Chapter 5.4
Social Identities, Group Formation, and the Analysis of Online Communities

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ABSTRACT

Central to research in social psychology is the means in which communities form, attract new members, and develop over time. Research has found that the relative anonymity of Internet communication encourages self-expression and facilitates the formation of relationships based on shared values and beliefs. Self-expression in online social networks enables identity experimentation and development. As identities are fluid, situationally contingent, and are the perpetual subject and object of negotiation within the individual, the presented and perceived identity of the individual may not match reality. In this chapter, the authors consider the psychological challenges unique to understanding the dynamics of social identity formation and strategic interaction in online social networks. The psychological development of social identities in online social network interaction is discussed, highlighting how collective identity and self-categorization associates social identity to online group formation. The overall aim of this chapter is to explore how social identity affects the formation and development of online communities, how to analyze the development of these communities, and the implications such social networks have within education.

INTRODUCTION

Central to research in social psychology is the means in which communities form, attract new members, and develop over time. The mechanisms in which communities grow depend on an individual’s ability to find and collaborate with others with relevant knowledge, skills, and beliefs that meet a particular need. While these mechanisms of social collaboration are not unlike traditional face-to-face interactions (Tyler, 2002), there are some important differences in the way in which group members interact in online environments. Relative anonym-
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...identity, selective self-disclosure, physical appearance, and the ease in finding ‘familiar others’ through search, embedded traits, and predefined groups, are some of the important differences between Internet communication and face-to-face interactions (Bargh & McKenna, 2004; McKenna, Green, & Gleason, 2002; Walther, 2007). Research into Internet social interaction has led to an increased understanding of face-to-face communications and brings into focus the implicit assumptions and biases that exist in traditional communication (Lea & Spears, 1995; Tyler, 2002). Assumptions that mediate face-to-face interactions such as physical proximity and non-verbal cues, assumed necessary to communicate and relate, do not exist in most Internet communications. However, given these limitations, online social communities continue to thrive and grow. The evolution of online communities confronts current views of how social and psychological dynamics contribute to human relationships, communication, and community formation.

Research supports the idea that the relative anonymity of Internet communication encourages self-expression and facilitates the formation of relationships outside of what is considered ‘normal’ socially mediated communication (Wallace, 1999). The complex origins of shared values and beliefs (Bargh & McKenna, 2004), self-expression through identity experimentation (Ruitenberg, 2003), and relative anonymous interaction (i.e. strangers on the train effect; Derlega & Chaikin, 1977; Rubin, 1975) challenge ideas of an ‘individual’ identity in relationship formation (Lea & Spears, 1995). As individual identities are malleable, adaptable, and the perpetual subject and object of negotiation within each context (Jenkins, 2004), the notion of identity requires an incessant comparison between the individual, the context in which they are interacting, their intentionality in the context of that interaction, and their ‘true’ (nominal) identity. The irregular nature in which individuals present arbitrary identities in various contexts, with multiple intentions, and within different social groups, results in a novel dynamic to human community formation and evolution.

In this chapter, we consider the psychological challenges unique to understanding the dynamics of social identity formation and strategic interaction in online social networks. We start with a brief overview of aspects within social psychology that are pertinent to a discussion on social identity formation in online social networks. Specifically, we introduce Social Identity Theory as a perspective in which to frame our current understanding of online social network formation. Next, the psychological development of social (virtual) identities (Jenkins, 2004) are explored in online social networks using the conceptualization of self-presentation (Goffman, 1959/1997). A discussion of collective identity and self-categorization follows and relates how social identity contributes to online group formation and evolution. Further, to illustrate how to evaluate the effectiveness of online social networks, we review several studies on online social networks using ethnographic methodologies, visualization techniques, and social network analysis (SNA). Finally, we present practical teaching and learning strategies educators can use to facilitate the use of social software for online social network formation within educational environments. The overall aim of this chapter is to explore how social identity affects the formation and development of online communities, to present some methodologies for evaluating the effectiveness of group formation, and to explore the implications of online social networks within education.

