AN ABSTRACT OF THE THESIS OF

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Abstract approved: _____

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Abstract Body:

The smartphone is changing the way individuals interact with one another
in society. Given the instant accessibility and multitude of socially iconic
features, the contemporary handheld device grants users an unprecedented
level of connectedness. However, despite the new breadth of access,
perhaps the depth of the resulting social networks is not equally adequate.
The question is what kind of impact either beneficial or detrimental, do
smartphones have on community? With compelling supporters for and
against the issue, the results of this thesis were predictably ambivalent.
However when examined through a contemporary redefinition of
community, theoretical (theory of Uses and Gratifications) and practical
(mobile app market) reviews provide convincing evidence of a potential
beneficial relationship between the smartphone and community. What is
still unknown however is the degree to which the smartphones and their
apps are actually being utilized for their ability to contribute to
community.

Key Words: smartphone, community, technology, theory of Uses and
Gratifications, downloadable applications, apps, app review, mobile

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A Sociological Investigation of Smartphones and Community

by

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Michael J.C. Yee, Author

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-Mike

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# A Sociological Investigation of Smartphones and Community

**Introduction**

What is the compromise of technology? According to some, the "American culture in the post-modern period is fueled by advanced communication and information technology" (Malikhao and Servaes, 2011). Critics however, argue over the social consequences of tech tools like smartphones. They often regard the rapt electronic behavior as corrosively alienating (Mackenzie, 2006). Nevertheless, supporting this conclusion is easier said than done as there are equally compelling advocates for the incorporation and embracing of technology. Most people are looking for a single answer to support their beliefs, waiting for either the chance to blame technology for the shortcomings of future generations or to celebrate it as the means to a better society. The fear that evolving communities might not experience the same joys of making forts with cardboard boxes and pillows or learning how to communicate effectively with one another has led many critics to condemn contemporary tools. Resembling a certain neo-Luddite view, technology captivation concerns have led some to believe, "It's gone past the stage of 'this might be a problem' to 'it is a problem for many people'" (Putorti, 2012). Some of the tools that exist today have changed the way individuals interact in their environments. They have altered public etiquette and transformed the technology/user relationship. On the other hand, technology has positively lowered many barriers of communication and expanded the individual's access to information. It has incorporated the many benefits of the Internet on to a mobile platform and shifted the way people communicate. It is worth exploring the smartphone-impact debate, if only to get a better sense of where this technology is heading and why people seem to value the

destination so highly. However, if this *pharmakon* is to be explored, it is important to define certain parameters surrounding the issue. This thesis will examine the smartphone benefit and detriment to community through the offerings of its tools and the opinions of its users. In order to do so accurately, the concept of "community" must first be redefined for the present age.

**Community**

The concept of "community" evolved rather organically and has existed as a term difficult to describe but actively studied. It exists as a noun and as a feeling, something familiar to everyone, yet impossible to fully verbalize. Exploring existing community descriptions in terms of similarities and differences rather than chronological age provides the benefit of seeing how competing thoughts overlap and fit together. In fact, George Hillery (1955) attempted to do just that in his paper, "Definitions of Community: Areas of Agreement." His exploration resulted in ninety-four definitions, which were "classified by content and subjected to qualitative and quantitative analysis." Although the author, "may claim more conclusiveness than has hitherto been available," his findings, like many others, lacked finality and a "complete agreement as to the nature of community." With so many competing thoughts, it is increasingly difficult to isolate a single definition. Like Hillery, one way to understand the breadth of material currently available is to collect the thoughts of leading authors and look for similarities.

The first clear sociological definition of community was believed to have been coined by C.J. Galpin in 1915. He described it in terms of "trade and service areas surrounding a central village" (Harper and Dunham, 1959). Unsatisfied with the

geographically narrow description, many others also sought to provide a central definition. Gusfield (1975) for example, expanded community into two main categories, the first being geographical/territorial, the second being relational. Despite the addition, conflicting thoughts over boundaries, attributes and core values resulted in an extensive collection of varying delineations. The *Oxford English Dictionary* (OED) defines community as: "A body of people who live in the same place, usually sharing a common cultural or ethnic identity. Hence: a place where a particular body of people lives" (oed.com/community). This follows many early inclinations to categorize community by family and geographic boundary. Also worth noting is the parallel usage of "society" for community. OED similarly defines society as "A community of people living in a particular country or region and having shared customs, laws, or institutions" (oed.com/society). Both definitions suggest strong ties to physical barriers and individual commonalities.

Ferdinand Tönnies, responsible for one of the leading central concepts of contemporary society, recognized "community" in his native language as *gemeinschaft*, similarly identifying the family unit as the focal point. However, his ideal is less about the family formation and more about their relationships and roles as individuals (Tönnies, 1979; Feenberg, 2004). For Tönnies' *gemeinschaft,* as in many organizations, the success of the overarching institution dominates the concern for its individuals.

Anthony Cohen (1985) simplifies these requirements, recognizing only the need for a commonality shared between members, which also serves to distinguish themselves from other possible groups, implying both similarity and difference. Cohen argues that these distinctions shape the individual's perceived boundaries of community. Existing

either physically in the form of rivers and roads or through less tangible differences like religion, this symbolic aspect helps to explain how different people experience community.

Putnam (2000) also adopted and adapted, putting his own slant on Tönnies' community, stating that its foundation stems from built-up social capital.  This social capital takes the shape of connections formed between individuals leading to interaction, which eventually enables people to build communities. Putnam's understanding explores the idea of generalized reciprocity: "In the short run there is altruism, in the long run self-interest" (Putnam, 2000, p.21; Smith 2001).  He also recognized that while technology like the telephone may be used to liberate intimate social networks from the barriers of space, it is primarily used to maintain existing communities rather than develop new ones.

Emile Durkheim's definition of community applies Putnam's idea of interconnectedness and reliance to two classifications; mechanical solidarity, which describes a community built upon close ties among kin groups where reciprocity binds the group together; and organic solidarity, which describes contemporary institutions that replaced the traditional forms of organizations (Durkheim, 1933, pp. 70-110). His two distinctions reflect changes brought about by the industrial era, transitioning away from smaller harvesting neighborhoods, where it took everyone to raise a barn, to an interdependent society, where specialization of tasks allowed for complementary parallel careers and modernization.  In the past there was a time when it was conceivable to learn everything there was to learn forgoing the need to rely on others.  However, excluding the exceptional Renaissance man, the majority of contemporary people know a lot about

a few things and a little about many things.   The idea of Durkheim's modernization is that now, individuals must rely upon one another to get things done.

