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Addressing Relationships among Moral Judgment Development, Narcissism, and Electronic Media and Communication Devices

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ADDRESSING RELATIONSHIPS AMONG MORAL JUDGMENT DEVELOPMENT, NARCISSISM, AND ELECTRONIC MEDIA AND COMMUNICATION DEVICES

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Presented to
The Faculty of the Department of Psychology
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Master of Arts

By
Meghan M. Saculla

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ADDRESSING RELATIONSHIPS AMONG MORAL JUDGMENT DEVELOPMENT, NARCISSISM, AND ELECTRONIC MEDIA AND COMMUNICATION DEVICES

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Recently, Thoma and Bebeau (2008) reported moral judgment developmental trends among various samples of undergraduates and graduates where increases in Personal Interests reasoning and decreases in Postconventional reasoning were observed. In an attempt to explain such trends, they cited recent trends in increased narcissism among college students (Twenge, Konrath, Foster, Campbell, & Bushman, 2008) and also noted that certain types of technological devices (i.e. social networking websites, cell phones, etc.) may have adverse effects social decision-making and self-presentation. The current study, therefore, addresses the relationships among moral judgment development, narcissism, and electronic media and communication devices (EMCD’s). Analyses support that the extent of EMCD usage, as well as the reasons for usage, contribute to decreased Postconventional reasoning, but have a negligible effect on Personal Interests reasoning.
Introduction

The primary subject of this thesis is moral judgment development. Recently documented trends in moral judgment development are of specific emphasis. Before addressing these trends, however, it is important to clarify what is meant in this thesis by the terms “moral judgment” and “moral judgment development” because there are a host of differing considerations that use these terms (Killen & Smetana, 2006). Where this thesis is concerned, “moral judgment” is the product of moral reasoning and refers to the decision that is reached when a moral situation is considered. “Moral judgment development” reflects that moral reasoning and judgment follow a developmental sequence. In this thesis, “moral judgment development” is characterized according to the cognitive developmental perspective. The cognitive developmental perspective of moral judgment development aims to identify cross-cultural age trends in moral judgment (Gibbs, 1995). This perspective is well known for its non-relativistic view of moral judgment development. As opposed to views of moral behavior that emphasize affect, the cognitive developmental view identifies rational cognitive products as the primary source of moral judgment (Gibbs). Two important theories frame the cognitive developmental approach including those of Lawrence Kohlberg (1968) and James Rest (Rest, Narvaez, Bebeau, & Thoma, 1999). Rest’s theory will be emphasized in this thesis in the consideration of moral judgment development. However, Kohlberg’s theory of moral judgment development largely influenced Rest’s. Therefore, brief attention to Kohlberg’s theory must be given before focusing on Rest’s. After addressing these two considerations, attention will be paid to how higher education is instrumental in contributing to moral judgment development before addressing and accounting for some
recent trends in moral judgment development, which are central to the problem that frames the study.

Lawrence Kohlberg's Approach

Much of the research that dominates the field of moral judgment development has roots in the work of Lawrence Kohlberg (1968). For Kohlberg, as cognitive capacities expand and evolve, reasoning about moral situations becomes less egocentric. This is easily displayed when looking at the progression of Kohlberg's three levels and six stages of moral judgment development. For example, at the Preconventional level of moral reasoning the self predominates. A child tries to avoid punishment (stage 1) and to serve his or her own needs, even when realizing that others have needs too (stage 2). At the Conventional level, the adolescent first begins to take into consideration the expectations of others for the sake of earning their approval (stage 3) and later takes into consideration the expectations of the social system (stage 4). Finally, at the Postconventional level, the young adult develops a respect for the law out of respect for all people (stage 5) and later comes to understand universal ethical principles which take precedence over the law (stage 6). Further, cognitive advancement affects moral judgment development. From the cognitive developmental perspective, it is possible to discuss differences in moral orientation as well as cognitive advancement; hence, higher is better (Gibbs, 1995).

The Neo-Kohlbergian Approach of James Rest

While moral judgment development is an important part of the psychology of morality, it is not the sole contributor to moral behavior according to James Rest (Rest et al., 1999). Rest maintains that moral judgment development is merely one component that affects moral behavior. In order to understand fully what happens psychologically
when one behaves morally, it is important to take into account four different processes. These four processes are discussed within the framework of the Four Component Model of morality (Rest, 1986). The first component is moral sensitivity, which refers to the awareness of how our actions affect other people. Being deficient in moral sensitivity results from not taking into account how different lines of action will affect all parties involved in a situation. The second component is moral judgment, which specifically refers to making a judgment about which line of action is the most morally justifiable in a particular situation. Deficiency in moral judgment results from justifying moral behavior in an overly simplistic manner (i.e. when a child behaves in a certain way merely to avoid punishment). The third component is moral motivation, which pertains to the integration and prioritization within the self of moral values relative to others. Deficiency occurs here when values important only to the self replace concern for doing what is right. The fourth and final component is moral character, which involves such attributes as ego strength, perseverance, and courage. As Rest’s Four Component Model supports, moral judgment is necessary but not sufficient when discussing the broad topic of moral behavior.

Nonetheless, moral judgment is an important aspect of moral behavior and Rest’s neo-Kohlbergian approach has paid considerable attention to it over the past 30 years (Rest et al., 1999). A major focus of the neo-Kohlbergian approach has been to clarify the type of moral situations considered in their approach to moral judgment development. Specifically, Rest et al. assert that the types of moral situations considered in the neo-Kohlbergian approach are macromoral, as opposed to micromoral. Macromorality pertains to society as it is defined by institutions, roles, and rules. Examples of
Macromoral judgments include Martin Luther King Jr.’s “I have a dream speech” and the United States Constitution’s Bill of Rights. Micromorality pertains to everyday face to face interactions, such as being on time to an appointment, conflict resolution and other forms of person-to-person negotiation. In micromorality, what is considered praiseworthy is defined in terms of strong loyalty and dedication to persons with whom one has special relationships. In macromorality, on the other hand, what is considered praiseworthy is defined in terms of impartiality and acting on principle. In turn, although both types of issues are important, it is macromoral issues that have had a great impact on society throughout history. Further, it is macromoral issues that are at the center of the neo-Kohlbergian study of moral judgment development.

Although there are some similarities between the research of Kohlberg and the research of neo-Kohlbergians, there are major differences as well. Many differences lie in each viewpoint’s conception of the cognitive structures of moral judgment. For instance, Kohlberg viewed the cognitive structures of moral judgment in terms of hard stages (i.e. the staircase view), whereas neo-Kohlbergians adopted a soft stage view that focuses on moral schemas. The schema view looks at development in terms of changes in frequency of usage, in which more than one schema may be used at one time. This is much different than the staircase view, in which an individual is viewed as operating at one stage at a time. The schema view identifies the following three moral judgment developmental schemas: the Personal Interests schema, the Maintaining Norms schema, and the Postconventional schema (Rest et al., 1999).

