competition or social comparison could be caused by having visible metrics for posts. Thus we applied a special privacy setting in which the number of Hugs that users receive are hidden to other users. However, users are able to view the number of Hugs that they receive on their own posts next to the Hug icons. Users may also click on the Hug icon to see who hugged them.

### **Closed Field Trial**

In spring, 2016, we conducted a four-week field trial with 16 students to understand how they use Buddy within the college environment. We reached out to peer mentors who run learning communities and students from the Honors College. This population was a deliberate choice, because a social support system needs a strong group of individuals who can provide the support.

When we asked our participants about the use of Bells and Special Feed, three participants told us that Special Feed was different from existing social media. They described that on these platforms, posts which are popular and trending are usually shown on the top of other posts and they attract most of the attention of users. This leads to missing out on individuals who need to confess, share their thoughts, and express themselves. However, they described that on Buddy, they were able to go through posts differently because Special Feed offered them a separate section for viewing posts that needed more attention and a proper way of getting in contact with students who were experiencing difficulties at college.

A couple participants did not think Hugs were very much different from Likes, but many participants described how Hugs enabled them to show sympathy to other students. However, our participants mentioned that depending on the topics of posts, their feelings towards receiving or giving Hugs were different. Three of our participants said that they found Hugs appropriate on posts in which students disclosed personal matters and asked for social support from other users, but they felt that Hugs might lead to confusion when there were posts from other topics.

When we told our participants about the Hugbots, the participants who were being hugged by a bot that was actually named “Hugbot” thought it was off-putting that a bot was hugging them. The participants in the other conditions, however, did not suspect at all that it was a bot until we informed them. When asked how they felt about being given immediate attention through a bot, the participants were surprisingly open to this form of communication. However, they said that if they later found out it was a bot, it would make them feel even worse about themselves.

We realized that a Hugbot could serve an effective purpose in the short term but in the long term, could create

problems, such as a user developing feelings for the bot over time. This notion of development of an idealized relationship that happens through mediated spaces is referred to as hyperpersonal (Walther, 1996) and while the original theory is designed to examine such dynamics between people, it could very well be that the same principle could be applied to human-bot communication, if the human perceived the bot to be a fellow human.

We asked the participants how they felt when they noticed that metrics on posts from other users were hidden. Two participants described that hidden metrics avoided comparisons among users and as a result they felt equally important as other users. Particularly when they posted about sensitive topics, this feature protected their self-esteem by enabling them to focus on their own posts and not posts from other users. However, participants also told us that post metrics might be useful to them when they were consciously evaluating attention of others users within certain scenarios and/or examining popularity of posts from specific topics.

### **Open Field Trial**

In fall of 2016, the Buddy app was registered on both Google Play and the Apple App Store and flyers were posted across campus inviting students to participate in an app to “connect with other students online.” About 220 students created downloaded and installed the app.

This updated version of the app incorporated feedback from the users of the closed field trial. The Hugbot was linked to an administrative account, and we created a web-based dashboard where administrators could log in to view statistics related to usage. The administrator could filter posts to see which received many hugs, bells, or flags or search for individual user IDs to see their aggregate stats.

We eliminated the bot that explicitly said it was a bot in the profile. Thus the bots, while still bots that automatically hugged users, were tied to an administrative account that was a real person (moderator), such that if a user wanted to actually reach out, there would be a person to ultimately talk to. Since the moderators cannot provide immediate attention, the Hugbot does that for them, but then if someone wants to communicate beyond the one-click interactions, there is an actual person behind the bot.

For evaluation of this open field trial, 32 students who were taking a usability class installed the app and were encouraged to use it over four weeks. They were not given any instruction on how to use the app nor were given any background information about the app. At the end of four weeks, the students engaged in a 90-minute oral feedback session with the first author and two research assistants and submitted a written reports of their app experience. While there was much feedback about the app and its usability in general, we will focus on comments related to our research question about how design features facilitate social support

Most of the users only looked at how many hugs they received but not who gave them. However, some very

aware of who gave them the hug, such as one young man who expressed warm appreciation toward an account that was actually a bot working on behalf of an administrator because the constant attention made him feel like someone cared about him. Even in a pseudonymous environment, users reported being able to emotionally connect with other users. As one user reported:

“I find emotional posts interesting, because there is always so much more than the text a user can see. It was surprising that I was able to empathize with someone I didn’t know, and I actually left the application feeling very differently reading some of the postings made from user MXX.” (Female, 20, White)

The hyperlocal aspect of the app also encouraged usage. Users reported that more than half of their posts were made while they are on campus and that they logged in during school hours because the content was relatable:

“Compared to other social media, I found myself posting a lot more frequently. I attribute this primarily to the exclusivity that the application provides. By limiting the application’s users to XXX students, I felt more inclined to share my thoughts or express my opinions. I felt that the people reading it were people that I knew and that I interacted with on a daily basis.” (Male, White, 22)

The hidden feedback metrics prevented users from comparing themselves with others, but there were a few users who started to compare their own posts. They said that they tried to write more creative, witty, or funny posts, because those tended to get more feedback. There were no users, however, who said they purposefully posted negative or sad posts to get more feedback.

