

Toward a deeper understanding of youth Internet use: Contextualizing previous findings into a model of modern anonymity online.

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Youth interaction provided by the Internet, where various levels of user anonymity persist, represents a significant arena for social science research. This article presents a new theoretical perspective on understanding the online setting in which young people are involved, based on research on the effects of anonymity and motivation along with recent work on youth online behavior. This involves a review of the Social Identity model of Deindividuation Effects (SIDE) having to do with an understanding of the effects of anonymity through the lens of identity, in addition to the delving into the tools for understanding youth motivation provided by Self-Determination Theory (SDT), concerning individual motivation through the lens of innate needs. SIDE is used to provide background context to the framing of modern anonymity and SDT provides a rationale for an updated understanding of potential online motivations toward consuming social media online along with its anonymity aspects. These two frames are combined with a review of recent findings on youth Internet use toward connecting these previously separate areas of research for the development of a new model of the anonymous online environment in which young people interact. The discussion of these pieces together serves to synchronize the creation of a model through which to approach issues concerning the relationship between Internet anonymity and youth behavior online.

The Internet arena experienced through online gaming, communities, and networking has a hugely significant role in the lives of young people, especially in countries leading in technological innovation where future global usage trends are set (Livingstone, 2008). This computer mediated communication has become central to how young people interact, as youth have become more self-networking than ever before, especially through the tools of social media (Davidson & Martellozzo, 2013; Lehdonvirta & Räsänen, 2010; Näsi, Räsänen & Lehdonvirta, 2011; Allen, Szvedo & Mikami, 2012). Despite this, the various forms of Internet user anonymity remain a relatively little studied subject despite their widespread sphere of influence. The conceptual status of anonymity and its various forms are still far from clear. Findings on youth Internet use provide a strong foundation for delving into the complex forms of anonymity prevalent online today, as young people continue to be the most significant consumers of social media in a relational and exploratory capacity online (Panek, Nardis & Konrath, 2013; Subrahmanyam & Lin, 2007). An unsatisfactory feature of most research having to do with Internet use is that the underlying processes go unexplored (Messinger et al., 2009). What is needed are new theoretical intersections that provide insight into the mechanics of online behavior and motivations driving various forms of anonymous interaction in

young people.

In the computer-mediated setting, face-to-face cues are typically diminished and as such, there exist various levels of anonymity online where otherwise familiar physical cues are altered or absent a modification of social presence; anonymity, as a social phenomenon, has become more complex. Notably, anonymity has historically brought with it controversial assumptions of its effects on young people. In both public and academic arenas, anonymity within groups has historically been thought an instrument causing negative consequences such as, for example, disinhibited and aggressive behavior (Singer et al., 1965; Zimbardo, 1969). Yet, other early studies have shown the opposite to be true, namely in terms of increases in affection and empathy (Lea et al., 2001). The controversy in the sphere of youth and Internet anonymity is one dependent in large part on a lack of empirical research and common understanding of the processes and driving forces at work. The theoretical base in academic terms for the study of anonymity through identity issues is strong, but its application to a modern study of today's interactive Internet landscape remains scarce. This opens the door toward approaching anonymous behavior with a theoretical framework constructed by way of early findings combined with more recent studies on Internet use among young people between the ages of 13-25. The strong foundation of youth Internet studies carried out thus far provides a good basis for assessing how anonymity is used online today.

The Internet can be a socially connecting interactional tool that can also be simultaneously socially isolating. What is needed is a new framing of the anonymity experienced online, as its facets have become more complex. The Internet allows for an exploration of identity aspects that were previously unavailable to the individual; there is a new freedom to express anonymously, with lessened social risk (Allen et al., 2012). Today, young people online are provided with a great degree of options for self-presentation and social exploration, where anonymity can enhance expression through increased autonomy, for example (Allen et al., 2012; Räsänen & Lehdonvirta 2011).

In what ways do the findings of early studies on anonymity's effects relate to recent findings on interacting online? Furthermore, how might we contextualize the various forms of anonymity experienced in today's complex online setting in order to better understand the structure of the online environment? Finally, how does past work on motivation help to explain popular trends in social media? These are serious issues that, crucially, have yet to be explored in depth. This article takes steps to bring into focus past work on anonymity with recent findings on youth Internet use, then combined with motivation theory in order to better understand potential reasons for why certain online aspects of anonymity may be so popular and thus why anonymity is relevant as a topic for further study. Finally, a structural framework for understanding today's online landscape in terms of anonymity is put forth as a combination of both past and present work in order to illustrate the online interactional landscape for further study.