Moral reasoning according to the Personal Interests schema is considered the least developmentally advanced form of thinking. The Personal Interests schema is regarded

as pre-sociocentric, which means that there is a lack of conception about organized society. In the Personal Interests schema, acts are justified in terms of a person’s own gains or losses, or in terms of those close to the action-taker (Rest et al., 1999).

At the Maintaining Norms schema, adolescents attempt for the first time to define issues and aspects of society. The following five elements define the Maintaining Norms schema: (a) need for norms; (b) society-wide scope; (c) uniform, categorical application; (d) partial reciprocity; and (e) duty orientation. First, there is a need for norms so that every act that is made by a society member is not a point of contention. Further, norms provide stability, predictability, safety, and coordination. Second, society-wide scope is a concept that focuses on the importance of getting along with strangers and little known acquaintances, not just family and friends. Third, uniform-categorical application refers to everyone in society being under the law and protected by the law. Fourth, partial reciprocity is the concept that everyone obeys the law and performs his/her duties in expectation that everyone else is doing the same. Fifth, duty orientation refers to respecting established chains of commands in society in which one obeys authority not out of respect for authority itself but out of respect for the social system. For the Maintaining Norms schema, morality is defined by what the law asserts and by what is the established way of doing things (Rest et al., 1999).

Reasoning from the Postconventional schema is considered the most developmentally advanced form of thinking. At this level, one realizes that societal rules can and should be challenged at times, and one is also able to make decisions about the moral course of action without the presence of norms or laws. The following four elements define the Postconventional schema: (a) primacy of moral criteria; (b) appeal to
an ideal; (c) sharable ideals; and (d) full reciprocity. First, primacy of moral criteria entails social arrangements (i.e. law, roles, and codes) being set up in a variety of ways; conventions may be altered as long as the alteration is made as a function of underlying moral purposes. Second, appeal to an ideal refers to idealized ways in which members of society can interrelate and ways in which society can be organized (i.e. creating the greatest good for all or guaranteeing minimal rights and protection for everyone). Third, the concept of sharable ideals refers to justifying acts in terms of what is good for society as a whole; hence, acts respect others and serve group goals. Fourth, full reciprocity entails social norms not being biased in favor of some individuals at the expense of others; at the Postcoventional level, one understands that full reciprocity is not always guaranteed because sometimes the law itself is biased (Rest et al., 1999).

Unlike with Kohlberg's stage theory, the neo-Kohlbergian schema theory accounts for moral behavior that is motivated by more than one moral judgment developmental schema. As mentioned before, according to the schema view, people do not operate solely at one schema level; rather, people are mixes of schemas. From this, neo-Kohlbergians have identified and supported the existence of moral judgment developmental phases of consolidation and transition. These phases are classified in terms of the following criteria: (a) the degree to which a schema is predominant; and (b) the extent of schema mix. If an individual uses one schema predominantly, he or she is considered to be in a consolidated phase. If an individual does not predominantly emphasize one schema over the other two, he or she is regarded as in a transitional phase between the two schemas that are used the most (Rest et al., 1999).
It is important to note that the ease with which moral information is utilized in a particular situation is affected by consolidation and transition (Thoma & Rest, 1999). For example, utility of moral information for a transitional individual is likely to be low as transition shows a lack of commitment to any particular perspective; it is, therefore, probable that decision-making will be affected by any number of extraneous influences, maybe even contradictory sources of information. The utility of moral information for a consolidated individual, on the other hand, is likely to be high as consolidation shows a commitment to a specific perspective which greatly influences the decision-making process on a consistent basis. By looking at item response patterns on assessments of moral judgment development, researchers can infer if a respondent is consolidated or transitional. For example, an item response pattern that peaks around a preferred schema shows that the respondent prefers one schema over the others, and is therefore consolidated. An item response pattern that is flat shows no preference for anyone schema; such a pattern infers that the respondent is transitional (Thoma & Rest).

Assessing Moral Judgment Development

Neo-Kohlbergians use the Defining Issues Test (DIT) and the subsequent Defining Issues Test 2 (DIT2) to assess moral judgment development (Rest et al., 1999), another major distinction from the approach of Kohlberg. The DIT is a device that activates moral judgment developmental schemas. When completing the DIT or DIT2, participants read various moral dilemmas, make an action decision about what the protagonist of the dilemma should do, rate how important 12 items are in reference to making the action decision, and then rank the four most important items in reference to making the action decision. DIT items are fragments of lines of reasoning that do not
support particular moral behaviors over others; they state just enough information to activate a schema, but not too much information so that the participant has to assign meaning to the item based on existing schemas. When the participant encounters an item that makes sense or activates a preferred schema, high ratings and rankings are given. When the participant encounters an item that does not make sense or seems too simplistic, low ratings are given (Rest et al., 1999).

The DIT was developed in the 1970's as an alternative approach to Kohlberg's (1968) Moral Judgment Interview (MJI). During the MJI, participants are asked to solve moral dilemmas and to explain their decisions verbally. A common assumption in the field of morality, which is challenged by neo-Kohlbergians and their use of the DIT and DIT2, is that reliable information about inner processes can only be acquired by having people verbally explain their moral judgments (Narvaez & Bock, 2002). Narvaez and Bock assert that if the goal of moral judgment measurements is to study naturalistic human development that tacit knowledge, or knowledge expressed without words, should be assessed since it is not greatly affected by formal training. This is an important assertion, since with the moral judgment interview, Postconventional reasoning was rarely documented; when measuring moral judgment with the DIT, however, there is not such a deficit in the detection of Postconventional reasoning. Measuring the moral judgment abilities of ordinary individuals who are not experts in verbally articulating moral decisions should not require explicit explanations. Rather, a measurement of moral judgment should require individuals somehow to indicate their automatic responses to moral dilemmas, which is what the DIT and DIT2 do.
There are seven proposed and supported validity criteria for the DIT as Thoma (2006) recently reviewed: (1) differentiation of various age/education groups; (2) longitudinal gains; (3) correlation with cognitive capacities; (4) sensitivity to moral education interventions; (5) correlation with pro-social behavior and professional decision making; (6) predicting political choice and attitude; (7) reliability. Criterion one refers to how studies of large composite samples provide evidences that 30-50% of DIT score variance is accounted for by education level. Criterion two suggests that the DIT should display evidence of upward movement across time, or that the DIT is a developmental measure. For example, a 10 year longitudinal study shows significant gains in DIT scores for diverse groups of men and women and for diverse groups of college and non-college students (Rest, 1986). Criterion three refers to DIT scores significantly correlating with cognitive abilities, but not to a degree in which it is questionable whether the DIT is strictly a measure of cognitive abilities. Criterion four suggests that DIT scores should be affected by experiences that are aimed at stimulating development. For example, Rest (1986) reviewed over 50 intervention studies; in this review, an effect size of .41 was reported for dilemma discussion interventions, whereas an effect size of .09 was reported for other intervention groups. In support of criterion five, one review shows that 32 out of 47 measures of pro-social behaviors and desired decision making significantly correlated with DIT scores (Rest, 1986). In support of criterion six, out of several dozen political attitude correlates, DIT scores correlation ranged from .40 to .65. Finally, regarding criterion seven, at a Cronbach’s alpha that ranges from the high .70s to the low .80s, the reliability for the DIT is sufficient.
Higher Education and Moral Judgment Development as Inferred via Scores on the DIT