In 1986 McMillan and Chavis proposed a definition of community consisting of four elements: membership, influence, reinfillment (i.e., integration and fulfillment of needs), and shared emotional connection. Their understood sense of community revealed the potential to drive individuals together or polarize and separate subgroups of people. Understanding the powerful force of community in the current culture, McMillan and Chavis point out the need for a "critical examination of community."

However, as Wesley Shumar puts it, "the sense of community that once held is undergoing changes as a function of technological developments" (2002, p. 13).  He goes on to further explain how the flexibility deriving from the many understandings of community allow progressive, technology-partial definitions to extend beyond the traditional into the realm of social imagination, especially given the boundless nature of technology.  The basic progression of major communication technology is as follows: the telegraph breached the barriers of distance; the radio opened up channels of communication between individuals and the masses; the telephone allowed for individual-to-individual contact; and the Internet gave the masses a way to interact with each other and access information on a global scale.  Each successive development created new ways of interaction and consequently altered the reach and perception of community.

These technologies, with their abilities to alter boundaries and reshape identities are changing many of the systems that "communities" were originally defined by, giving way to new "virtual communities." Contemporary Swiss-army-knife tools like the

smartphone make settling on a definition for community that much more important and elusive (Renninger, 2002). The updated definition will need to take into account many new variables like rapid technology changes and the evolving user-base.  However, it must also capture the "feeling one sees in farmers' faces as they talk about their home place, their land, and their families" (McMillan and Chavis, 1986).  This indescribable aspect is the essence of community, which must not be forgotten in the exploration of this thesis.  Therefore, I propose an understanding of community as thus: A group of individuals who share some figurative aspect of common ground and alignment of ideals, derive mutual benefit from interacting with one another, experience a deep level of emotional gratification from belonging, and trust in the reciprocation of others to get things done.  There must also be a degree of obvious exclusivity, which distinguishes those who belong from those who do not.  Recognizing the difficulty in agreeing on a single understanding of community, this description, similar to McMillan and Chavis's but ultimately compiled from the core of past recurring themes, will serve as the working definition for the remainder of the thesis.

**The Smartphone**

The issue at hand is whether or not smartphones are negatively impacting the sense of community. As Henry Drummond says in <u>Inherit the Wind</u> (1955), "Progress has never been a bargain. You have to pay for it. Sometimes I think there's a man who sits behind a counter and says, 'All right, you can have a telephone but you lose privacy and the charm of distance.'"  In other words, when it comes to technologies like the smartphone, there will never be a complete agreement between benefit and detriment.

The values gained will generally be at the expense of others lost; and there will always be parties desperate to change while some stubbornly strive to uphold the ways of the past.

The argument dates back to the time of hunters and gatherers. In transitioning to agriculture and farming, individuals arguably gained more leisure and security but gave up certain skills and experiences. Currently, some people strongly believe "anything that makes people more connected at a lower cost with greater global reach enhances our lives," while others, "worry that more time online means missing out on important face-to-face interactions" (Jason Putorti, 2012). Smartphones give individuals the power to connect and access information nearly instantaneously and on demand. This ability consequently provides individuals with opportunities to enhance their lives at any given moment, but also serves to disrupt conventional lifestyles (Jason Putorti, 2012). Many worry this constant interruption is becoming more than just a quirk.

As Marshall McLuhan (1964) puts it, "the medium is the message." He argues that the characteristics of the medium more than the content delivered through it affect the society in which it plays a role. A McLuhan *medium* is any extension of the individual, from a hammer to a bicycle, basically anything from which changes emerge (McLuhan, 1964). The smartphone definitely qualifies as one of these *mediums*. Typically defined as mobile phones with advanced capabilities such as Internet access and the ability to download and install applications or "apps" (Smith, 2011), smartphones have and will continue to impact community through their physical interactions and social implications, which evolved from their prevalence and acceptance. The technology for smartphones to interact as input devices with commercial utilities and home appliances already exists. In certain countries it is not uncommon for individuals to

purchase vending machine drinks or scan advertisements via smartphone. Japan, Korea, and some European countries have already had this kind of mobile-payment (m-payment) service for a few years. Having penetrated nearly every major city in the world, the handsets have "great potential to be[come] the default physical interface for ubiquitous computing applications" (Pei Zheng, 2006). This would provide the foundation for paradigm shifting jumps in the way individuals interact with their environments and within their communities (Rafael Ballagas, 2006).

These shifting functionalities are derived from the improved multi-tasking capabilities of smartphones. On the one hand, individuals are physically now more capable than ever of answering questions, making decisions and sharing their opinions. On the other hand, in the same way call waiting provided a means of acceptably opting out of one conversation for another, smartphones are invading personal space. Evolving etiquette dictates taking personal calls outside, like new norms regarding smoking. This *second-hand conversation pollution* is becoming more challenging with the proliferation of smartphones and enclosed spaces; more important is the acknowledgement of intrusion that shames individuals in to physically moving in the first place. It is important to understand how the smartphone affects society in order to influence its development before its potentially damaging effects become pervasive. As McLuhan would say: "control over change would seem to consist in moving not with it but ahead of it. Anticipation gives the power to deflect and control force" (McLuhan, 1964, p. 199).

Smartphones are already a dominant force in the marketplace. Characterized by their convenience, processing speed, and multi-functionality, they are gradually changing people's living habits and daily lifestyles. In terms of numbers, global sales are expected

to reach 422.96 million in 2013 and had growth rates as high as 78.1% in 2010. With 45% of customers intending to upgrade to a smartphone in their next service cycle, the device will soon become the dominant handset in the phone market (Ho and Syu, 2010). The implications include higher degrees of interconnectivity, increased real-life functionality and possibly a greater reliance on technology.

Also indicative of the times, the age at which individuals acquire their first cellular device is changing. Within the past five years the average age for children receiving their first cellphone fell from 16 to 11.6 (Lenhart, 2010). The number one reason for providing cellphones as reported by parents, was peace of mind and for emergencies. Various research, from Pew Center reports to journal articles, "highlight that media are among the most powerful forces in young people's lives today" (pewinternet: social-media-and-young-adults, 2010; Subrahmanyama et al. 2008). Furthermore, the media channels they access through their smartphones comprise major aspects of their lives, "offering them a constant stream of messages about families, peers, relationships, gender roles, sex, violence, food, values, clothes, and so on" (Malikhao and Servaes, 2011). Most likely influenced by peer pressure, people have also come to view smartphones as social icons. Instead of seeing common hardware, individuals acknowledge the status of owning an iPhone or Blackberry. There is also a perceived necessity for connectivity that didn't exist in the past, which toes the line of compulsiveness. However, despite concerns for physical safety and local whereabouts the amount of time spent instructing proper use and guidelines for cellphones was surprisingly minimal (The online mom, 2011). Providing powerful tools with minimal

guidance is not only irresponsible but also potentially dangerous. Is the tradeoff of parents' peace of mind for smartphone ownership among children worth it?