SOCIAL IDENTITY AND THE INTERNET

All human identities are social identities (Jenkins, 2004). Social identity concerns how we identify our similarities and differences to other known groups of individuals. Social identity is an ongoing interplay between how we identify...
ourselves and how others identify us. To identify with any given group of people, whether it is an ethnic group or an online organization, we look for similarities between the group members and ourselves. While similarities initially attract an individual to a group, this initial attraction enables an individual to recognize their individual differences. This comparative process is identified in Social Identity Theory as “internal and external moments of dialectic identification” (emphasis in original; Jenkins, 2000, p. 7). These internal comparisons are how individuals distinguish themselves from others in both the similarities they share and the differences they recognize. Alternatively, external comparisons involve how others identify individuals, in the similarities and differences they see between that individual, themselves, and a particular group. As internal and external comparisons determine the active and socialized aspects of a person, they enable the differentiation of the I and me which make up an integrated Self (James, 1891/1950). Given that social identification involves the interplay of internal and external dialectic processes, the Internet further enables individuals to develop and express multiple social identities and experiment with new virtual identities. As individuals’ social identities evolve from within social groups, they also facilitate the alignment or differentiation of an individual from the group. This alignment or differentiation reaffirms an individuals’ social identity.

Social identity is a central construct in understanding intergroup relations and is a key element in linking an individual to his or her social group (Tajfel, 1974, 1981). According to Tajfel (Tajfel, 1974, 1981), the foundation of the Social Identity Theory of group membership and behavior recognizes that grouping (social categorization) influences people’s perception of others and one’s Self. Social identity is “that part of the individual’s self-concept [or self-identity] which derives from his or her knowledge of membership to a social group (or groups) together with the value and emotional significance attached to it” (Tajfel, 1981, p. 255). As individuals belong to a variety of social groups, their overall self-concept is composed of multiple social identities (Ashforth & Mael, 1989; Hogg, Terry, & White, 1995; James, 1891/1950; Jenkins, 2004). These multiple social identities enable an individual to adopt various roles and adapt to a variety of social contexts. The contexts in which a social identity exists, supports the pluralistic nature of the Self. As social groups exist at multiple levels, i.e. societal, cultural, industrial, organizational, functional, and professional (Korte, 2007), individual’s social identities are facilitated through communication within and amongst these levels. For example, a professor can identify him or herself as teacher, parent, friend, advocate, and administrator based on social context. The use of Internet-based communication technologies, such as Internet messaging (IM), chat, and social networks, provide an extension of social contexts in which individuals can interact. The various social context and relationships developed using such social technologies, facilitates the development and recognition of an individual’s social identification.

**Social Identification**

Social identification is an emergent product of internal-external dialectic processes (Jenkins, 2004). Emphasizing a distinction between internal and external dialectical processes (Barth, 1969) allows a “wider distinction to be drawn between nominal identity and the virtual identity: between the name and the experience of an identity” (emphasis added; Jenkins, 2004, p. 22). A nominal identity is the label an individual identifies his or her Self with, and a virtual identity is the experience of that nominal identity. In other words, your nominal identity is who you believe you are (internal dialectic), and your virtual identity is the experience of being that person (external dialectic). In addition, nominal identification varies from context to context and can be associated
with numerous virtual identities (Jenkins, 2004). For example, one may identify him or herself as a student (internal identification, nominal identity), but his or her identity and experience as a student is quite different from high school to university (external identification, virtual identity). Similarly, the same student may consider him or herself a quiet, shy person in face-to-face meetings (nominal identity), however, when online they present themselves as having an outgoing, animated personality (virtual identity). The experience of an individual’s identity, as perceived through thought and action, is influenced through the interplay of the individual and social others. The evolution and development of internal and external dialectic processes occurs through social identity experimentation.

Social Identity Experimentation

Experimenting with social identities is an important part of lifespan development (Wallace, 1999). As individuals develop, particularly through adolescence, they begin to question their place in society; leading them to question their identity and personal values (Erikson, 1963, 1980). Within today’s fast-paced environment, where lifestyle and career options are abundant and change quickly, many individuals return repeatedly to question their values, beliefs and life goals (Archer, 1989; Wallace, 1999). In particular, the Internet plays an important role in social identity formation and development as it allows individuals to explore their values and beliefs within environments that they perceive to be safe. The anonymity of online interactions facilitates the perception of safety of an individual’s nominal identity, allowing users to experiment with multiple virtual identities. As the Internet expands opportunities for social identity experimentation, through online chat, massively multiplayer online games (MMOG), 3D online virtual worlds, and social networks, individuals readily test and experiment with multiple identities. The ambiguity of the Internet in one’s life course, is an enabling factor for individuals to explore identities that they could not explore in their ‘regular’ everyday lives or in their youth (Archer, 1989).