As mentioned above in consideration of DIT validity criterion one, empirical evidence demonstrates that education level contributes to a significant proportion of DIT score variance (Thoma, 2006). Though much information has been generated regarding contributors to advanced moral judgment development as inferred via DIT and DIT2 scores, higher education for some time now has been regarded as one of the strongest contributors to advanced moral judgment development (Rest, 1986). One of the most comprehensive considerations of how college translates to moral judgment growth was recently provided by King and Mayhew (2002). King and Mayhew conducted a meta-analysis in which they reviewed 172 studies, which occurred across two decades of research; each of these studies used the DIT to look into the moral judgment development of undergraduate college students. Because of the ambiguity regarding the particular aspects of the collegiate experience that contribute to changes in moral judgment competency, King and Mayhew looked at different groups of studies which represent these important aspects. For example, broad aspects included distinctive institutional contexts (i.e. liberal arts colleges, Bible colleges, etc.) and disciplinary contexts (i.e. business majors, psychology majors, etc.). The more telling aspects, however, were the narrower indicators such as specific collegiate characteristics (i.e. diverse peer groups) and educational experiences (i.e. reflecting on important issues). King and Mayhew note congruency of their findings with those of Pascarella and Terenzini (1998) in providing support for the notion that college affords students with an array of intellectual, cultural, and social experiences that aid in the advancement of moral judgment competency. Most importantly, King and Mayhew’s (2002) findings provide support for the notion that
dramatic gains in moral judgment are related to collegiate participation, even when accounting for age and entering level of moral judgment. In other words, King and Mayhew affirm that it is the unique social experiences and climate that the college experience traditionally has afforded – not necessarily the academic content experienced – that is instrumental in facilitating moral judgment growth.

Although higher education is regarded as an important contributor to moral judgment growth, recent evidence suggests that the influence of the college experience may not be as strong as it once was (Thoma & Bebeau, 2008). In order to investigate cohort changes in DIT and DIT2 scores, data were collected between 1979 and 2006. Three samples of participants were included, all of which represented samples of students from higher education facilities. Sample A consisted of four composite samples of college and graduate students. Sample B was comprised of nine cohorts of dental students. Sample C included five cohorts of lower level undergraduate students. Each sample revealed a significant decrease in Postconventional reasoning across different cohorts and a significant increase in Personal Interests reasoning across different cohorts. Further, according to Thoma and Bebeau, DIT scores have been on the decline even for individuals with extensive education backgrounds. Of particular importance is the finding that Personal Interests reasoning has increased most dramatically over the past 10 years.

In explaining their findings, Thoma and Bebeau (2008) discussed broad-based social trends that have occurred over the last 10 years such as noted increases in narcissism (i.e., Twenge et al., 2008) and also the rise of cell phone and computer usage. Such trends have resulted in decreased face-to-face interactions, increased focus on and
presentation of the self, and decreased consideration of others. Because of this, Thoma and Bebeau acknowledged that declines in moral judgment development among college and graduate students are unfortunate but not surprising. This is because the social climate and social medium of college campuses are more self-oriented than other-oriented and are therefore different than what existed for previous considerations – such as the presumed majority of those considered in King and Mayhew (2002).

The Rise of Narcissism and Technology Use and their Behavioral Implications

Thoma and Bebeau (2008) offered that increased narcissism and increased use of and reliance on technology may have impacted moral judgment development. However, they are not alone in considering the behavioral ramifications of these trends. A great deal of research exists that has accounted for and directly addressed the rise and impact of narcissism and technology use. As such, it is important to address the nature of such trends along with other noted behavioral implications. First, it is necessary to provide an operational definition of what is meant by narcissism. Narcissism refers to the existence of an inflated self-concept, having a lack of close relationships, and using the social environment to maintain a sense of status and esteem (Campbell, Brunell, & Finkel, 2006).

Twenge et al. (2008) investigated narcissism rates by conducting a cross temporal meta-analysis, data collection ranging from 1979 to 2006. Further, they studied birth cohorts: people all the same age but from different generations. They collected 85 samples of American college students and administered the Narcissistic Personality Inventory (NPI). Results indicated that American college students scored progressively higher on the NPI between the early 1980s and 2006, which means that more recently
college students reported more narcissistic traits. In fact, students from the 2006 sample indicated about two more narcissistic traits than did students from the early 1980s. It is also important and interesting to point out that almost two-thirds of recent college students scored above the 1979-1985 mean NPI score, a 30% increase.

Twenge et al. (2008) noted that people today are able to listen to music and watch television in their own personalized ways with electronic devices such as iPods and Tivo. Also, with websites like MySpace and YouTube, there has been an emphasis on presenting the self to others. In turn, many of the very popular technological devices used today share two main components, which include increasing the likelihood of self isolation and promoting presentation of the self. Given the high volume of their use, it is logical that self-serving attributes like narcissism and Personal Interests reasoning are also on the rise.

It is important to note that narcissism rates started rising prior to the great boom in technology use. If narcissism and technology use are indeed correlated, the plausible connection is that a rise in narcissism has affected the way people use technology (Twenge et al., 2008). Further, literature supports the concept that technology can be used in ways that accommodate self-absorption (Chen, 1998; Ermann, 2004).

Chen (1998) had 30 college students keep a journal about the usage of their Walkman in order to study the concept of electronic narcissism, or the nature and construction of one’s own world. The Walkman (and newer but similar devices such as mp3 players) creates an environment where one has a reason to ignore others and where others have a reason not to interrupt. Due to the use of the Walkman, there is an
emergence of the narcissistic self; a withdrawal of energy from external surroundings helps to create this narcissistic self.