Part of the difficulty in determining benefit and detriment of the smartphone is the individual subjectivity of perception. According to Howard Rheingold (2000), "[Individual] human beings have perceptions, thoughts, and personalities (already shaped by other communications technologies) that are affected by the ways [they] use the medium and the ways it uses [them]" (p.xxvii). When it comes to discussing pro vs. con, everything about the most fundamental to the most obscure of attributes is debatable. Distance, for example, is a topic both highly praised and criticized by smartphone consumers. The device provides users a variety of methods for global communication. It removes certain barriers associated with distance, time, and space through its access to the Internet and telephone networks; and because interaction is one of the driving forces of community, the ability to do so anywhere regardless of the time expands the very limits of where community can exist. Critics however might complain about the unrelenting invasion of privacy. The multitude of notification cues from beeps to ringtones easily interrupts all but the most intimate events. Furthermore, people's attitudes toward mobile etiquette are changing. Technology provides a quick and efficient way of dealing with concerns at any time. Sending a text or email during meetings is only passively offensive now. According to a study, "workplace and communities tend to be highly supportive of cell phone use, with some companies even giving cell phones to their employees as a way to maintain contact" (Coyne et al., 2011). Contingencies have even been made for traditionally no-media areas like airplanes in order to keep smartphones running 24 hours a day. In fact, "over the past three decades,

technology has delivered to us a world in which we need not be out of contact for a fraction of a moment" (Marche, 2012). Furthering the mobile device debate, cellphone critic (but also applicable to smartphones) Robert J. Samuelson (2004) believes "the central idea of cell phones is that you should be connected to almost everyone and everything at all times." This is increasingly more plausible now with networks boasting *4G* capabilities and international data plans.

The idea of connectedness goes well beyond meeting with friends or receiving a message. In fact, conversations aren't even limited to voice communication any more; "Lenhart et al. (2010b) conclude that text messaging has become the primary way that teens reach their friends, surpassing face-to-face contact, email, instant messaging, and voice calling as the go-to daily communication tool for this age group." According to a poll, nearly one in four teenagers (12-17) own a smartphone. Of that same group, the number of texts sent daily rose 20% between 2009 and 2011; the poll also reported decreased daily use of both landline and cellular device verbal communication (Magid, 2012). Sending more than 2000 texts per month, two thirds of teens utilize a text message service for its simplicity and "privacy of being able to communicate without being heard" (Magid, 2012). If critics are correct, these statistics are indicative of a future text-based communication system less reliant on voice. At an extreme, the implications of a pure text-based community are complicated enough to fill its own thesis. To sum it up, "the very magic of the new machines, the efficiency and elegance with which they serve us, obscures what isn't being served: everything that matters" (Marche, 2012). In other words, critics might fear future generations are missing out on everything that matters, a certain *je ne sais quoi* (an intangible quality) of the past; heading instead toward

emotional withdrawal and social inactivity.  In their opinion, times were simpler and better when children were imaginative by necessity and spent more time playing outside.

Others would argue that trending away from vocal conversation has always been desired but never an option until recently; that because society is transitioning by choice, the progression is both logical and natural. Of course both sides of the argument are well supported by individuals who believe their opponents simply don't "get it."  In a sense, the argument is comparable to that of pure Internet communication.  The text-based exchange style "conceals the morally arbitrary and irrelevant features of a person— gender, skin color, accent, looks, height, wealth, and class. It declassifies human beings into purely moral agents," and provides opportunities for, "the shy, self-conscious, or socially awkward to wield power, to command respect and gain popularity" (Hafner, 2001, p.25).  From this point of view, texting is an equalizer in an increasingly visual world.  However, by the same token, the lack of visual cues hinders the development of basic social etiquette.

At the root of the debate is the perception of non-verbal communication.  Clearly, the forms of conversing provided by smartphones are incapable of replicating face-to-face interaction in its entirety.  Tone of voice and facial cues go a long way in enhancing the clarity of messages (Zukerman et al. 1982); and while it may be "trivially true that text based communication filters out a person's actual physical appearance… making [what] comes through both a thinner and a more intense version of a person's character," there are always counter arguments (Feenberg, 2004, p. 59).  One such argument emphasizes the failure to experience spontaneous interactions.  In a 1999 publication

Howard Rhinegold stated that, "after more than a decade on The WELL,[1] I found that I could predict who would react and how. And so I started asking myself: Why bother?" (Feenberg, 2004, p.60) Though his experience was limited to time on the WELL, similar cases could be made for the smartphone. *Texting* regularly and communicating with the editing benefit of the Internet might prohibit the creation of social phenomena like inside jokes, which stem from spontaneous actions or accidents. However, with the assistance of faster networks and integrated video cameras, electronic devices are able to capture more components of the personal experience. Combined with customizable content in the form of downloadable applications, many consumers symbolically carry their lives in their pockets and can access the devices of those around them.

To say the way people are now communicating is wrong is to assume one form or era of conversation is less valuable than another. There is no denying the reduced speed of text-based feedback or ignoring the contributions of non-verbal cues present in face-to-face interaction (Putnam, 2000). However, the convenience of sending or receiving a text instead of stepping out of a meeting to make a call has definitely changed the way people behave in public. The swiftness in ascertaining answers or conclusively settling debates has saved many hours of arguments and streamlined event organization. In a sense, the smartphone now allows people to casually do the same things with less effort than ever before (Putnam, 2000).