The article puts forth the following research questions:

1. What characteristics of youth online behavior might provide a rationale for the various popular forms of social media based on past findings on motivation? How does this relate to modern anonymity online?
2. In today's complex online environment, what are the various degrees of anonymity available for interactive purposes and what are their characteristics, based on recent findings of online behavior?

EARLY RESEARCH ON THE EFFECTS OF ANONYMITY ON THE INDIVIDUAL

The understanding of the effects of anonymity on the individual brings with it controversy, as there have been a number of conflicting viewpoints as to its social effect in early research. Central to this controversy has been the issue of deindividuation, namely the immersion of the individual into the group to the point of losing individual identity through anonymity (Lea & Spears, 1991); this perceived loss of self has brought with it conflicting interpretations of how anonymous behavior was understood, with some positions providing a more complete picture than others.

Central to the early understanding of anonymity and its effects is the Social Identity Model of Deindividuation Effects (SIDE), developed out of social identity theory (Tajfel & Turner, 1985) and self-categorization theory (Turner 1982) by Lea, Spears and Postmes (2001). The model came about through a meta-analysis of 60 independent studies concerning deindividuation; it was discovered that group behavior is best explained by reference to situation-specific rather than general social norms (Postmes et al., 2001). The meta-analysis suggests that anonymity, or social invisibility, moves the individual from thinking and categorizing in terms of self, to that of the group; in other words, a depersonalization of the individual (rather than a loss of self suggested by classic deindividuation theory) takes place with the introduction of anonymity that moves one to action motivated in terms of group identity (Spears & Lea, 1992).

In early research, anonymity and negative behavior were often assumed to be positively correlated, with anonymity leading to, for example, disinhibited and aggressive behavior (e.g., Singer et al., 1965; Zimbardo, 1969). Deindividuation theory assumes that because anonymity removes interpersonal cues, it decreases attention to others and that this impersonal focus reduces politeness and tolerance, promotes conflict and hostile behavior, and prevents the development of attraction and interpersonal relationship (Jessup et al., 1990; Walther, 1992). Reduced objective self-awareness (Diener, 1979), reduced private self-awareness (Prentice-Dunn & Rogers, 1989), and reduced public self-awareness were considered culpable processes here (Walther, 1992, 1997). However, Lea et al. (2001) point out that these outcomes predicted by deindividuation theory do not always hold true; there have been studies showing decreased aggression and increased affection through

anonymity (e.g., Gergen & Barton, 1973; Johnson & Downing, 1979). Furthermore, increased self-awareness, enhanced decision making, and decreases in disinhibition have been observed as effects of anonymity (Lea & Spears, 1991; Matheson & Zanna, 1988). SIDE represents an early attempt to reconcile these conflicting observations within a single framework, a necessary reconciliation given the range of findings from opposite ends of the behavioral spectrum.

According to SIDE, individual behavior can be viewed on a scale from entirely personal to entirely group-based. The SIDE model puts forth that anonymity weakens the communication of interpersonal cues within the group, allowing for social group and category formation that is not reliant on social cues, namely a move to thinking in terms of over-simplified categories. This has the effect of changing perceptions of both self and others from the personal to the group level, thereby promoting behavior of the salient group. As such, SIDE proposes that anonymity promotes a shift of self-awareness from the personal to the group self rather than the loss of self-awareness that deindividuation theory promotes (Lea et al., 2001).

Lea et al. (2001) argue that anonymity encourages this depersonalized self-perception due to its reduction of the interpersonal basis for social comparison; complexity is given up in favor of self-stereotyping. In their study to test the effects of anonymity on individual behavior, Lea et al. found that visual anonymity increased attraction to the group, a finding contrary to the predictions of deindividuation theory which would expect negative effects. As such, rather than a reduction of attention to others, self-categorization brought on by anonymity causes members of other groups to be viewed through a stereotypical lens. This increase in self-categorization helps to illuminate the dynamics of group and relationship formation among youth online where common interests can bind with an enhanced effect, something recent research can attest to and to which we will return. This finding supports studies that have shown that anonymity can promote positive, rather than solely negative social interactions. (Hogg & Reid 2006; Lea & Spears, 1995).