Chen (1998) refers to five main components of electronic narcissism. The first is reflexive emotionality. For example, a case is referred to in which a young man listens to country music in order to get in a relaxing mood for a blind date. In this way, the Walkman can be used to maintain or create a particular mood; it is reflexive to the state of the user. The second component of electronic narcissism refers to the emotional companion. For instance, Chen refers to a case in which a college student wants to feel nostalgic, so he used his Walkman to listen to his favorite music. The third component refers to the emotional energizer. For example, Chen refers to a student who is not looking forward to going to work, so she plays some energizing music in order to “psych herself up.” The fourth component is social segregation. In explanation of this, Chen discusses cases in which students report using their Walkmans as a communication cutoff while they are walking to class. The final component of electronic narcissism is emotional absorption. For example, Chen refers to students that are so absorbed in their music that they begin singing out loud while walking in public. Another example of emotional absorption that may be more applicable to today is talking overbearingly loud on a cell phone while in a public place. In this way, people act without regard to the world around them.

Similarly, Ermann (2004) notes that as society has changed so have the things in which people identify with (i.e. cell phones, computers, etc.). More and more, this is found outside of the home, particularly with young people. Further, technological media poses as an expression of today’s culture, perhaps even posing as an identity symbol. For
example, the mere appearance of a cell phone can be important to a person. Ermann also discusses the idea of medial identity in which an object relationship, or one-sided communication, is an integral part. This object relationship is defined as a narcissistically structured relationship in which the self is the most important component. In turn, Ermann refers to a technological medium that replaces the needs for an interpersonal relationship; through this technological medium, social needs are met. The main purpose of this medium is to serve the self. Examples of this technological medium may include reality television and personal homepages, such as those constructed on MySpace and Facebook. Although social networking websites are widely used to communicate with others, literature suggests that they are also used for self-promotion.

The link between narcissism and social networking websites becomes clear when characteristics of narcissism are investigated with respect to how they are easily manifested on such websites. To begin this investigation, it is beneficial to look at a study addressing some basic issues regarding the usage of social networking websites. In a survey study exploring the general usage of the social networking websites, Facebook and MySpace, Raacke and Bonds-Raacke (2008) found that 91% of their college freshmen participants had Facebook accounts and 84% had MySpace accounts. They also found that users are on these websites an average of 2.56 hours per day, logging onto their accounts an average of 4.19 times per day. Although these websites are often used to communicate with others, Raacke and Bonds-Raacke also found that a predominant use is to post and look at pictures. Such use implicates how it could be easy to use social networking websites as a platform for self-enhancement or exhibitionistic display, which are both historically related to narcissism (Raskin & Terry, 1988). Raacke and Bonds-
Raacke (2008) noted that their research was limited to college freshmen, and that it may be possible that use of social networking websites changes as students progress through their academic career. Also, participants were recruited from a single university, hence indicating the difficulty of generalizing results. Yet another limitation of this study was the usage of self-report measures, which are undoubtedly subject to error. It was also noted that future research should look at personality characteristics of users and nonusers of Facebook and MySpace (Raacke & Bonds-Raacke).

Research conducted by Zhao, Grasmuck, and Martin (2008) coincides with findings of Raacke and Bonds-Raacke (2008), as they also noted the prevalence of photo displays on social networking websites. While Raacke and Bonds-Raacke merely had participants fill out surveys pertaining to Facebook and MySpace use, Zhao et al. (2008) actually analyzed Facebook profiles. This difference in methodology allowed Zhao et al. to go a step further than Raacke and Bonds-Raacke (2008), as they went as far to identify photo displays as a major component of identity construction on Facebook. In fact, Zhao et al. (2008) found this to be the most common type of identity construction, characterized as implicit and visual. Another component of this type of implicit identity construction was wall posts, or observable messages from one Facebook user to another. Zhao et al. referred to Facebook users who utilize implicit identity construction as social actors, and also suggested that the desire to show oneself rather tell about oneself predominates on Facebook.

Zhao et al. (2008) further indicated that group pictures were the most common type of pictures linked to an account. In fact, 38.1% of participants in this study posted a group picture as their profile picture, which is traditionally supposed to be a solo picture
of the account owner. Zhao et al. suggested that many Facebook account owners are attempting to attain a group-oriented identity. The predominance of group pictures on Facebook relates to narcissism in two distinct ways. First, narcissists tend to have a desire to be popular (Buffardi & Campbell, 2008). Appearing in many pictures with friends can easily give this impression. Also, Zhao et al. (2008) not only investigated types of identity construction, but they also looked at identity claims. Interestingly, being popular among friends was a more common identity claim than well-roundedness or thoughtfulness, as posting pictures was of greater interest than elaborating in the “About Me” section or the “Quotes” section. Second, interpersonal, or social, relationships are very important to narcissists because these relationships help them to define and regulate their self-concept and provide knowledge about the self (Morf & Rhodewalt, 2001). As Zhao et al.’s (2008) findings attest, Facebook provides a superficial way to display these relationships. In light of these findings pertaining to identity construction, it is important to note that Facebook users have extensive control over privacy settings for their accounts and are therefore able to present different identity displays to different audiences. In this study, Facebook profiles were only viewed and examined in the framework that the owner allowed, which was probably only one of many possible displays (Zhao et al.).

The narcissist’s desire to be popular (Buffardi & Campbell, 2008) emphasizes a quantity over quality attitude when it comes to relationships. Similarly, it is common for narcissists to have a lack of deep relationships (Buffardi & Campbell). Raacke and Bonds-Raacke (2008) found the average number of friends linked to a Facebook or MySpace account to exceed 200, which indicates the ease with which a narcissistic
individual can fulfill his or her desire to accumulate shallow relationships. Findings by Ellison, Steinfield, and Lampe (2007) support this notion. Ellison et al. investigated Facebook use in relation to different types of social capital. By administering surveys related to social capital and Facebook use, they discovered bridging social capital, or weak ties, to be the most strongly correlated with Facebook use. They further indicated that Facebook makes it easy to activate relationships that would otherwise not be activated. As Facebook profiles emphasize commonalities and differences among users, it allows users to develop relationships that they can make use of (Ellison et al.), or exploit, which is a facet of narcissism (Raskin & Terry, 1988). Similar to the research discussed earlier by Raacke and Bonds-Raacke (2008), this study by Ellison et al. (2007) was limited to a small sample (undergraduates from a single university) and self-report surveys. Regarding future research, Ellison et al. suggested that it would be fruitful to combine the methodologies of survey research and profile capture and analysis in order to relate survey responses to behavioral measures. As indicated below, Buffardi and Campbell (2008) utilized both of these methodologies in their research.