Through adolescence, the uncertainty of identity dominates an individual’s development and definition of who they feel they are. As identity is a process of ‘becoming’, identity experimentation becomes a means of self-exploration. A recent study by Valkenburg, Schouten, & Peter (2005) investigated identity experiments by adolescents and whether pre- and early adolescents engage more often in Internet-based identity experimentation and self-presentational strategies than middle and late adolescents. Of the 600 adolescents surveyed (ages 9-18, \( M = 13.37, SD = 1.98 \)), 82% indicated that they used chat or Internet Messaging (IM) on a regular basis. Of those who used these technologies, 50% of them reported that they willingly experimented with their identity. Using such self-presentation strategies as presenting his or herself as older, more ‘macho’, more ‘beautiful’, more ‘flirtatious’, as the opposite gender, as a real-life acquaintance, or as a ‘fantasy’ person, these adolescents were actively engaged in conscious identity experimentation. The majority of the adolescents surveyed in the study (49.8%) presented themselves as older. Further findings reveal that relative to age differences in the group surveyed, there was a strong influence of age on Internet-based identity experimentation (\( b = -.50, p < .001 \)). Meaning, that younger adolescents are significantly more likely than older adolescents to experiment with their social identities, and more frequently use their social identities to facilitate social interaction. Valkenburg et al. also report that introverts engage in identity experiments as social compensation more often than extraverts do. The results indicate that introverts were more likely to experiment with their social identity as a means to explore social communication they lack in the face-to-face world. The study concludes that older teenagers used the Internet most often to communicate with their existing personal network, whereas younger adolescents
are more likely to use the Internet more frequently to communicate with strangers. The results of the Valkenburg et al. study validate some existing assumptions about why adolescents use the Internet as a predominate medium of communication, and provides additional evidence of Internet identity experimentation as a means for uninhibited self-exploration.

Motives for identity experimentation are varied and diverse. Self-exploration (i.e. to explore how others react), social compensation (i.e. to overcome shyness), and social facilitation (i.e. to facilitate relationship-formation) are a few motives for identity experimentation. Identity experiments such as the one explored in the Valkenburg et al. study, demonstrate the reciprocal nature of Self and social group interaction in the formation of identity. For an individual to develop a social identity, what that individual thinks of him or herself is significant, but no less significant than what others think about him or her. To return to the internal-external dialectic discussed previously, what the Valkenburg study demonstrates is that it is not enough to assert a social identity; others must also validate that social identity through its reception and recognition. Self-presentation then, is an assertion of a social identity.

Self-Presentation

Self-presentation is an individual’s projection of Self and identity in the social world (Valkenburg et al., 2005). In a traditional face-to-face setting, the reality that the individual is concerned with is generally unperceivable. The individual observes the situation and acts according to their perceptions; even if their perceptions are inaccurate. “Paradoxically, the more the individual is concerned with the reality that is not available to perception, the more must he concentrate his attention on appearances” (Goffman, 1959/1997, p. 21). People can change their persona to reflect the social audience and can have as many social ‘selves’ as there are situations (William James as cited in Abrams & Hogg, 2001). According to Goffman (1959), individuals present an impression by performing and observers are the audience that judges the effectiveness or the believability of the performance. Goffman describes the performer-audience dialectic as one concerning the maintenance of the impression that the performer is ‘living up’ to the standards by which their actions are judged. Whether or not these actions are true of the individual’s identity, remain the subject of the audience’s judgment. Studies reveal that in virtual settings, such as online social networks, inaccuracy of interpretation resulting from individual presentation is a major challenge with Internet communication (Donath, 1999; Lynch, 2005; Valkenburg et al., 2005; Walther, 2007). As previously discussed in the study by Valkenburg et al. (2005) and in the literature on identity experimentation (e.g. Wallance, 1999), the Internet presents many opportunities and motives for identity experimentation. As most participants in online social networks are likely to be actively experimenting with different social identities, ‘audience’ members need to be aware that people may be presenting an identity that may only be a small part of the ‘performers’ nominal identity (e.g. Walther, 2007). This awareness brings literal meaning to Shakespeare’s assertion that “All the world’s a stage, and all men and women players” (As You Like It cited in Haney, Banks, & Zimbardo, 1973).