Early research on the effects of anonymity was based on interactive environments far less complex than those experienced by youth today; though anonymity as a concept is seemingly straightforward in past studies, it cannot be assumed that modern online interaction presents the same outcome of depersonalization when the environment is so varied. However, despite high complexity today, the findings of SIDE can be useful for contextualizing a new model of anonymity online. A new framework of online anonymity must be based on interactional patterns carried out by youth today in the contexts within which it is built. Furthermore, characteristics of different levels of anonymous experience must be identified to create useful categories of interaction, to which we now turn.

YOUTH INTERNET USE

The online environment today is one where all manner of social interaction is made possible, often involving some amount of anonymity, dependent upon how identifiably users choose to present themselves. The Internet's popularity among today's youth can be attributed to any number of factors, including its provision toward the building of social networks (Wang & Stefanone, 2013; Livingstone et al., 2011; Dooris et al., 2008; Hargittai, 2008) and toward exploration and development of identity (Livingstone & Brake 2010; Näsi et al., 2011). The sphere of this multifaceted social mechanism is far-reaching, through applications known as social media. Social media can take various forms including social networking sites or blogs such as Facebook, content communities such as YouTube, virtual worlds such as Second Life, and collaborative projects such as Wikipedia (Boellstorff 2008; Kaplan & Haenlein, 2009). Youth social interaction is becoming increasingly computer-mediated, with online groups providing additional sources of identity expression, exploration and creation while acting as a complementary component of social identity processes of the offline world (Davidson & Martellozzo, 2013; Räsänen & Lehdonvirta 2011). The anonymity of the online setting allows users a great deal of flexibility in terms of self-presentation, as the way one is perceived can be customized according to desired peer recognition (Panek, Nardis & Konrath, 2013). Online, anonymity provides the option to control one's visible persona, allowing for the creation of an idealized or enhanced self to appeal to a desired group (Anderson, Fagan, Woodnutt, & Chamorro-Premuzic, 2012).

Foundational to the popularity of various forms of social media is the fulfillment of the need for intimacy and belongingness with others (Davidson & Martellozzo, 2013). The capability provided by social media online opens the door for an abundance of relational possibilities through varied methods for personal expression (Merchant, 2012). Notably, peer groups are becoming increasingly computer-mediated and show that the online group is an additional source of identity, acting as a complementary component of social identity processes of the offline world in those individuals seeking high levels of peer confirmation (Räsänen & Lehdonvirta 2011; Panek et al., 2013). Young people identify particularly strongly with online communities where shared interests form the basis of group cohesion (Näsi et al., 2011). Furthermore, online peer groups provide a sense of strong identification for young people who are less autonomous (Lehdonvirta & Räsänen, 2010).

For some youth the Internet becomes a toy or virtual world for escapism, while for others a learning tool or social instrument (Liu 2011, Livingstone 2008). Furthermore, the Internet provides youth with beneficial solitary explorations or anonymous interactions among strangers, namely toward experimenting with identities and relationship formation (Näsi et al., 2011; Livingstone et al., 2011). Youth Internet use is also associated with declines in loneliness and other positive social effects through the provision of beneficial social interaction (Livingstone & Helsper, 2010). As the Internet is more a facet than an inhibitor, its effects can be

both beneficial and destructive, depending upon, fundamentally, the participant in question. Online, there exists a relative freedom from the fear of external judgments as youth enter into anonymous interaction (Keipi and Oksanen 2014). The Internet is continually used by youth as a mechanism toward the promotion of cognitive, social, and physical development. Here, the Internet is found to be a complement to more traditional ways of applying needed social interventions (Guan & Subrahmanyam 2009).

These studies show that the benefits youth experience online through social media today are numerous and varied according to individual needs for personal expression intimacy in various forms. Furthermore, Internet anonymity does not impose a blanket effect, but rather provides instruments to users depending on needs and sought-after levels of visibility. The findings suggest that youth are flexible in their online self-presentation and conceal their identity in multiple social and psychological contexts, while also taking advantage of the mobility provided by networking online. This simultaneously contradictory and complementary nature between online and offline self points toward the relationship between surface and source motivations. These youth studies show the practice of fulfilling needs in a new way that becomes possible online. Notably, an understanding of motivation behind those needs adds to the relevance of considering anonymity as a potential reason for the popularity of social media.