Compare for example the action of sending a text message to inscribing words in stone. The text message via smartphone is a flurry of finger movements, which result in

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[1] "The WELL, launched in 1985 as the Whole Earth 'Lectronic Link, provides a watering hole for some articulate and playful thinkers from all walks of life." It is the unofficial birthplace of the online community movement and muse for Rhinegold's coined "virtual community." (http://www.well.com/aboutwell.html)

a collection of words that can then be effortlessly sent, deleted or altered. Inscribing that same message in stone would require careful planning, adeptness with tools, and could not easily be changed once begun. Although an extreme comparison, one task clearly requires more focus than the other, especially with the advent of spell check and auto correct. The act of communicating via smartphone, be it texting, emailing, posting, or uploading is becoming more instinctual and less thoughtful. The fact that entire websites like autocorrectfail.com are devoted to the accidental *text faux pas* resulting from negligent texting says something about the current status of society. It is definitely possible that new communication technologies, like the services provided by smartphones, may be inherently prone to misunderstandings due to lack of the vital nonverbal cues (Coyne et al., 2011). If general acceptance of mistakes due to the speed-accuracy tradeoff continues to grow, there may be a time when a community simply comes to tolerate a certain degree of error. This may either result in a more forgiving less accurate society, or lead to lengthy drawn out text conversations, which substitute for two-minute voice calls or in-person meetings.

Another major contributing factor to the "more with less" phenomenon is the virtual application or "app." Today, Apple's marketplace, one of the main domains for app acquisition, offers more than 500,000 different applications for its line of smartphones. As a testament to its success, in February 2012 Apple held a contest recognizing their 25 billionth downloaded app (apple.com). The app aspect is what truly sets the smartphone apart from traditional devices. As a tool, the virtual marketplace embodies the notion of universal usefulness and makes the smartphone relevant in nearly any scenario (Ho and Syu, 2010). Its range of customization gives users a chance to

dictate their needs and discover the best ways to fulfill them. It has also inspired

thousands of individuals to recreate an entire sector of business, giving app developers

the chance to share what's important to them with an unlimited audience.

Additionally, a recent poll of chief information officers (CIO's) from across the

nation revealed nearly half (49%) of represented companies currently have or are

planning on offering a mobile application in the next 12 months. This move gives

corporations another opportunity to connect with customers and speaks to the modernity

of its business practices (Mad for Mobile, 2012). Companies like Facebook have fully

embraced the smartphone medium and strive to make it a seamless extension of its core.

In doing so, it brings the many qualities of the company to the touchscreens of handheld

devices everywhere.

Apple's app marketplace is split into 21 different categories. Each section

potentially contains applications that address community, some more so than others.

Assuming the fundamental aspects of community and the acts of belonging to it are

gratifying, it is important to recognize how individuals customize their smartphones to

achieve these different gratifications via digital app. As explained by the theory of Uses

and Gratifications, the forthcoming app review examines different downloadable

applications, which fulfill the gamut of gratifications sought by users.

**Theory of Uses and Gratification**

Essentially, the Theory of Uses and Gratifications assumes individuals are aware

of their needs and can actively identify different sources of media fulfillment (Katz et al.,

1973). The varied media sought to fulfill these needs range from the television for

diversion purposes to the Internet for surveillance related news inquiry.  In the early 70's

Katz, Gurevitch and Haas organized 35 needs into five main categories.  These included

cognitive needs— information gathering; affective needs— emotions and feelings;

personal integrative needs— credibility and status; social integrative needs— family and

friend networks; and tension release needs— escape and diversion (West, 2010). Many of

Katz et al.'s fulfillment needs are strongly related to this thesis's core understanding of

community and the different attributes it encompasses.  Furthermore, Apple's collection

of available apps gives individuals the flexibility to satisfy most any category of Uses and

Gratification theory with the swipe of a finger. This makes smart-devices like the iPhone

the embodiment of comprehensive convenience.  Through the app market, functionality

can be downloaded for customized user experiences, meaning there are potentially

limitless sources of gratification.  It was found that even after discovering deficiencies,

smartphones were usually not recognized as "problems or nuisances;" the lacking

components were simply either overlooked or replaced with a combination of others

(Barkhuus & Polichar, 2011). In meeting the needs of community, the subset of apps

described in the following app review also fulfills the gamut of gratifications.  Tension

release needs have been especially well addressed with apps ranging in the tens of

thousands for both games and entertainment categories.  In fact, because smartphones

also support Internet browsers, which open up endless other possibilities, the theory of

Uses and Gratifications may have found its ultimate medium.

     However, although the smartphone may have the capacity to address all

categories of gratification, that doesn't necessarily mean it will.  For the same reason

Uses and Gratification theory exists, multi-media offerings will continue to supply

varying levels of satisfaction within any gratification. Users make decisions based on a number of variables having to do with personal preference and socially defined norms. Certain information is conveyed more strongly through specific media channels. For example, while smartphones may have the ability to stream movies, they offer a shadow of an actual theater experience. For social integrative needs, even when it's not possible to physically be with friends as events take place, smartphones offer a variety of options for staying in touch through status bars, twitter feeds, or location check-ins. This aspect of the smartphone is definitely a perceived healthy benefit to maintaining community. While users' content may be uploaded digitally, the act of doing so affects real life.

**App review**

Although the following assortment is just one subset of tens of thousands of available apps, it suggests a potential to fully engage in community via downloadable application. Further inquiry is necessary to adequately flesh out the depth of the app market, but for the purposes of this thesis the exploration below will serve as a basic proof of concept. (See Appendix, Table 1 for a visualization of the app review)

Community Building Attributes: Common ground, alignment of ideals, mutual benefit from interaction, emotional gratification from belonging, trust in the reciprocity of others, degree of obvious exclusivity

Application: Facebook

Description: Facebook's mission is to give people the power to share and make the world more open and connected (facebook.com). They do this by offering a variety of media to

their users.  Everything from chat to picture posting allows its multi-million-user-base to

share with friends on the go.  There are also features such as status "liking" and event

posting to add depth to the user experience. The proportion of smartphone consumers

utilizing social networking applications was predicted to reach 23% this year (2012) (Ho

and Syu, 2010). Facebook individually reported average daily use at approximately 24

minutes per consumer (Gahran, 2012).

Contribution to Community: Facebook provides one of the most community-

representative mobile applications currently available. Its mobile application adds

flexibility to the already exhaustive social networking experience.  There are definitely

themes of shared common ground and alignment of ideals represented by the shared

content and active participation.