GROUP FORMATION

Group membership is crucial to the internal-external dialectic negotiation that is identity (Amiot, de la Sablonniere, Terry, & Smith, 2007). Self-categorization theory (Turner, 1985, 1987) suggests that identification with any group is based on the extent to which individuals can enhance their social identity through categorizing themselves as group members (Chattopadhyay, George, & Lawrence, 2004). This theory suggests...
that individuals must associate themselves and others with particular social categories to derive social identities (Turner, 1985).

**Self-Categorization**

Social identity involves a process of self-categorization. Categorization as a cognitive function enables individuals to perceive the world as structured and predictable. Categorization is one of the most basic and essential of all cognitive processes that helps one focus on contextually relevant and meaningful aspects of the world; highlighting important distinctions and de-emphasizing unimportant ones (Hogg, 2001). For example, a student may categorize himself or herself as a football player, or other students may categorize that student as a football player. Given this ‘football player’ categorization, students (and even teachers) make certain assumptions about how that student is likely to behave, with whom he or she associates, and even his or her ability for academic achievement. Categorization of Self, relative to group membership, emphasizes perceived similarities among group members and the characteristics that best define the group in that particular context (Hogg, Cooper-Shaw, & Holzworth, 1993). Self-categorization accentuates attitudinal, emotional, and behavioral similarity to a group prototype (Hogg & Hains, 1996). A group prototype involves the salient characteristics that define a typical member of that group. As a prototype is shared amongst group members, it also identifies group norms and stereotypes (Hogg et al., 1993). For example, the prototypical football player is an individual who has superior physical abilities, is disruptive in class, and does not obtain high grades in academic subjects. Further to our prototypical football player, if this student deviates from what is stereotypical or ‘normal’ for this group, such as achieving high grades in their academic subjects, they may be subjected to ridicule from their peers. A group may ostracize a fringe member based on what the group deems as deviant behavior or for ideas that are contradictory to the norms of the group (Marques, Abrams, Paez, & Hogg, 2001). Ultimately, self-categorization depersonalizes perception and conduct such that individual members are not ‘processed’ as complex multidimensional whole persons, but rather as embodiments of the group prototype (Birchmeier, Joinson, & Dietz-Uhler, 2005; Chattopadhyay et al., 2004; Haney et al., 1973). Research has found that social and group identities are generally more powerful than individual identities, and there is a tendency for individuals to go along with the group in which they identify (Hogg & McGarty, 1990; Korte, 2007; Tyler, 2002). The sense of group identity and the degree of personal identifiability to other group members are conditions known to influence this power relationship (Taylor & MacDonald, 2002). There is also a tendency of the individual to downplay personal attributes in favor of the group prototype or collective identity.

**Collective Identification**

Collective identification is a representation of how people are similar to each other based on the psychological connection between Self and social group (Abrams & Hogg, 2001; Jenkins, 2004). As discussed previously, social identity is a part of the Self that one identifies with a particular category or group. Put another way, social identity is “the perception of self in terms of stereotypical ingroup (sic) attributes” (emphasis added; Abrams & Hogg, 2001, p. 433). The in-group is simply the group in which one identifies; conversely, the out-group are those individuals who are not exclusive members. Collective identification, thus, results in a strong association between an individual and the group in which they are member. The individual then assumes the collective identity. Barnum and Markovsky (2007) hypothesized that in-group members would be more influential than out-group members on the collective. For example, using two theoretical approaches based on disagree-
Depersonalization