MOTIVATION BEHIND ONLINE BEHAVIOR

Self-determination theory (SDT), developed by Deci & Ryan (1980, 1999, 2000), is particularly beneficial in the delving into the processes at work within the individual online due to its focus on determining needs, motivations, and behavior through strong empirical support. Thus far, SDT has been applied to considerable research in various fields including learning environments and virtual gaming (Ryan et al. 2006; Rigby and Przybylski 2009; Chen and Jang 2010) but not to youth online behavior. The theory helps to develop an understanding of the benefits provided by social media to young people due to insights into motivation at the individual level. This can in turn strengthen the case of anonymity as a significant social tool online. SDT can be particularly helpful in shedding light on anonymity's effects on social development by delving into the intrapersonal processes upon which social motivation is built.

Self-determination theory (SDT) proposes that an understanding of human motivation requires the consideration of innate psychological needs. These three fundamental needs that SDT proposes are, first, in terms of competence, to engage optimal challenges and experience effectiveness in one's social space, second in terms of relatedness to experience a sense of security, belongingness, and intimacy with others and third in terms of autonomy to self-organize and regulate one's own behavior which involves developing inner coherence and integration among regulatory demands (Deci & Ryan, 2000). In SDT these three work together to guide the individual toward more socially integrated forms of behavior. Deci and Ryan put

forth the rationale for the relevance of SDT theory through a meta-analysis of relevant studies concerning motivation, behavior regulation, and, centrally, autonomy.

As referenced studies on youth Internet behavior showed, popularity of social Internet use among youth is in large part driven by enhanced access to autonomous, socially liberated interaction as the social stage is always within reach online, for example through various forms of social media (Davidson & Martellozzo, 2013; Räsänen and Lehdonvirta 2011; Livingstone 2008). This ease of access online can bring about an ability toward self-determination by way of behavioral independence otherwise unattainable in terms of ease of access (Panek, et al., 2013). Furthermore, the customized self-presentation or interactive control afforded by anonymity act to bolster desired self-expression (Anderson, Fagan, Woodnutt, & Chamorro-Premuzic, 2012). SDT puts forth that the increase in behavioral flexibility for expression possible here helps to motivate the meeting of the central need for autonomy (Deci and Ryan 2000). As such, SDT naturally predicts that activities promoting autonomy will, in turn, be popular among those whose need fulfillment they facilitate. The capacity of the individual toward internalizing one's social experience effectively in a space relatively free from external pressures becomes centrally important in development toward self-determination.

SDT also proposes that feelings of relatedness to socializing others will drive individuals to naturally internalize the values and regulations of their social groups; this internalization is enhanced by feelings of competence linked to the regulation being internalized, much like that seen in social groups formed by youth by performing and succeeding in various online virtual gaming communities (Wan & Chiou, 2006; Lee & Holin, 2011). This being the case, Deci and Ryan posit that although support for relatedness and competence needs may aid in the internalization of a regulation or value, those supports alone will prove insufficient in the bringing about of integration; SDT puts forth that integration requires that the individual have an opportunity to freely process and autonomously internalize those values and regulations. Notably, the integration of values and regulations toward self-determination thus requires a social setting relatively free from the fear of excessive external pressures. Significantly, these are all characteristics that can be enhanced in the online, anonymous social setting if a high level of anonymity is taken where reputation effects do not follow from expressed behaviors; anonymity can act to lower the cost of entry into expression (Keipi and Oksanen 2014). Although anonymity does not eliminate risk, it can enable social momentum that would otherwise go unused through a freedom from restraint that might otherwise be present.

Self-determination theory raises some significant implications having to do with anonymity's effects on socialization by illuminating the foundational behavioral motivations along with facilitating social environments. If anonymity, as its definition alludes, provides a separation from extrinsic forces by providing a form of relative invisibility, the pace of individual social evolution from the non-self

determined toward self-determined might be affected in a positive way (positive in regards to moving toward an internal locus of causality, regardless of the particular values in question).

Indeed, some forms of Internet anonymity can provide a respite from social noise toward forms of expression that might not otherwise be available. This phenomenon of moving from the internal toward the external through the instrument of Internet anonymity has been shown where higher levels of self-expression, exploration of self-concept, and relational cohesion come about among youth participants (Lee & Holin, 2011). Notably, the forms of social interaction possible online can differ in degree of anonymity and as such their interactive characteristics can also vary. What does the online landscape look like in terms of anonymity? It is to a proposed model of online anonymity that we now turn.