Buffardi and Campbell (2008) are pioneers in this research field as their findings are the only ones located that specifically link narcissism to the usage of social networking websites. Buffardi and Campbell objectively and subjectively coded participant's Facebook profiles in order to evaluate the content of the profiles. One group of participants, Facebook account owners, filled out the Narcissistic Personality Inventory (NPI). Based on the profiles of these Facebook account owners, another group of participants used seven-point Likert scales to rate their impressions of the account
owners on the following traits: narcissism, agency (i.e. confident, high in status) and communion (i.e. generous, likeable).

Buffardi and Campbell (2008) found that the extent to which a Facebook account owner is narcissistic (as measured by the NPI self-report) can be gleaned from viewing their Facebook profile page. For example, they found self-reported narcissism to correlate positively with impressions of narcissism. They also found that self-reported narcissism predicted higher levels of online social interaction and more self-promoting content. Additionally, self-reported narcissism was associated with high perceived agency, but not associated with communion. In turn, they concluded that narcissism can be manifested on Facebook. Just as Raacke and Bonds-Raacke (2008) and Zhao et al. (2008) noted the significance of pictures on Facebook, so did Buffardi and Campbell (2008). Buffardi and Campbell noted that self-promotion and attractiveness of the main photo (i.e. profile picture) were two of the three features that mediated the relationship between account owner’s narcissistic personality and the rater’s narcissistic impression of the owners. It should be noted that a limitation of this research is that it is not clear whether Facebook users who are initially low in narcissism will later display an increase in narcissism due to Facebook usage. Also, in this study perceptions of narcissism were only made by strangers. It would be interesting to investigate perceptions made by friends; it might be the case that individuals view their friends as more narcissistic when viewing their personal webpages than in real life interaction (Buffardi & Campbell).

Moral Judgment Development in Relation to Narcissism and Technology Use

In order to conceptualize how narcissism is related to moral reasoning, it is important to draw attention to how behavior is justified at different levels of moral
reasoning. For example, consider that when operating at the Personal Interests reasoning level, acts are justified in terms of a person’s own gains or losses or in terms of those close to the action-taker (Rest et al., 1999). Further, Personal Interests reasoning and narcissism share a very crucial, defining characteristic: inflated sense of self-importance. Conversely, acts that are a byproduct of Postconventional reasoning are justified in terms of moral purposes and sharable ideals for society. Further, conventions are alterable at times as long as changes are made as a function of some moral purpose beneficial to society as a whole and not to a single individual, or a small group of individuals (Rest et al.). In turn, Postconventional reasoning and narcissism can be viewed as opposing forces in that the crux of Postconventional reasoning deals with serving others not the self. Different from both Personal Interests reasoning and Postconventional reasoning, reasoning at the Maintaining Norms levels involves justifying acts in terms of the law and social norms (Rest et al.). Further, narcissism is not a norm; it is a personality trait (Raskin & Terry, 1988). In turn, a relationship between maintaining norms reasoning and narcissism is not conceptually sound.

Given the aforementioned discussion regarding using technology in a narcissistic manner, it is sensible that the relationships between technology usage and moral reasoning would parallel those relationships between narcissism and moral reasoning discussed above. That is, to the extent that technology is used for narcissistic reasons or used to accommodate needs pertaining to the self, moral reasoning will relate in a similar manner as it does to narcissism.
Purpose of the Study

Considering the findings of Thoma and Bebeau (2008) regarding the decline of DIT and DIT-2 scores among college students and also considering the abundance of studies supporting the notion that higher education has a profound effect on moral judgment development (King & Mayhew, 2002), there lies a gap in the research: individuals who are expected to illustrate developmentally advanced moral reasoning are not. In trying to close this gap, it is essential to provide a scientifically accountable explanation for the observed deficits in moral reasoning and judgment, as only speculation has been noted thus far in the literature. Heeding the suggestions of Thoma and Bebeau (2008) and Twenge et al. (2008), the current study addresses relationships among narcissism, technology use, and moral judgment development.

It is important to note that a variety of devices comprise technology. As noted earlier, implications of technology are not limited to one type of technological device. Thus, the current study considers the use of all of these technological devices. In order to capture what seems to be the defining feature of all of these devices, the current study uses the term “electronic media and communication device” (EMCD) in referring to all of these devices. As such, an EMCD would include (but is not limited to) cell phones, mp3 players, and social networking websites (i.e., Facebook, MySpace, Twitter) on the internet.

Hypotheses

Overall, this study will test various relationships (as illustrated in Figure 1) that will address how narcissism and attitudes and usage of EMCD’s pertain to moral judgment development. Eight specific hypotheses are tested, which include:
(1) Narcissism will be significantly and positively associated with Personal Interests reasoning.

(2) Narcissism will have no specific relationship with Maintaining Norms reasoning.

(3) Narcissism will be significantly and negatively associated with Postconventional reasoning.

(4) Attitudes about and usage of electronic media and communication devices will be significantly and positively associated with narcissism.

(5) Attitudes about and usage of electronic media and communication devices will be significantly and positively associated with Personal Interests reasoning.

(6) Attitudes about and usage of electronic media and communication devices will have no specific relationship with Maintaining Norms reasoning.

(7) Attitudes about and usage of electronic media and communication devices will be significantly and negatively associated with Postconventional reasoning.

(8) Attitudes about and usage of electronic media and communication devices will mediate the effect of narcissism on moral judgment development.
Figure 1

Illustration of Hypothesized Relationships

Note: Grey dashes that a relationship is not specified. Dark dots indicate a significant and negative relationship. Dark solid lines indicate a significant and positive relationship.
Method

Participants

Participants included 279 college students from a Southeastern university. These participants included 82 freshmen, 74 sophomores, 70 juniors, 48 seniors, and 2 individuals that indicated other. Ages ranged from 18 to 55 with a mean of 20.76. The sample included 93 males and 185 females. For those participants that indicated their ethnicity, 18 were African American, 2 were Hispanic or Latino, 248 were White, and 5 indicated other.

Measures

Demographics (see Appendix A). Information noted in this questionnaire includes age, gender, GPA, ACT/SAT score, number of semesters in college, education level, and ethnicity.

Narcissism (see Appendix B). Narcissism was measured using the Narcissistic Personality Inventory (NPI; Raskin & Terry, 1988). The NPI is a 40 item forced choice test which measures individual differences in narcissism as a personality trait. Given two statements, participants are asked to indicate which one is most representative of their personality. The following is an example of an item on the NPI: “Modesty doesn’t become me” or “I am essentially a modest person,” with the former being representative of a narcissistic trait. For each narcissistic trait that is endorsed, the participant’s score is increased by one point. Further, higher scores on the NPI indicate a more narcissistic personality, with scores ranging from 0 to 40.