According to studies, the average American user spent 5.8 hours a month on the home

site (Bergen, 2011). Its success is tied to the general gratification experienced by users.  It

is very much a one-stop shop for getting to know someone without actually spending

time with him or her.  It also allows individuals to connect over shared interests,

expressing their likes and dislikes with posted content and virtual "like" buttons. The

model's success is directly attributable to the effort put forth by its consumers; it is also

what makes it such a powerful contributor to community via smartphone.  People are

willing to take the time to digitize their lives for their extended networks.  This is even

easier now with the mobile application and instant uploads. Combined with location-

based tracking services, Facebook has taken the virtual social experience to the next

level.  It is also a matter of trust and credibility.  For the most part, Facebook consumers

are willing to participate because of the culture and systems already in place.  They are

comfortable with the functionality and proven infrastructure.  For apps like Facebook, the

mobile version is simply a smaller, more convenient copy of the core service. Overall, the

app extends Facebook's reach from stationary computing devices to mobile handheld

society, giving users the ability to be connected at all times.  Of all the apps examined,

Facebook most seamlessly incorporates the community experience into real life.


Community Building Attributes: Common ground, alignment of ideals, mutual benefit

from interaction, emotional gratification from belonging, trust in the reciprocity of others,

degree of obvious exclusivity

Applications: eHarmony, Zoosk, Plenty of Fish (POF)

Description: similar to the Facebook app, mobile versions of relationship-oriented social

networks are targeted toward singles looking for friends or significant others.  The

services represented match individuals based on personal profiles or preferences.  The

apps provide different features primarily geared toward communicating messages and

interests.  With an end-goal of building meaningful relationships, the apps do their best to

accurately convey preferences.  Built upon genuine interest, each service relies upon user

accuracy and feedback to develop successful standards. The mobile apps add

tremendously to the core services of the corresponding web businesses.  Many new

features take advantage of user locations to narrow matches by distance making it easier

for individuals to connect with locals or organize convenient dates.  Each service

approaches the match-ability aspect differently.  eHarmony for example weights the front

end of user interaction by compiling a rigorous personal profile based on 29 key

dimensions of compatibility, from emotional energy to communication style, claiming

responsibility for 5% of America's newlyweds  (eharmony.com). Zoosk on the other hand differentiates itself by utilizing existing social networks and drawing testimonials from friends on the user's behalf (zoosk.com).  Lastly, Plenty of Fish utilizes an in-house *Chemistry Predictor*, which measures the five broad dimensions of personality essential for building romantic relationships (pof.com).

Contributions to Community: Though all expected aspects of community are reflected in the online social dating apps; the most pronounced themes, lacking in the rest of the app review, include derived mutual benefit from interaction and trust in the reciprocation of others.  These apps are heavily reliant on interaction. More importantly however is the perception of mutual benefit from that interaction.  The assumption of those downloading the app is that they are actively looking for social connections.  They are consequently making themselves available as well.  All three services provide an even playing field mediated by digital matchmakers.  Through the apps, each individual benefits purely through participation.

On a similar note, each of the described apps has an underlying theme of trust in the reciprocation of others.  Due to the progressive efforts of Internet security and e-relationship firms, online dating has come a long way from its highly stigmatized past. People trust that members genuinely want to belong and expect profiles and shared information to be accurate.  Zoosk takes it one step further by putting the fate of applicants in the hands of their friends. This fully explores Durkheim's idea of solidarity and Putnam's acknowledgement of generalized reciprocity. Understanding that community is built upon mutually beneficial relationships drives both the industry and application of online dating.

Community Building Attributes: Common ground, alignment of ideals, degree of obvious exclusivity

Applications: Flipboard, Tumblr, Pinterest

Description: A collection of different social networking apps focused on the sharing of content between users. Flipboard, named one of Time's top 50 innovations, creates a personalized magazine out of everything being shared with the individual. It unites different services from twitter to Facebook into a single publication to be browsed and contributed to as desired (Flipboard.com).

Tumblr, "home to the most creative people in the world," is a proactive sharing app inclusive of most any medium. It gives consumers a chance to build a following and establish individual styles in front of an audience (Tumblr.com).

Pinterest, a virtual pinboard, "lets you organize and share all the beautiful things in your life." Targeted toward a more artistic audience, it has established itself as a craft/DIY service. Meant to inspire and instruct, Pinterest also incorporates the leader-follower relationship as well as exploration functionality (Pinterest.com).

Contributions to Community: the most obvious aspect of community is that of common ground. These three apps are a small, but popularized representation of many other social networking services. The leader-follower aspect allows users to participate in things of interest as well as *follow* others with similar tastes. Though potentially available to the masses, becoming a follower initiates the individual to a smaller grouping, one arguably exclusively defined by parallel tastes and interests. This is an example of reduced barriers of entry and ability to participate while contributing as much or little as desired.

Community Building Attributes: Common ground, alignment of ideals, degree of obvious exclusivity

Applications: Instagram, Pandora, Youtube, Color for Facebook

Description: The four depicted apps touch upon similar aspects of community, but approach the experience through different media.  Facebook recently acquired Instagram for $1 billion (Segall, 2012). A popular image-sharing app in its own right, it has earned a reputation for artistic user photos, which are easily uploaded to social networking sites and or shared with followers (instagram.com).

Pandora is a music discovery/sharing service, which builds upon individual musical preferences to suggest similar genres and artists.  It also gives users the option of posting what they are currently listening to and finding friends with comparable interests (Pandora.com).

Youtube is arguably the most popular video sharing service available online.  The application comes already included and installed in all iPhones. Plus its content, compiled from global users, covers everything from tutorials to music videos.  Every video is equally represented and searchable.  There are also channels that can be subscribed to and places to post comments, likes/dislikes and further generate conversations (youtube.com).

Color for Facebook lets users capture and share live video and photos with friends on Facebook.  Believing "nothing beats the LIVE experience," users can view and upload content as it happens and stay up to date through ping notifications (facebook.com/color).

Contributions to Community: the four services are voluntary and consequently rely upon the commonalities of their customer-base to grow.  Of the four, certain aspects like

experienced gratification are more pronounced in some than others.  Instagram provides

unique perspectives to interested parties by making sharable user-photos artistically

customizable through a selection of filters; Youtube on the other hand gives users their

"fifteen minutes of fame," opening their works to the compliments and jeers of a no-

agenda audience.  Pandora plays up an underlying theme of exclusivity.  Although it is a

widespread application, in finding new music there is always a feeling of belonging

associated with discovering new artists.  Color for Facebook is leading the charge on a

new genre of content sharing apps.  The *live* approach definitely sets it apart, but brings

up the question of necessity. Other apps like Twitter have proven the appeal of shared in-

real-time life narrations, but now such impulses have the capacity to be supplemented

with live video feeds.  Color for Facebook is working to remove the lag time between

recording and uploading.  If it is successful there may come a time when individuals can

simultaneously live their lives while tuning in to the thoughts and sights of friends and

families elsewhere.