INTERNET ANONYMITY ON A FUNCTIONAL SCALE

Social media has been a constant theme throughout the analysis on youth activity online, its effects and benefits in many ways dependent upon anonymity to some degree. Early research findings by SIDE are dependent upon a form of anonymity too simplified to be fully explanatory of the complexity of today's online setting. The use of social media involves a unique form of interaction, as social presence is modified through the removal of live face-to-face communication. Social presence here refers to the degree to which an interacting partner is experienced as a physical person (Rourke et al., 1999). Notably, online communication can vary in its degree of social presence. These varying degrees are significant toward a better understanding of online interaction (Kreijns, Kirschner, Jochems & Van Buuren, 2004). This modifier of social presence online is often referred to as anonymity, employed to varying degrees dependent upon the form of interaction preferred by users.

Young people interact online through various forms of anonymity which, in turn, affect relational dynamics through levels of social invisibility (Keipi & Oksanen 2014). Various aspects of social media, especially social networking sites such as Facebook, do indeed function with an inherent level of user anonymity, though it is far from completely anonymous. Notably, simply removing visual cues in computer mediated communication has a significant positive effect on self-disclosure (Joinson 2001). Past research concerning deindividuation and SIDE have made initial strides toward an understanding of the effects of anonymity, but no widely accepted model of the various levels of anonymity present today has been developed thus far; as such, there exists room for interpretation in terms of its varying degrees and the characteristics therein. In order to combine past research with more recent preliminary categorizations of anonymity, the phenomenon can be organized on a functional scale from less anonymous to fully anonymous; from simple visual anonymity where users' physical features are hidden or unavailable, pseudonymity where participation is carried out using a created identity toward longer term relationships or reputation building without disclosing true identity, and, lastly, full

anonymity where the users participate on a short term scale without any reputation effects or labeling constraints (Pfitzmann & Köhntopp 2000; Joinson 2001). Notably, like the findings of SIDE, these categories were developed before the appearance of social media online. However, these categories remain helpful in approaching the various forms of anonymity inherent to current online behavior.

Full anonymity	Pseudonymity	Visual anonymity	Face-to-face
Text based interaction without any possibility of identification	Pseudonym based interaction (e.g. username or avatar).	Any interaction where physical characteristics hidden.	Interaction with identifiable participants with physical characteristics visible.
Less identifiable			More Identifiable
Fewer reputation effects			More reputation effects
Shorter term relational scale			Longer term relational scale
Weaker social ties			Stronger social ties

Table 1: *A functional scale of Internet anonymity*

Table 1 illustrates a scale of anonymity relevant here, focusing on effects persistent in the online arena. Notably, the levels are not mutually exclusive, as combinations of anonymous activities are possible online. Furthermore, the scale effects are not strict rules, but rather tendencies which illustrate what becomes possible from one extreme to the other. Visual anonymity is the most common level experienced on a regular basis by users online, namely any situation where one’s physical characteristics are hidden even in cases where participants are otherwise known to one another. Here, there is no direct visual feedback during interaction. Furthermore, visual anonymity can be present even when reinforcing offline relationships online. Next, pseudonymity refers to interactions where usernames, avatars, or other social profiles are created by the user for a social purpose online. Lastly, full anonymity exists where interactions result in no reputation effects and where users remain unknowable after interaction has concluded. These experiences are text-based without any pseudonym or other long term username, for example through online chatting or blog commenting. (Pfitzmann & Köhntopp, 2000; Joinson, 2001).

The levels of anonymity presented here overlap in a complex fashion as users interact online. Visual anonymity is present whenever users' physical characteristics, including expressional reactions, are out of view, such as in the use of email and various chat applications. Furthermore, interacting on SNS such as Facebook while implementing a socially instrumental fake profile would be a case of pseudonymity, or a separate created version of self complete with reputation effects with the goal of some level of relational intimacy on a timescale involving some level of social trust. Here, visual anonymity exists simultaneously with pseudonymity where a fake profile is used to interact with another or where users interact using created profiles that do not physically represent themselves and whose use involves the unavailability of physical cues.

As a general guideline, as one moves from full anonymity toward visual anonymity, there is an increase in relational timescale, potential for social regulation of behavior, reputation effects, and social tie strength. The tools provided by this setting act to enhance the motivation of young people toward relational aspects of the Internet through a relative freedom from possible constraints, with the depth of interaction dependent upon user preference (Allen et al., 2012; Wang 2013). There exists great complexity in how anonymity is expressed through various platforms online, allowing for an interactive customization that can provide enhancement to the relational or recreational needs of young people (Kaveri et al., 2008; Livingstone et al., 2011). This model represents an early effort to bring together past studies on anonymity and modern forms of online behavior in order to frame approaches for further study.