Research by Raskin and Terry (1988) provided evidence of sufficient internal consistency for the NPI. Their research supported narcissism as a general construct as
well as for seven first-order components, which include authority, exhibitionism, superiority, vanity, exploitativeness, entitlement, and self-sufficiency. It was noted that the internal consistency of some of the component scales were low but still sufficient. It was asserted that the general component of narcissism would be supported if the standard methodological criteria for a principal-components analysis were met. All criteria were met except for one that was only partially met: that all of the items show nontrivial positive loadings on the first unrotated component. It was found that 2 of the 40 items showed positive loadings that were slightly under the minimum acceptable value. Guttman Lambda 3 alpha was used as an estimate of internal consistency for the composite score, and it was reported as .83. In a more recent study, Buffardi and Campbell (2008) reported Cronbach’s alpha for the NPI composite score as .73.

Raskin and Terry (1988) also provided support for the construct validity of the NPI by conducting a study where they correlated the NPI with a testing measurement known as the Interpersonal Check List (ICL), which is representative of the Leary Circumplex Model of Interpersonal Behavior. The ICL is a list comprised of 128 adjectives and adjective phrases that can be used to describe the self and others. Raskin and Terry used the ICL in order to obtain self-descriptions and ideal self-descriptions from participants. Regarding self-descriptions, the NPI correlated with the following dimensions: Competitive and Narcissistic ($r = .47, p < .001$), Managerial and Autocratic ($r = .45, p < .001$), Aggressive and Sadistic ($r = .30, p < .001$), and Dominance ($r = .47, p < .001$). Interestingly, the Self-effacing and Masochistic dimension negatively correlated with the NPI ($r = -.24, p < .01$). Additionally, with regard to ideal self-descriptions, the NPI correlated with the following dimensions: Narcissistic and Competitive ($r = .17, p <
.01), Aggressive and Sadistic ($r = .26, p < .01$), Managerial and Autocratic ($r = .22, p < .01$), Rebellious and Distrustful ($r = .20, p < .01$), and Dominance ($r = .19, p < .05$).

Regarding the current study, Cronbach’s alpha was observed at an acceptable value of .79. The Cronbach’s alphas for the individual subscales, however, were mainly low and not acceptable: authority ($\alpha = .67$), exhibitionism ($\alpha = .49$), superiority ($\alpha = .12$), entitlement ($\alpha = .52$), exploitativeness ($\alpha = .33$), self-sufficiency ($\alpha = .16$), and vanity ($\alpha = .18$). Hence, the subscales were not used for statistical analyses in the current study and only the composite score is referenced.

*Electronic Media and Communication Devices* (see Appendix C). Subjective attitudes about and objective usage of electronic media and communication devices were assessed using the Electronic Media and Communication Devices (EMCD) Scale. Electronic media and communication devices refer to modern technological devices such as social networking websites (i.e. Facebook, MySpace, Twitter), cell phones (i.e. texting), and mp3 players/iPods. The EMCD scale was created for the purposes of the current study, as no other known testing instrument indexes objective and subjective usage of electronic media and communication devices.

The EMCD scale was created to encompass two separate sections. The first section was intended to objectively index actual usage of EMCD’s, namely Facebook/MySpace (i.e. FB1_7), Twitter (i.e. Twittot), text messaging via cell phone (i.e. CPT), and mp3 players/iPods (i.e. Mp3tot). First, the FB1_7 scale includes the following items and the “points” accrued for each response is indicated in parentheses: 1. Do you have a Facebook/MySpace account ($1 = Yes, 0 = No$)? 2. Do you log into your account daily ($2 = Yes, 0 = No$)? 3. If no to number 2, would you say you log in weekly or
monthly (2 = Weekly, 1 = Monthly)? 4. If yes to number 2, how often do you log in
(rated on a 7-point Likert scale; points awarded are equivalent to Likert rating; see
Appendix C)? 5. Do you change your Facebook/MySpace status daily (3 = Yes, 0 =
No)? 6. If no to number 5, would you say you change your status weekly or monthly (2 =
Weekly, 1 = Monthly)? 7. If yes to number 5, how often do you change your status
(rated on a 7-point Likert scale; points awarded are equivalent to Likert rating; see
Appendix C)? The FB1_7 scale thus ranges from 0 to 21. Additionally, there are four
one-item scales that index Facebook/MySpace usage and have an infinite number of
responses: 8. How many photo albums are on your account (i.e. Albums)? 9. How many
photos are linked to your account (i.e. Photos)? 10. How many friends are linked to your
account (i.e. Friends)? 11. How many lines is your “About Me” section (i.e. Lines)?
Second, the Twittot scale includes the following items: 12. Do you have a Twitter
account (1 = Yes, 0 = No)? 13. Do you post to your account daily (3 = Yes, 0 = No)? 14.
If no to number 13, would you say you post to your account weekly or monthly (2 =
Weekly, 1 = Monthly)? 15. If yes to number 13, how often do you post to your account
(rated on a 7-point Likert scale; points awarded are equivalent to Likert rating; see
Appendix C)? The Twittot scale thus ranges from 0 to 11. Additionally, there is a one-
item scale related to Twitter usage which indexes number of Twitter followers (i.e.
Tfollow). Third, the CPT scale includes the following items: 17. Do you text message (1
= Yes, 0 = No)? 18. Do you text message daily (3 = Yes, 0 = No)? 19. If no to number
18, would you say you text weekly or monthly (2 = Weekly, 1 = Monthly)? 20. If yes to
number 18, how often (rated on a 7-point Likert scale; points awarded are equivalent to
Likert rating; see Appendix C)? The CPT scale hence ranges from 0 to 11. Fourth, the
Mp3tot scale includes the following items: 21. Do you have an mp3 player or iPod (1 = Yes, 0 = No)? 22. If yes to number 21, do you use it daily (3 = Yes, 0 = No)? 23. If yes to number 22, how many hours would you estimate that you listen to your mp3 player/iPod on a daily basis? 24. If no to number 22, would you say you use your mp3 player/iPod weekly or monthly (2 = Weekly, 1 = Monthly)? The Mp3tot scale therefore ranges from 0 to 28.