## Discussion

Earlier phases of the study led to designing our social support system specifically for college students. Our two field trials showed us that the design considerations that we had for facilitating social support were mostly interpreted and used in ways that we intended but also had room for improvement. The biggest thing we learned was that when given the option to care about others, people did partake in that activity, and that the technology itself may be simple and unsophisticated (what is novel about posting things online?) but small changes in wording (e.g., Hugs instead of Likes), paired with features that enable community to help curate attention to people who seem to be a bad mood or need of help (e.g., Bells) help to take a more proactive stance in building a system that is intended to be a supportive space.

This philosophical approach in understanding our users and proposing designs which specifically address their needs suggests that when designed properly, one could encourage positive community norms from the beginning and help users think in alternative ways about what attention on social media means.

On Buddy, we designed specific features which aimed to enable students to feel more comfortable with the systems and more willing to share their thoughts and feelings. We designed and examined features such as Bells and Special Feed in order to foster an alternative understanding of how information should be curated. Instead of having a section for popular or trending posts, which gives more attention to posts that have already received attention, we designed a section for posts that suggest that the poster needs more attention. This may create a sense of caring among students and make them feel that they are part of community, which was particularly important in the context of our university because of the large percentage of commuter students.

Within the study, we examined the role of one-click feedbacks in providing social support to students in the form of Hugs. Despite our initial thought that Hugs would be good for both positive and negative scenarios, Hugs may also lead to confusion for users when they are the only option on a social support system. On social support systems, there are going to be posts from a wide variety of topics. This means that there will posts that are not necessarily about seeking or providing social support. Although Hugs may be proper on posts from some of the topics, they cannot be used for all topics on even a social support system. Thus, it is crucial for social support systems to acknowledge that there is a need for alternative PDAs depending on topics of posts. Facebook has already started to address this problem with its Reactions feature, but most other social media still have one PDA. Future research can indicate whether this suggestion is able to resolve this issue and how many alternative options are needed to give users a comprehensive but not overwhelming range of choices. Our app users seemed to have conflicting opinions on wanting more options versus a simple single-feedback system.

We also found that when metrics on posts are shown to other users, competition are created among users. As a result of showing metrics, users may constantly compare their posts with posts from other users. This finding is in line with the social comparison theory (Festinger, 1954). During our iterative design process, we decided to hide these metrics from other users and during the field trial, our participants thought that our design succeeded in decreasing comparison among users. Showing feedback metrics to users is very common on social media platform. However social support systems such as Buddy have different objectives compared to these platforms. Creating an environment with minimized competitions among college students is a crucial requirement for social support systems which aim to foster social support in college. We believe that hiding metrics on posts to other users may lead to meeting this requirement to some extent.

In addition to the decrease in competition among users, when metrics on posts are hidden, users may see posts differently compared to social media. When designing a system which aims to foster social support for college stu-

dents, it is important to ensure that users who are at higher risk will be able to get attention from other users. Popularity and prior ratings on posts significantly influence how users react towards posts on social media (Muchnik et al., 2013). When users see posts, their decisions on giving feedbacks to posts might be only based on popularity of those posts and this may leave some other posts unseen and unnoticed. Hiding metrics may create a more balanced environment for users and enable them to make less biased decisions when giving feedbacks on posts. This did not, however, prevent some users from comparing their own posts. This posed some concern for us that users with low wellbeing could still feel bad for not receiving enough feedback because they are comparing themselves to their prior selves.

### Conclusion

In this study, we designed and tested Buddy, a social support platform for college students. Compared to conventional user-centered design methods which focus on maximizing user engagement and attention, we tried to consciously design a platform that would facilitate social support by directing attention to those people with possibly low psychological wellbeing. We incorporated features such as Hugs, Bells, pseudonymity, and hidden feedback metrics to facilitate student-to-student social support. While these features, individually, do not represent a technological advancement, the curation of these features represent a philosophical approach to design with consideration for the types of interactions that users desire.

Our results indicated that design not only facilitates certain types of behaviors, but also provokes different type of thinking among users on how to interact with others. While this design approach is different from the mentality of designing so-called “neutral” systems, we believe that this perspective would be especially useful for systems aimed toward younger populations or those intending to be “safe” spaces, as it can help foster specific community norms from the very beginning. We would like to note that the design considerations we made were not drastic—for example, replacing a Like button with a Hug—yet our user studies suggest that even small elements such as this could have meaningful impacts on how people think and behave. Corporations designing social systems (especially those intended for social good) may want to consider this type of approach, because the small choices that they make in design could play a large part down the road in preventing negative social consequences and facilitating positive ones.

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