DISCUSSION

The understanding of various forms of anonymity embedded in online interaction provided by computer mediated communication, especially social media, remains scarce despite the vast popularity of their use. Users in these settings typically interact under some level of anonymity, as its effects exist on a scale including various forms of transparency. This analysis and review represents an effort to contextualize the characteristics of anonymity in the online setting in order to keep pace with the modern complexity of communication technology.

This article provides a new look into popular forms of online behavior by first discussing early work on anonymity and findings on youth Internet use affected by anonymity. Self-determination theory (SDT) was used to illustrate motivations and potential benefits of anonymity for young people in order to add explanatory power to anonymity's effect in addition to illuminating observed online behavior from previous studies. Finally, a framework of how anonymity functions in the online setting today was proposed, combining past work on its categorization and keeping in mind current behavioral trends among young people online. The components of the study came together toward the development of a model of anonymity. Notably, the aim here is contextual and descriptive in terms of what anonymity looks like today along with some of its effects on interaction based on past studies, rather than

predictive in terms of, for example, whether anonymity is helpful or harmful and to what degree.

Key areas of overlap were found between early findings on the effects of anonymity and youth Internet use. The Social Identity Model of Deindividuation Effects (SIDE) puts forth that anonymity encourages an increased attraction to the group, namely a depersonalization that involves an increase in self-categorization (Lea et al., 2001). Central here is a shift from forming bonds as complex individuals to shared categories or values. This is in line with previous work that shows online interaction and group formation as creating a strong group identity where shared interests form the basis of group cohesion (Näsi et al., 2011, Lehdonvirta & Räsänen, 2010). This attraction of group-based identifiers was a theme also evident in Self-Determination Theory (SDT) in that the need for relational intimacy and acceptance can drive individuals to internalize values and regulations of their social groups (Deci & Ryan, 2000).

Linked to the issue of socialization and group formation online in seeking peer confirmation is the ability to customize self-presentation. Both visual anonymity and pseudonymity become central here, as control over how one will be perceived by those providing affirmation increases. Here, anonymity affords a new form of social flexibility (Panek et al., 2013, Keipi & Oksanen 2014) depending upon individual assessments of desired identifiability, reputation effects, social tie strength and relational time scale (see Table 1). Furthermore, not only can one create an idealized self to appeal to a desired group, but exploration of new aspects of self can also be enhanced through some form of anonymity (Anderson et al., 2012). SDT again adds to the dialogue through findings demonstrating that the need for autonomy can drive individual behavior toward activities that both express and reinforce desired identities (Deci & Ryan 2001).

This desire for autonomy and self-exploration is evident in various methods of online interaction where interactive contexts of varying levels of anonymity are used to explore and develop identity (Livingstone, 2008). For some young people, the various forms of interaction online become a toy or virtual world for escapism otherwise not available, while others take advantage of it more as a social instrument (Liu 2011; Livingstone & Brake 2010). Thus, motivations behind how social media and the level of anonymity therein is used depends upon the individual in question what they seek; notably, the complexity of current online possibilities in their various forms provide a great deal of consumer choice, whether under visual, pseudo-, or full anonymity. New ways of solitary exploration become possible online toward self-determination while anonymous interactions with strangers is also available, all adding to youth experience of self and socialization (Näsi et al., 2011; Livingstone et al., 2011).

These various findings concerning online behavior and motivations behind them all take place within a framework involving various levels of anonymity. The definitions of the three levels of anonymity along with their characteristics of

identifiability, reputation effects, relational timescale and social tie strength all enable a more systematic understanding of how interaction and expression is carried out online. The starting point of early findings by SIDE allowed for a point of entry into the discussion of full anonymity as depersonalizing in the sense of increased self-categorization. Recent findings on youth online behavior and anonymity provided a broadened view of the available forms of interaction and exploration, adding a great deal of complexity and characteristics defining previously uncommon forms of anonymity. SDT helped to determine motivations and needs behind findings of online behavior, linking back to SIDE especially in terms of how socialization and group formation functions in the visual anonymity and pseudonymity settings. Finally, the analysis yielded a model of online anonymity reflective of previously studied forms of Internet behavior. It is the hope of the author that the review of the various forms of literature resulting in a new theoretical model will add to the contextual framework with which future studies on anonymity's effects are carried out, as the social and exploratory facets of the Internet continue to evolve at a pace matched only by the growth of its user base.