The second section of the EMCD scale was designed to measure participants’ subjective attitudes about their usage of these devices using a five point Likert scale. Eleven different areas were targeted in developing questions for the questionnaire. Four of these areas reflect the transference of narcissistic traits into EMCD usage such as popularity (i.e., “The number of people that follow me on Twitter speaks to my popularity.”), exhibitionistic display (i.e., “I like it when people notice that I am texting someone.”), vanity (i.e., “On Facebook/MySpace, I like to post pictures that display my body.”), and entitlement (i.e., “Texting during class is not a big deal.”). Six areas reflected in the questions pertain to areas that research illustrates to be linked to EMCD use (as noted earlier). These areas include aspects such as how such devices help one to create their own world (i.e., “I don’t worry about how loud my music is when I have my iPod on.”), self presentation (i.e., “My Facebook/MySpace page really shows my personality.”), self promotion (i.e. “I love to post on Facebook/MySpace about the things that I’ve done.”), feelings about the necessity of EMCD’s (i.e., “They are necessary in today’s world.”), interpersonal relationships (i.e., “Other people do not understand why I use these devices so often.”), and shallow relationships (i.e., “Having as many people as possible follow me on Twitter is important to me.”). The last area targeted participants’
thoughts about their overall use of EMCDs. Examples of this area include, “My usage of these devices causes me to put off or avoid day to day responsibilities.” and “I use these devices as much as everybody else my age does.”

Three rounds of factor analysis were conducted on the second section of the EMCD scale. The first two rounds used data obtained in a pilot study. The third round used data from the current study and was conducted as a means for confirming findings from the first two rounds of factor analysis. In Round one of factor analysis, 88 items were entered. Ultimately, 10 factors were interpreted. Each factor had an eigenvalue greater than 1.0 and was comprised of items that combined to sensibly reflect a targeted area above. Round 1 resulted in the removal of 43 items. Items removed were those that met any of the following criteria: a factor loading less than .4, a factor loading greater than .4 but not interpretable in the context of the other items loading on the factor, the item cross loaded on another (or other) factor(s), and/or the item was redundant with other items loading on the factor. Round two of factor analysis involved the 45 items retained from round one and was conducted in order to confirm the presence of the factors identified factors in round one. Ultimately, the same 10 factors were identified though and two items were removed. Each factor had an eigenvalue greater than 1.0. The two removed items were removed due to cross loading and failure to exceed a factor loading greater than .40. In round three of factor analysis, which as noted involved the dataset from this thesis study rather than the pilot study, the 43 items retained from round two were entered. Ultimately, eight factors identical to factors identified in the first two rounds of factor analysis were identified. These factors are therefore considered in the analyses of the current study and are discussed below. Each of the eight factors resulted
in eigenvalues greater than 1.0. From round three, six additional items were removed due to low factor loadings, cross loading, or failure to load on an interpretable factor.

Factor 1 was labeled as Facebook/MySpace as a Vehicle for Popularity (FVP) and captures the extent to which participants use Facebook/MySpace to portray themselves as popular. This factor consists of six items and scores range from six to 30. An example of an accepted item for this factor is, "I feel bad for people who do not have a lot of Facebook/MySpace friends." The internal consistency for this index is good in the current study, as Cronbach's alpha is reported as .90. Factor 2 was labeled as Facebook/MySpace for Self-promotion (FSP). This factor indexes the degree to which Facebook/MySpace is used to promote the self. It consists of nine items, and scores range from nine to 45. An example of an item accepted for this factor is, "On Facebook/MySpace, I often post pictures where I have been captured being particularly amusing." Cronbach's alpha for this index in the current study is .86. Factor 3 was labeled as Medial Identity via Cell Phone (MICP), and this factor details the way individuals rely on cell phones to create a sense of medial identity, or an identity that centers on a technological device. An example of an item accepted for this factor is, "I have pride in having the newest phone possible." Factor 3 consists of five items, and scores range from five to 25. Cronbach's alpha in the current study for this factor is .85. Factor 4 was labeled as iPod activity (iPOD). This factor measures the various ways in which iPods are used. It consists of four items, and scores range from four to 20. An example of an item accepted for this factor is, "I use my mp3 player/iPod to relax." The Cronbach's alpha in the current study for this factor is .72. Factor 5 was labeled as Self-isolation (SI), and denotes the degree to which EMCD's are used as a means of self-
isolation. It consists of four items, and scores range from four to 20. An example of an item accepted for this factor is, "I like to use these devices because they allow me to get away from the world." The Cronbach's alpha in the current study for this factor is .68. Factor 6 was labeled as Interpersonal Uses of Facebook/MySpace (INTP). This factor examines the extent to which Facebook/MySpace is used for interpersonal reasons as opposed to reasons that focus solely on the self. It consists of three items, and scores range from three to 15. An example of an accepted item for this factor is, "I use Facebook/MySpace to connect with people who have mutual interests." The reported Cronbach's alpha for this factor in the current study is .81. Factor 7 was labeled as Exhibitionism (EX), and this factor addresses the degree to which Facebook/MySpace and texting are used for exhibitionistic display. It consists of three items, and scores range from three to 15. An example of an accepted item for this factor is, "On Facebook/MySpace, I like to post pictures that display my body." The Cronbach's alpha for this factor in the current study is reported as .73. Factor 8 is Communication Mode (CM). This factor details the degree to which EMCD's are used as a primary means of communication by looking at the extent to which more intimate means of communication (i.e. face to face) and less intimate means of communication (i.e. texting, email, social networking) are used. It consists of three items, and scores range from three to 15. An example of an accepted item for this factor is, "I'd rather communicate with these devices than have face to face conversations." The Cronbach's alpha for this factor in the current study is .54.

Moral Judgment (see Appendix B). The Defining Issues Test-2 (DIT-2; Thoma, 2006) will be used to measure moral judgment development. When completing this
multiple choice assessment, the participant is required to read five moral dilemmas. For each dilemma, participants first indicate an action decision the protagonist of the dilemma should choose (i.e., should pursue an action, should not pursue an action, or can't decide). Next, they rate how important 12 items are in reference to making the action decision on a scale ranging from 1 to 5 (1 = great importance, 5 = no importance). Last, they rank the four most important items in reference to making the action decision.

From these data, the DIT2 can generate various indices that reflect the overall importance of the three various moral judgment schema that the neo-Kohlbergian approach of Rest et al. (1999) documented. The indices used in the current study include the Personal Interests (PI) score, which reflects the overall importance of the personal interests schema in making moral decisions; the Maintaining Norms (MN) score, which reflects the overall importance of the Maintaining Norms schema in making moral decisions; and the Postconventional (P), which reflects the overall importance of the Postconventional schema in making moral decisions. Scores for each of these indices range from 0 to 95. Higher scores indicate that the individual views items representative of the designated schema as particularly important.