Community Building Attributes: Common ground, alignment of ideals, mutual benefit

from interaction, trust in the reciprocity of others,

Applications: Yelp, Zagat, Foursquare

Description: review-oriented applications focused on sharing customer experiences and

personal insights.  Essentially, each app utilizes the numerous opinions of other users to

create a growing database of tips and suggestions.  They provide unbiased reviews by

real people and give the option of screening content to specifically reflect opinions from

friends and other known social connections.  The idea is that by sharing, consumers can

make more educated decisions when selecting a restaurant or activity. Yelp, named after the more traditional yellow pages, offers directions and hours of operation on top of reviews at a glance (yelp.com). Zagat provides restaurant ratings as well as specific features like menu items and dish recommendations. It also offers different filters to assist in restaurant discovery. One of the more novel ideas also being utilized by Zagat is its *augmented reality*, which allows users to search for nearby restaurants through virtual markers overlaid on live images via smartphone camera (zagat.com). Foursquare offers features like discounts or "freebies" just for *checking in* at locations in real-time; or recommends curated lists of proven experiences (foursquare.com).

<u>Contributions to Community</u>: similar to online dating apps, the review-oriented services provided rely on community themes of interaction and reciprocation. The mutual benefit from interacting with others is reflected in the very essence of the business. Collective independent reviews are typically more believable than sponsored advertisements because they are perceived to be unbiased. As a rule of thumb, majority wins; numerous positive reviews can generally be trusted to result in better experiences. However, in order to establish majorities there must be willing contributors. Although reviewer-regulars are sometimes rewarded with exclusive invitations to event premiers and restaurant openings, most contributors write reviews simply because they feel strongly enough, either positively or negatively to put forth the effort. Building trust comes from a mutual understanding that critics will speak candidly or else lose credibility. Once reviewers have established themselves, their recommendations are more likely to be followed and trusted for future decisions.

It is also important to make note of an app genre that is damaging community. To avoid endorsing this genre, the following review covers an app that has since been shut down due to consumer outrage.  The source of the animosity is privacy invasion, especially from consumers who ignorantly leave their personal information unprotected and publically accessible.

Community Damaging Attributes: Invasion of privacy, lack of trust, misuse of information, taking advantage of unprotected data for personal gain

Application: Girls Around Me

Description: leading MSNBC's list of "Top 10 creepiest apps" (Alba, 2012), the Russian-developed application leveraged information from other popular downloads like Foursquare (the location-based check-in service) to track popular *hotspots* (like bars and clubs, not wi-fi locations) where females were gathered.  It also provided other features to discover and search information, pulling pictures and data from other services like Facebook.  Basically, it allowed users to pre-screen the female population of a bar or club based on publically traceable check-ins via smartphone. Imagine having access to all the personal details necessary for forming connections and generating the perfect conversation.  From unsecured profile pages, users (generally male) could discover and openly browse things like vacation photos, hometowns, age, family members, favorite books, and relationship statuses.  This technology invasion combined with the ever-present gender power struggle made women more susceptible to becoming easy targets. In the wrong hands, the divulgence of information would have been extremely dangerous.

Probably most telling of the types of employees at work, the Girls Around Me developers said their app "wasn't for stalking girls without their knowledge, but for avoiding women who are ugly." The company claims it has just been made the scapegoat for Internet privacy issues (Brownlee, n/d). The app has since been taken down from the Apple app store and has been all but put out of business through amendments made by their external information supplier-apps like Foursquare and Facebook.

Detriments to community: Apps like Girls Around Me are only truly beneficial for the lessons they can teach individuals about Internet safety (Brownlee, n/d). In terms of community, such apps attack the very foundations of the definition. There is definitely an invasion of trust and probable lack of common ground, plus discredited aspects of emotional gratification and mutual benefit at the onset. While the app itself may have had less-villainous intentions, the culture of use has made it into an app worth knowing about if only to protect users.


**Discussion**

Girls Around Me presents an opposing argument to the development of community via smartphone. While it may represent the possibility for communal detriment, it is important to recognize its current status. Due to the collective efforts of individuals, the app is out of commission. Its publicity has driven home Internet safety issues for many uninformed users and highlighted the potential for risk. Moreover, the culture that built and supports the app market is also responsible for the eviction of Girls Around Me. The collective self-awareness and willingness to take action emphasizes the same sense of protection, characteristic of core community members. Though connected

primarily through cyberspace, this form of external regulation allows other aspects of community to develop in safety, if only through trial and error.

The range of apps described (disregarding Girls Around Me) is currently available through Apple's app market. Each fulfills one or more attributes of the present definition of community, meaning it *is* possible to experience community on the smartphone platform. (See Appendix, Figure 1) One journal suggests app development could eventually lead to more advanced forms of communication and community that are triggered in response to certain stimuli like time of day or question response (Coyne et al., 2011). On average, mobile users report spending 94 minutes per day using apps and 72 minutes browsing the mobile Web. Of downloaded content, one in four mobile apps really engage users and 26% are opened only once before being discarded. Based on the numbers, although holistic community apps exist, there is a better chance of maintaining the necessities of community through a range of individual apps. It was also found that while the amount of time spent per session remained fairly constant, the number of daily sessions is growing (Gahran, 2012).

The most popular community aspects spread among the apps are common ground and mutual benefit from interaction (see appendix, Table 1 for % of app group represented by community attribute). Developers presumably create their apps with these aspects in mind. They strive to share something relevant with users, who on the acquiring end will only download the apps if some part of it strikes their interest. However, despite the momentum of smartphone applications, there are a few aspects of community that are inherently more difficult to represent than others. Achieving an obvious sense of exclusivity for members directly contradicts the main goal of app

developers, which is to attract users.  Another less pronounced impact of apps on

community development is the depth of gratification experienced from belonging.  Tying

back in with the theory of Uses and Gratifications, smartphones as of now are still only

capable of so much.  Combined with the ad hoc manner in which they are used, the

handhelds, despite their range of utilities, lack the total immersion experience inherent in

other media outlets. For this reason, though the ability to actively participate in

community is proven, the smartphone is currently more of an enabler rather than an

instigator.

The evolving environment also needs to be considered when examining

community.  Present day "real life" is vastly different than past generations, due in part to

vast technological advancements like the smartphone. Although similar traits defined

historical understandings of community, a direct comparison would be imbalanced.  This

is especially true in claiming one version of community is better than another.  The

smartphone debate however seems intricately linked to this argument and is usually

overseen by different generations.  One explanation for this lies in the distribution of

technology.