References

- Allen, J., Szewedo, D., & Mikami, A. (2012). Social networking site use predicts changes in young adults' psychological adjustment. *Journal of Research on Adolescence*, 22, 453-466.
- Anderson, B., Fagan, P., Woodnutt, T., & Chamorro-Premuzic, T. (2012). Facebook psychology: Popular questions answered by research. *Psychology of Popular Media Culture*, 1, 23-37. doi: 10.1037/a0026452
- Boellstorff, T. (2008). *Coming of age in Second Life: An anthropologist explores the virtually human*. Princeton University Press, Princeton, NJ.
- Chen, K. C. & Jang, S. J. (2010). Motivation in online learning: Testing a model of self-determination theory. *Computers in Human Behavior*, 26, 741-752.
- Davidson, J., & Martelozzo, E. (2013). Exploring young people's use of social networking sites and digital media in the internet safety context. *Information, Communication & Society*, 16, 1456-1476.
- Deci, E. L., & Ryan, R. M. (1980). The empirical exploration of intrinsic motivational processes. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 13, pp. 39-80). New York: Academic.
- Deci, E. & Ryan, R. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, 125, 627-668.
- Deci, E. & Ryan, R. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.
- Diener, E. (1979). Deindividuation, self-awareness, and Disinhibition. *Journal of Personality and Social Psychology*, 37, 1160-1171.
- Dooris, J. et al. (2008). Distant friends online? Rural and urban adolescents' communication on the internet. *Tijdschrift voor Economische en Sociale Geografie*, 99, 293-302.
- Gergen, K. et al. (1973). Deviance in the dark. *Psychology Today*, 7, 129-130.

- Guan, A., & Subrahmanyam, K. (2009). Youth Internet use: risks and opportunities. *Current Opinion in Psychiatry*, 22, 351–356.
- Hargittai E. (2008). Whose space? Differences among users and non-users of social network sites. *Journal of Computer-Mediated Communication*, 13, 276–297.
- Hogg, M., & Reid, S. (2006). *Social identity, self-categorization, and the communication of group norms*. New York: International Communication Association.
- Jessup, L. et al. (1990). Toward a theory of automated group work: The deindividuating effects of anonymity. *Small Group Research*, 21, 333-348.
- Jetten, J. et al. (1996). Intergroup norms and intergroup discrimination: Distinctive self-categorization and social identity effects. *Journal of Personality and Social Psychology*, 71, 1222-1233.
- Johnson, R. & Downing, L. (1979). Deindividuation and valence of cues: Effects on prosocial and antisocial behavior. *Journal of Personality and Social Psychology*, 37, 1532-1538.
- Joinson, A. (2001). Self-disclosure in computer-mediate communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology*, 31, 177-192.
- Kaplan, A. & Haenlein, M. (2009). Consumer Use and Business Potential of Virtual Worlds: The Case of 'Second Life.' *International Journal on Media Management*, 11, 93–101.
- Keipi, T., & Oksanen, A. (2014). Self-exploration, anonymity and risks in the online setting: analysis of narratives by 14-18-year olds. *Journal of Youth Studies*, 17(8), 1097-1113. doi: 10.1080/13676261.2014.881988
- Kreijns, K., Kirschner, P., Jochems, W., & Van Buuren, H. (2004). Determining sociability, social space, and social presence in (a)synchronous collaborative groups. *CyberPsychology and Behavior*, 7, 155-172.
- Lea, M. & Spears, R. (1991). Computer-mediated communication, de-individuation and group decision-making. *International Journal of Man-Machine Studies*, 39, 283-301.
- Lea, M. & Spears, R. (1995). Love at first byte? Building personal relationships over computer networks. In J. Wood & S. Duck (eds.), *Understudied relationships: Off the beaten track*. Thousand Oaks, CA: Sage.
- Lea, M. et al. (2001). Knowing me, knowing you: Anonymity effects on social identity processes within groups. *Personality and Social Psychology Bulletin*, 27, 526-537.
- Lee, J. & Holin, L. (2011). Gaming is my work: identity work in internet-hobbyist game workers. *Work Employment & Society*, 25, 451-467.
- Lehdonvirta, V., & Räsänen, P. (2010). How do young people identify with online and offline peer groups? A comparison between UK, Spain, and Japan. *Journal of Youth Studies*, 14, 91–108.
- Liu, F. (2011). Wired for fun: narratives by members of China's E-generation. *Young*, 19, 69-89.
- Livingstone, S. (2008). Learning the lessons of research on youth participation and the internet. *Journal of youth studies*, 11, 561-564.
- Livingstone, S. & Brake, D. (2010). On the Rapid Rise of Social Networking Sites:

- New Findings and Policy Implications. *Children & Society*, 24, 75–83.
- Livingstone, S., Haddon, L., Görzig, A. & Ólafsson, K. (2011). *Risks and safety on the internet: The perspective of European children. Full Findings*. LSE, London: EU Kids Online.
- Matheson, K. & Zanna, M. (1988). The impact of computer-mediated communication on self-awareness. *Computers in Human Behavior*, 4, 221-233.
- Merchant, G. (2012). Unraveling the social network: theory and research. *Learning, Media & Technology*, 37, 4-19.
- Messinger, P. et al. (2009). Virtual Worlds – Past, Present, and Future: New directions in social computing. *Decision and Support Systems* 47, 204-228.
- Näsi, M., Räsänen, P., & Lehdonvirta, V. (2011). Identification with online and offline communities: Understanding ICT disparities in Finland. *Technology in Society*, 33(1-2), 4-11. doi: 10.1016/j.techsoc.2011.03.003
- Panek, E., Nardis, Y., & Konrath, S. (2013). Mirror or Megaphone?: How relationships between narcissism and social networking site use differ on Facebook and Twitter. *Computers in Human Behavior*, 29, 2004-2012. doi: 10.1016/j.chb.2013.04.012
- Pfitzmann, A. & Köhntopp, M. (2000). Anonymity, Unobservability, and Pseudonymity: A Proposal for Terminology. In H. Federrath (ed.) *Anonymity*. Berlin: Springer.
- Postmes, T. et al. (2001). Social Influence in Computer-Mediated Communication: The Effects of Anonymity on Group Behavior. *Personality and Social Psychology Bulletin*, 27, 1243-1254.
- Prentice-Dunn, S. & Rogers, R. (1989). Deindividuation and the self-regulation of behavior. In P. Paulus (ed.), *The Psychology of Group Influence*, Lawrence Erlbaum. New Jersey: Hillsdale
- Rigby, C. & Przybylski, A. (2009). Virtual worlds and the learner hero: How today's video games can inform tomorrow's digital learning environments. *Theory and Research in Education*, 7, 214-223.
- Rourke, L., Anderson, T., Garrison, D. (1999). Assessing social presence in asynchronous text-based computer conferencing. *Journal of Distance Education*, 14, 50–71.
- Ryan, R., Rigby, C. & Przybylski, A. (2006). Motivational pull of video games: A self determination theory approach. *Motivation and Emotion*, 30, 347-365.
- Räsänen, P. & Lehdonvirta, V. (2011). How do young people identify with online and offline peer groups? A comparison between UK, Spain, and Japan. *Journal of Youth Studies*, 1, 1-18.
- Singer, J. et al. (1965). Some aspects of deindividuation: Identification and Conformity. *Journal of Experimental Social Psychology*, 1, 345-378.
- Spears, R. & Lea, M. (1992). Social influence and the influence of the “social” in computer-mediated communications. In M. Lea (ed.), *Contexts of computer-mediated communications*. London: Harvester-Wheatsheaf.
- Subrahmanyam, K., & Lin, G. (2007). Adolescence on the net: Internet use and well-being. *Adolescence*, 42, 659-677.
- Tajfel, H. & Turner, J. (1985). The social identity theory of intergroup behavior. In S. Worchel & W. Austin (eds.), *Psychology of intergroup relations*. Chicago:

- Nelson-Hall.
- Turner, J. (1982). Towards a cognitive redefinition of the social group. In H. Tajfel (ed.), *Social identity and intergroup Relations*. Cambridge, UK: Cambridge University Press.
- Walther, J. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research, 19*, 52-90.
- Walther, J. (1997). Group and interpersonal effects in international computer-mediated collaboration. *Human Communication Research, 24*, 186-203.
- Wang, S., & Stefanone, M. (2013). Showing Off? Human Mobility and the Interplay of Traits, Self-Disclosure, and Facebook Check-Ins. *Social Science Computer Review, 31*, 437-457. doi: 10.1177/0894439313481424
- Zimbardo, P. (1969). The human choice: Individuation, reason, and order vs. deindividuation, impulse and chaos. In W. Arnold & D. Levine (eds.), *Nebraska symposium on motivation, 17*, 237-307. Lincoln: University of Nebraska Press.

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