Depersonalization causes people to conform to group prototypes and behave according to group norms. Similar to deindividuation of identity (Festinger, Pepitone, & Newcomb, 1952; Zimbardo, 1969), depersonalization gives an individual a sense of anonymity, in which he or she submits themself to the collective identity. Postmes, Spears and Lea (2002) hypothesized that depersonalization would increase the tendency for intergroup differentiation in attitudes and stereotypes specifically with computer mediated communications (CMC). Based upon previous research (Postmes, Spears, & Lea, 1998), Postmes et al. state that communication via CMC would potentially increase differentiation between groups on dimensions of bias, stereotyping, and attitude divergence. In addition, they postulate that CMC shifts intergroup interactions from interpersonal (“me” and “you”) to intergroup (“us” vs. “them”) ultimately depersonalizing interactions and stimulating a tendency for differentiation between social categories (Postmes et al., 2002). Postmes et al. (2002) could not attribute differences in their findings between the groups studied, rather, that CMC likely accentuated differences that already existed. Postmes et al. claim that the results of their study were heightened because of the online context despite the group differences that already existed. The transition from the personal (nominal) to the social (virtual) identity (as originally postulated by Turner, 1987) in which group membership (collective identification) is facilitated, is important for understanding the dynamics of individuals acting as a collective unit or group. The mixed results of the Postmes et al. study reveal that both individuals and groups are in a constant state of social flux. The dynamic nature and negotiation of these groups online makes their structure and evolution fluid and uncertain. Tools, techniques, and technologies for analyzing social networks, will enable further our understanding in social identity development and group formation, and aid in determining the measurable impact of social network tools in education.

ANALYSING ONLINE SOCIAL NETWORKS

Social network formation is a complex process in which individuals simultaneously attempt to satisfy goals under multiple, often conflicting, constraints (Kossinets & Watts, 2006). Social network analysis (SNA) involves theorizing, model building and empirical research focused on uncovering the patterns of links among network members (Freeman, 2000). Social network analysis conceives social structure as a social network. A set of social actors and a set of relational ties connecting pairs of these actors (Wellman, 2000) forms the social network. Social network structures are analyzed using measures such as density, centrality, prestige, mutuality, and role. Demographic data, such as age, gender, and ethnicity, and information about ‘user’ attitudes and beliefs are collected to gain an understanding of the ethnographic characteristics of group members. Methods used in SNA include graph theoretic, algebraic, and statistical models (Wellman, 2000). Due to the focus and length constraints of this chapter, the specifics of SNA methodologies and analysis are not explored in-depth. Instead, we focus on the analysis of online social networks using examples from the literature that consider linking individuals with community.
growth, ethnography, social discourse, and data visualization.

**Examining Links**

Examining links between group members enables researchers to understand how individuals influence, relate, and interact in social networks. Kossinets & Watts (2006), in an analysis of a dynamic social network of more than 45,000 students, faculty, and staff at a large university, found that networks evolve as a result of effects arising between the network topology and the organizational structure the network embodies. Of particular interest is that network characteristics (measures) appear to approach an equilibrium state, whereas individual properties such as linking and bridging are considerably more complex and are more appropriately analyzed using ethnographic techniques (as discussed in a later section). Linking and bridging of individuals-to-individuals and groups-to-groups facilitate connections outside of an individual’s circle of acquaintances and promotes a diffusion of information and growth of existing and new communities (Kossinets & Watts, 2006). The rapid and dynamic nature of linking and bridging in the growth and development of social networks within a relatively stable infrastructure is recognized in the rapid growth of websites such as Facebook (2008), MySpace (2008), Second Life (Linden Research Inc., 2008), and Bebo (2008). Within these web communities, social network connections are far more complex than the technological infrastructure in which they are situated. Understanding how and why bridges occur is central in understanding the circumstances surrounding the formation and growth of online communities.