In 2011, the 35% of smartphone-owning American adults was weighted heavily in

favor of the youth (18-29) and declined with each subsequent age group (Smith, 2011). It

is safe to assume then that each succeeding generation would have a greater familiarity

with their *current* technology.  That being said, contemporary times have offered new

ways of connecting with each other, which has resulted in a re-examination of society.

Today's community differs fundamentally from that of the past due in part to altered

barriers.  Theoretically, certain contemporary social obstacles like barriers to entry are

only limited by the quality of technology owned by the individual. App acquisition for example is available to anyone with access to the marketplace and supporting infrastructure. In practice, these apps can be accessed and utilized as much or as little as desired. However, for applications built around participation, these reduced barriers to membership can potentially have negative results. It is so much easier to join and leave a group from a smartphone than it is in person. Individuals don't need to explain themselves or defend their actions; they simply unsubscribe, delete the app, or cease to contribute. Putnam believes this "anonymity and fluidity in the virtual world encourage[s] 'drive by' relationships and discourages the creation of social capital," that is to say commitment, trustworthiness, and reciprocity (Putnam, 2000, p.177). While it may be easy to follow friends' and family's every move without actually taking part in any activity, individuals can also "leave a cyber-community without having to apologize, suffer reproach, be disinherited, file for divorce, or pay child support" (Feenberg, 2004). Though some critics may view this evolved community as a negative change, others would simply consider it another logical progression. Taking advantage of the available tools has resulted in expanded capabilities. It makes sense that community would also be affected by the technological advancement.

This thesis explored its working definition of community from many different perspectives including an app review and the theory of Uses and Gratifications. The conclusion is predictably ambivalent. Regarding the contributions of the smartphone, *yes* it contributes to community and *no* it also damages it. Most of the support, either positive or negative, of the smartphone's impact on community originates from individual opinions. In this case, many different generations feel entitled to comment

because of their past or current involvement in the matter.  Having lived through it, they believe themselves adequately informed when it comes to deciding what is right and wrong with things like smartphones, technology and community.  However, the objective evidence is most notably illustrated by usage statistics. Signaled by both activity and usage growth, it is safe to assume the popularity of the smartphone is on the rise. This notion is reinforced by the tangible changes recognized in society and the way individuals interact with one another. The age-ownership relationship trend is also indicative of the smartphone's impact, especially in regards to generational change and acceptance.

Younger generations have the innate advantage of growing up with technology like the smartphone.  They naturally achieve levels of proficiency with relevant technology tools, which are impractical for older generations to pursue. A national survey illustrating the digital divide between young and old says "Seniors are about half as likely as younger respondents to agree with such statements as, 'the Internet would help me find things' and, 'I'm missing out by not being online'" (Lenhart et al., 2000).  Older generations have had time to develop offline methods of coping and have most likely established reliable means of getting things done.  When it comes to community, seniors are more likely to utilize these methods of communication like social gatherings to address their needs.  Additionally, their desire to hone the skills necessary for new technology proficiency may be lower than others', especially "if the people they most wish to contact are more conveniently contacted through old media such as the telephone or a card, let alone a visit" (Loges and Jung, 2001, p.559). Younger generations, on the other hand, may not yet have those established channels of contact to access and

consequently adopt new technology much more willingly. For them, there is less sense of replacement or substitution than for their elders.

Furthermore, after acknowledging the existence of such a gap, it is easy to see the potentially negative effects of the smartphone relationship. There may come a time when the progression of technology outpaces the ability to effectively relate inter-generationally within communities. If for example, shared information like politics, commerce, education, and recreation move to the Internet without taking consideration of demographics independent of the medium, it could easily alienate generations (Loges and Jung, 2001). However, for the time being communities seem to be surviving through an active combination of in-person interaction and supplemental digital connections. As similarly recognized in traditional telephone and Internet communication, the smartphone is better at maintaining existing communities rather than building new ones (Ellison et al., 2007).

The use and reliance on smartphones has also led critics to question the tradeoff. Because the mobile handsets provide so many tools for organizing lifestyles and keeping track of personal information, people have become smartphone dependent. Plato's Phaedrus commented on a similar relationship with the creation of a new technology, the written word. The inventor, Theuth, declares it to be a "potion for memory and intelligence," believing it to secure knowledge for years to come. His audience, King Thamous, counters back saying Theuth's creation is a tool for "jogging memory, not for remembering." In the King's mind, trust in writing replaces the necessity of memorization and would result in an overall decline in recollection (Plato [translated], 2002). The same can be said about the irony of smartphones. Susan Jacoby (2008)

"bemoans the way electronic media, with their demand for spectacle and brevity, have shortened our attention spans." In trusting technology to support and keep track of important details, individuals relinquish much of the responsibility of committing those same facts to memory. To make matters worse, "research done at Stanford University concludes that it takes 15 minutes to fully resume a serious mental task after answering an e-mail or instant messaging" (Iqbal and Horvitz, 2007). Furthermore, when technology fails some studies reveal withdrawal-like consequences. The unofficial jargon classifies these technology-obsessive tendencies as iDisorders, comically referencing Apple's popular line of consumer devices (Putorti, 2012).

**Conclusion**

However, at this time in society and from a generation Y perspective, the evidence of the smart phone's impact on community seems more positive than negative. From the statistical trends to the app review, there is tangible proof illustrating the main aspects of community; more so than the counter arguments, which were often rooted in testimonials. The smartphone's capabilities were tested for the following: communication of common ground and alignment of ideals, mutual benefit from individual interaction, emotional gratification from belonging, trust in the reciprocity of others to get things done, and a sense of observable exclusivity or ability to distinguish members from non-members. In each case, the attributes were addressed through a single smartphone function or derived from a combination of different apps. The apps were also surveyed through the theory of Uses and Gratifications. Working under the assumption that users find the core aspects of community gratifying, the different apps

provided varying levels of satisfaction to meet users' community needs. However, as the search for a central community definition lingers on, the app-review proof of concept is only the first step toward determining the smartphone's impact on community. Although it does demonstrate the potential for experiencing community via the smartphone, it is still uncertain to what extent consumers actually utilize the device and its collection of apps for such purposes.