**Research on Community Growth in Online Social Networks**

Community growth in online social networks is of great importance to both commercial and social enterprises. As online social networks offer commercial advertising space to a captive audience and is a rapidly evolving environment for social research, understanding how, why, and under what conditions these groups thrive is of paramount importance. For example, a recent study by Backstrom, Huttenlocher, Kleinberg, & Lan (2006) explored three questions in regards to online social network growth and evolution. First, they considered membership and the structural features that influence whether a given individual will join a particular group. Second, they examined how structural features that influence a given group and whether that group will grow significantly over time. Finally, Backstrom et al. explored aspects of group change and how group foci or topics change over time and whether this dynamic affects underlying group membership. Backstrom et al. found that the formation of groups and the determining factors of membership significantly relate to the internal connectedness of an individual’s friends. Meaning, individuals whose friends are in a community are significantly more likely to join that community. In a similar way to bridging, as discussed in the last section, information diffusion is similar to membership diffusion in that the more links or bridges one obtains affects the development of the social network and expedites its growth. Backstrom et al. also examined the flow of information within groups; specifically they questioned that “given a set of overlapping communities, do topics tend to follow people, or do people tend to follow topics?” (Backstrom et al., 2006, p. 8). The results to this final query were inconclusive indicating that less technical approaches to understanding community formation and growth, such as the methods used in ethnographic research, would likely provide clearer answers as to the complex dynamics that take place in online social networks.
Ethnography and Social Discourse

Ethnography is a method of research primarily concerned with the description of natural human communities (Munroe, 2000). Ethnography enables the interpretation of the flow of social discourse (Gertz, 1973/2000). In the study of online social networks, ethnography is particularly useful in studying online groups as unique cultural communities. The methodologies and perspectives of ethnography, aids in establishing new questions for research in social networks and complements existing quantitative methodologies. A recent study by boyd & Heer (2006) used ethnographic techniques to study the dynamics of the popular international social networking site Friendster (2008). The ethnographic components consisted of a 9-month participant observation, including interviews, qualitative surveys, and focus groups. Boyd and Heer’s particular research questions involved examining how context is created and interpreted in digital environments, how conversations are initiated online, what are the goals of digital conversations, and how are they maintained. Exploring the possibilities and consequences of replicability, searchability, and persistence, boyd and Heer’s ethnographic study revealed several interesting findings. First, in order to derive contextual cues in lieu of the physical cues present during face-to-face interactions, members of the social network interpreted what boyd and Heer describe as “artifacts of digital performance.” The ‘artifacts’ they describe are traces of interaction history (Wexelblat & Maes, 1999), such as previous discussion postings and images. These artifacts served existing and new network members who use these virtual cues to interpret and build a social profile of the individual who left them. Second, as individuals invited existing friends to their social network, the groups grew and quickly became homogenous. Although boyd and Heer infer that homogeneity is due to the limiting nature of the website itself, the emergence of a homogenous social group exemplifies the homophily principle that similarity breeds connections to “people like us” (McPherson, Smith-Lovin, & Cook, 2001). Homophily, as demonstrated by the boyd and Heer study, serves as a limiter in individuals’ social world. As social networks consist of people who know each other offline and who are similar in sociodemographic, behavioral, and intrapersonal characteristics, these networks are less dynamic and are more often a digital representation of most face-to-face social groups. As individuals interact with others similar to themselves (Baym & Zhang, 2004; Jones & Madden, 2002) and attempt to avoid conflicting relationships (Bargh & McKenna, 2004; Gross, 2004), homophily is limiting because it proliferates the divides in our personal environments and limits exposure to people and networks different from our own. Finally, boyd and Heer describe a phenomenon they call “negotiating unknown audiences” (boyd & Heer, 2006, p. 4); meaning as users generate online contexts to serve the needs of a particular group, the individuals in those groups come together already associated the group. Informed by their ethnographic investigation, boyd and Heer used data visualization to provide a macroscopic view of many of the most common behaviors they observed, such as browsing photos, exploring profiles, and searching for common interests. As qualitative and quantitative analysis of social networks provides insight into the interactions of individuals within the group, data visualization enables a macroscopic view of the social networks in question.

Data Visualization

Visualization aids in the presentation of abstract data. Data visualization enables a visual means to confirm observations made at a local (in this case individual) level, as in the boyd and Heer study (2006), but also provides an alternative perspective on the patterns the data presents, as in a recent study by Golbeck (2007). In the boyd and Heer (2006) study, the visualization served
particularly useful in confirming the ethnographic observations concerning the presence and composition of network clusters which allowed the researchers to develop additional narratives. An example of the visualization presented in the boyd and Heer (2006) and Heer and boyd (2008) and represents a single user profile, and demonstrates the interconnectedness between his or her example profile and their ‘friends.’

A recent study by Golbeck (2007) used visualization techniques to analyze social network membership and relationship dynamics. The visualization Golbeck uses in the study of social network growth of a sample of social networks show a steady linear growth rate. As awareness of the networks existence grew, mostly through advertising, the membership among the selected networks grew rapidly from 1000 members to more than 10 million. In analyzing the rate of relationship growth relative to membership growth, the ‘spacing’ of relationships increased significantly over time. ‘Spacing’ suggests that social networks become more densely connected as they grow larger, which was also observed in the Backstrom et al. (2006) study discussed earlier. Golbeck used visualization to illustrate this spacing effect.

The analysis of online social networks from the macro level provides specific information on community growth, social discourse, and general group dynamics. The addition of this macro-level information to the research on social identity provides further information on the ongoing interplay between the groups in which we identify ourselves and how others respond to this dynamic. The relative strength of collective associations within the group, as evidenced through density, linking, and bridging, associates individual activity with collective (group) level properties. Through this process, further detail of group prototypes and the salient characteristics that define a typical member of that group can be identified, and additional ‘narratives’ can be developed that further understanding of social identity and group dynamics at the micro (i.e. individual) and macro (i.e. community) levels.

**STRATEGIES FOR USING SOCIAL SOFTWARE IN EDUCATION**

Social networks already exist in education. Sports teams, social clubs, cheer squads, and social cliques are a few examples that are recognizable in any educational institution. As the context in which social identity supports the pluralistic nature of the Self, the learning environment is a particularly appropriate place for students to explore their nominal identities and experiment with new social (virtual) identities. For educators to capitalize and facilitate identity experimentation within online social networks, such as Facebook, MySpace, Second Life, and Bebo, they need to facilitate social interaction in all learning contexts. We have identified four important areas of research that support identity experimentation and promote the use of online social networks in education. Research important in the use of online social networks in education involves investigating ways in which educators can preserve relative anonymity, enable identity experimentation, manipulate self-categorization, and measuring the effectiveness of online social networks in education.

**Preserve Relative Anonymity**

To establish an equality of participation, relative anonymity should be preserved (Taylor & MacDonald, 2002). In order for online social networks to be successful in an educational context, anonymity needs to be maintained until social links are established. If anonymity is not maintained, then the social network is likely to fail given that relatively few will participate, and if they do participate, they will ‘self-present’ in such a way as to make the environment seem false. For example, in traditional or formal learning settings, a student will often demonstrate behaviours expected by the teacher as opposed to behaving as they actually feel. In an online environment, students should feel that they have the freedom to
express and interact in ways that are not reflective of outside social influence. The use of anonymity has implications within formal learning structures where anonymity is not often preserved. Further research in this area is necessary to delineate teaching and learning strategies for use within formal learning contexts.

Enable Identity Experimentation

Encouraging identity experimentation facilitates the development of social networks that continually evolve and change with each different educational context. Identity experimentation, keeping a modicum of anonymity, enables a student to present various social identities to his or her peers and the instructor. In other words, identity experimentation through various modes of self-presentation encourages expressions of self that are accepted or rejected by members of the in-group. Identity experimentation is important to education, as it is something that all individuals ‘do’ and is uniquely possible within online social networking. Incorporating strategies within the educational context that encourage such experimentation in a safe and equitable way will foster tolerance and understanding of other differing points of view. Identity experimentation promotes social interaction as the individual’s identity is in constant negotiation between the individual and social group.

Manipulate Self-Categorization

Building on the first two factors results in a manipulation of self-categorization. Manipulating self-categorization raises individual and collective awareness of the various effects of collective identification. In other words, teaching and learning strategies that enable self-experimentation will also influence how a student develops awareness of their impact on others in their peer group and illustrates how they are accountable for their actions. Through the manipulation of self-categorization, students are able to recognize how their participation within a social group affects the social network and remain accountable for their actions. The use of roles within group interactions enables individuals to understand the difference of their nominal identity and virtual identity in social contexts. This realization can only help students become more cognizant of the influence of social roles in identity formation.