Hopefully, this thesis supports future efforts to better understand the relationship between technology, in this case specifically the smartphone, and community. Whether by contributing to an eventual central definition of community, or by justifying community via smartphone through an app review, this thesis is just the beginning. It is important to consider these results within the scope of future generations as a way of guiding forthcoming studies and steering communities in the right direction. Perhaps someday a study will reveal a concrete link between smartphones and community support/detriment, until then however it would behoove people to continue evolving while staying vigilant of neo-Luddite concerns. When utilized as the tool it is, the smartphone is more than capable of supporting the essential aspects of community and with ever-expanding data plans, there is no telling how far it will continue to develop.

**Recommendations for Future Research**

Future research should more rigorously explore the parameters of this thesis, specifically generational effects of smartphones, the app market, and the understanding of community. In retrospect, there may also be one other community attribute to consider, that of a governing body of power. Whatever the form, there seems to be an unaddressed

need for gatekeepers and or decision makers responsible for important considerations like inclusion and exclusion. In this regard, future studies should explore the terms of acceptance for individual applications, thinking about how apps like Facebook are initiated while others like Girls Around Me get removed.

Another interesting question to answer is whether or not a flash mob constitutes community.  Though brief in existence, it fulfills the different qualities deemed necessary for community by this thesis.  However, in practice, can and does it truly represent the essence of community?

Other areas of future interest may include: At what point, if ever, will different generations lose the ability to relate to one another and or communicate clearly; when will the terms, "wat, wen, how and y" become publically acceptable uses of language in all facets of life; will emoticons ever evolve to replace human facial emotions in conventional situations; and what are future generations giving up for the convenience of evolving technology? Also worth pursuing is the scientific influence of smartphones on memory.  Will an over-reliance on technology eventually lead future generations to be more forgetful in daily life? From a worst-case scenario, if smartphone technology were proven dangerous, what would it take for users to give them up; especially in the future, when mobile devices will presumably play a much larger role in every day life? Essentially, will there come a time when technology hinders more than assists conversation?

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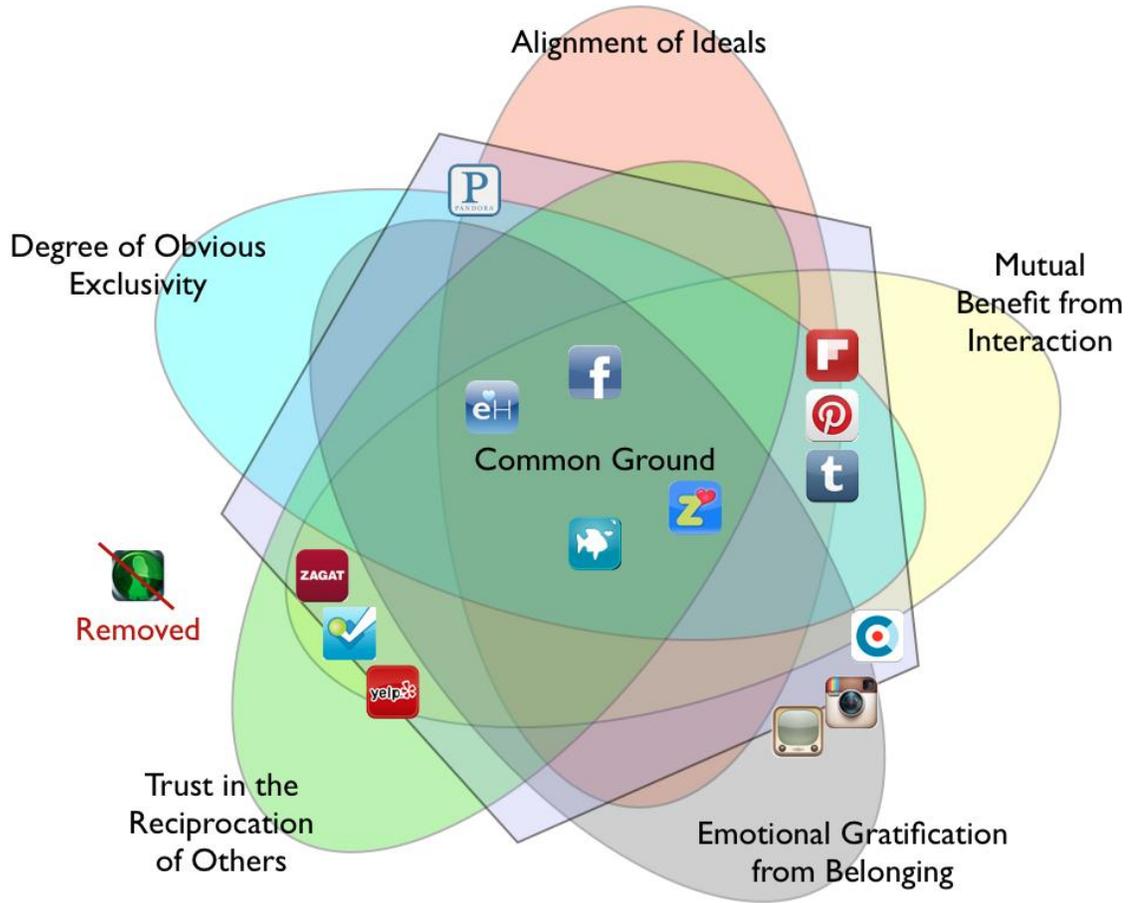    Psychology,* 43, 347-357.

**Appendix**



Figure. 1: Community Attribute and App Review Venn Diagram

| | Applications | Community Attributes | | | | | | % of community represented by each individual app |
|---|---|---|---|---|---|---|---|---|
| | | Common ground | Alignment of ideals | Mutual benefit from interaction | Emotional gratification from belonging | Trust in reciprocity of others | Degree of obvious exclusivity | |
| | Facebook | | | | | | | 100% |
| | eHarmony | | | | | | | 100% |
| | Zoosk | | | | | | | 100% |
| | Plenty of Fish | | | | | | | 100% |
| | Flipboard | | | | | | | 67% |
| | Tumblr | | | | | | | 67% |
| | Pinterest | | | | | | | 67% |
| | Instagram | | | | | | | 33% |
| | Pandora | | | | | | | 50% |
| | Youtube | | | | | | | 33% |
| | Color for Facebook | | | | | | | 50% |
| | Yelp | | | | | | | 50% |
| | Zagat | | | | | | | 50% |
| | Foursquare | | | | | | | 50% |
| | Girls Around Me | o | o | o | o | o | o | 0% |
| | % of app group represented by community attribute | 93% | 53% | 73% | 47% | 47% | 53% | |

Table 1:  Qualities of Community, App Review Breakdown