Measuring Social Network Effectiveness

A measurable means for observing changes in the various properties of a social network, such as bridging, linking, and spacing within the network, is important in helping educators determine the level of interactivity in the network overall. For example, a network with low interactivity would have few bridges, few links, and very large spaces between individuals in the network. Alternatively, an active network is one with high interactivity, has bridges, several links, and has less space between individuals in the network. From an educational perspective, an active classroom network, whether face-to-face or online, that has many bridges and many links is a more productive learning environment. It is the ability of the instructor to facilitate these links that will provide an effective social learning environment.

CONCLUSION

Experimenting with social identities is an important part of lifespan development (Wallace, 1999). As individuals develop and change, they question their place in society leading them to question their identity and personal values (Erikson, 1963, 1980). People often change their persona (James, 1891/1950) and have as many social ‘selves’ as situations (Abrams & Hogg, 2001) and social groups. Categorization of the Self relative to a group accentuates the perceived similarity
between individual group members and one’s representation of the features that best define the group in a particular context (Hogg et al., 1993). A representation of how people are similar to each other, is based on the psychological connection between the self and social group (Abrams & Hogg, 2001; Jenkins, 2004). Collective identity aids in the development of social identity, but tends to depersonalize the individual in favor of becoming a group member. Although depersonalization facilitates a transition from a personal (nominal) to social (virtual) identity, where group membership (collective identification) becomes increasingly important, social network formation is a complex process in which many individuals simultaneously attempt to satisfy their goals under multiple, conflicting constraints (Kossinets & Watts, 2006).

The use of Internet-based communication technologies facilitates the development of social groups and social identification. Social identity is central in understanding intergroup relations and is a key element linking individuals to their social group (Tajfel, 1974, 1981). As social groups exist at multiple levels, social identity development is facilitated through communication within and amongst these levels. Social identification, as an emergent product of internal-external dialectic processes (Jenkins, 2004), enables an individual to experiment with different virtual identities and explore what it is like to experience those identities in the social world.

Motives for identity experimentation, such as self-exploration (i.e. to explore how others react), social compensation (i.e. to overcome shyness), and social facilitation (i.e. to facilitate relationship formation) are all important factors in social development. As schools are inherently social institutions, the factors that contribute to healthy social development are of paramount importance for educators to consider for students growth. The strategies for social identity experimentation in classrooms, allows students to become active interpreters of social interaction. Educators that facilitate participation, experimentation, and research of social identity, will ultimately contribute to student’s insight into the dynamics of learning and development as a social process.

REFERENCES


KEY TERMS AND DEFINITIONS

**Artifacts of Digital Performance**: Artifacts of digital performance refer to traces of interaction history (Wexelblat & Maes, 1999), such as previous discussion postings and posted images, that new network members use as virtual cues to interpret and build social context.

**Collective Identity**: Collective identification is a representation of how people are similar to each other based on the psychological connection between the self and social group (Abrams & Hogg, 2001; Jenkins, 2004).

**Depersonalization**: Depersonalization causes people to conform to the group prototype and behave according to group norms.

**Ethnography**: Ethnography is a method of research primarily concerned with the description of natural human communities (Munroe, 2000) and enables the interpretation of the flow of social discourse (Gertz, 1973/2000).

**Nominal and Virtual Identity**: A nominal identity is the label with which an individual is identified and a virtual identity is an individual’s experience of the nominal identity. In other words, your nominal identity is what you believe you are (internal dialectic), and your virtual identity is the experience of being (external dialectic).

**Self-Categorization**: Self-categorization theory (Turner, 1985, 1987) suggests that identification with any group is based on the extent to which individuals can enhance their social identity through categorizing themselves as group members (Chattopadhyay et al., 2004).

**Social Identity**: Social identity is central in understanding intergroup relations and is the key element linking an individual to his or her social group (Tajfel, 1974, 1981).

**Social Network Analysis**: Social network analysis involves the theorizing, model building and empirical research focused on uncovering the patterning of links among network members (Freeman, 2000). Social network analysis conceives of social structure as a social network: a set of social actors and a set of relations ties connecting pairs of these actors (Wellman, 2000).