Cronbach’s alpha for the DIT-2 ranges between the upper .70s and the lower .80s (Rest et al., 1999). As noted earlier, validity was determined based on the following seven validity and reliability criteria: (1) differentiation of various age/education groups, (2) longitudinal gains, (3) correlation with cognitive capacity measures, (4) sensitivity to moral education interventions, (5) links to pro-social behavior and preferred professional decision-making, (6) predicting political choice and attitude, and (7) reliability. With regard to the current study, the observed Cronbach’s alphas for the Personal Interests (PI)
schema, Maintaining Norms (MN) schema, and Postconventional (P) schema are the following, respectively: .80, .76, and .78.

Procedure

Participants were recruited from the Department of Psychology’s Study Board and received course credit for their participation. Also, participants included other college students who were recruited through general solicitation (i.e. classroom visits by the principal researcher); these students also received extra credit for their participation. Participants were given access to the Easy Survey Package website, which is a server-base for online surveys. Participants were then instructed to complete the following questionnaires: Demographics, the Narcissistic Personality Inventory, the Electronic Media and Communication Devices Scale, and the Defining Issues Test-2.
Results

Descriptive statistics are reported below in Table 1. In terms of narcissism, the current sample is not significantly different than the population mean ($M = 15.55$) reported by Raskin and Terry (1988), but it is significantly lower ($p < .001$) than the inflated NPI score ($M = 17.29$) reported by Twenge et al. 2008. As such, this sample appears to me more similar to earlier considerations of narcissism than it is to more recent considerations.

Given the scores for FB1_7, Twittotal, CPT, and Mp3tot – which respectively measure how often participants use Facebook/MySpace, use Twitter, text, and listen to their mp3 players/iPods – it is clear that many participants use these electronic devices regularly. As noted in Table 1, participants largely supported that their use of Facebook/MySpace was not for the purpose of achieving popularity, as scores were largely toward the lower end of the FVP scale, which ranges from 6-30. Scores on the FSP scale, which ranges from 9-45, tended to be in the middle which indicates that many participants were supportive and many were unsupportive of the notion that their Facebook/MySpace usage was devoted to self-promotion. For the most part, participants endorsed that their use of cell phones was not for the purpose of facilitating a medial identity as scores were largely toward the lower end of the MICP scale, which ranges from 5-25. Participants largely supported that their use of iPods/mp3 players occurred in a variety of instances (i.e., exercise, walking from place to place, tuning out others, etc.) as scores were mostly toward the higher end of the iPOD scale, which ranges from 4-20. Participants mainly supported that their use of the considered technological devices was not for the purpose of self-isolation, as scores were largely toward the lower end of the SI
scale, which ranges from 4-20. Scores on the INTP scale, which ranges from 3-15, tended to be in the middle which indicates that many participants were supportive and many were unsupportive of the notion that their Facebook/MySpace usage was allocated to interpersonal uses. Participants mostly supported that their use of Facebook/MySpace and cell phones was not for the purpose of exhibitionism, as scores tended to be on the lower end of the scale, which ranges from 3-15. Scores on the CM scale, which ranges from 3-15, tended to be in the middle which indicates that many participants were supportive and many were unsupportive of the notion that less personal forms of communication take the place of more personal forms of communication.

Referring to moral judgment development, the observed Personal Interests (PI) scores, Maintaining Norms (MN) scores, and Postconventional (P) scores indicate that the sample is modal at the Postconventional schema. However, PI and MN scores suggest that the personal interests and maintaining norms schema are also influential. It is important to note how the current sample compares with other samples in terms of moral judgment development. First, regarding Personal Interests scores, the current sample is statistically similar to a Personal Interests score derived as an average from three samples ($M = 30.08$; Derryberry, Wilson, Snyder, Norman, & Barger, 2005; Derryberry, Mulvaney, Brooks, & Chandler, 2009; Derryberry, Snyder, Wilson, & Barger, 2006) taken recently from the same Southeastern regional public comprehensive university that the data from the current study were obtained. Also, the Personal Interests score taken from the current sample is significantly lower ($p < .001$) than the Personal Interests score observed by Thoma and Bebeau ($M = 32.5$; Sample C 2006) in a recent meta-analysis. Second, regarding Maintaining Norms scores, the current sample is
significantly lower ($p < .005$) than a Maintaining Norms score derived as an average from the three samples mentioned previously ($M = 31.41$; Derryberry et al., 2005; Derryberry et al. 2009; Derryberry et al. 2006). Also, the Maintaining Norms score taken from the current sample is significantly lower ($p < .001$) than the Maintaining Norms score observed by Thoma and Bebeau ($M = 35.0$; Sample C 2006). Finally, in terms of Postconventional scores, the current sample is significantly greater ($p < .05$) than a Postconventional score derived as an average from the samples mentioned above ($M = 28.74$; Derryberry et al., 2005, Derryberry et al., 2009; Derryberry et al. 2006). A comparison between the current sample and Thoma and Bebeau’s 2006 Sample C is not sensible because these studies used different indicators of Postconventional reasoning. Taken together, these trends indicate that the current sample is slightly more advanced in terms of moral judgment development than previous considerations.

Table 1 also addresses gender differences among the various target variables. Regarding narcissism, males scored significantly higher than females ($p < .001$, $\eta^2 = .05$). This is consistent with the literature, as men typically report higher rates of narcissism than women (Raskin & Terry, 1988). Gender differences were also observed for subjective EMCD usage. First, males scored significantly higher than females on the Facebook/MySpace as a Vehicle for Popularity index ($p < .05$, $\eta^2 = .02$). Second, males scored significantly higher than females on the Medical Identity via Cell Phone index ($p < .05$, $\eta^2 = .02$). Third, males scored significantly higher than females on the Self-isolation index ($p < .01$, $\eta^2 = .03$). Fourth, males scored significantly higher than females on the Exhibitionism scale ($p < .001$, $\eta^2 = .05$). Additionally, gender differences were observed for objective EMCD usage. First, females scored significantly higher than
significantly lower ($p < .005$) than a Maintaining Norms score derived as an average from the three samples mentioned previously ($M = 31.41$; Derryberry et al., 2005; Derryberry et al. 2009; Derryberry et al. 2006). Also, the Maintaining Norms score taken from the current sample is significantly lower ($p < .001$) than the Maintaining Norms score observed by Thoma and Bebeau ($M = 35.0$; Sample C 2006). Finally, in terms of Postconventional scores, the current sample is significantly greater ($p < .05$) than a Postconventional score derived as an average from the samples mentioned above ($M = 28.74$; Derryberry et al., 2005, Derryberry et al., 2009; Derryberry et al. 2006). A comparison between the current sample and Thoma and Bebeau’s 2006 Sample C is not sensible because these studies used different indicators of Postconventional reasoning. Taken together, these trends indicate that the current sample is slightly more advanced in terms of moral judgment development than previous considerations.

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Table 1

*Descriptive Statistics for Sample and Gender*

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Table 2 addresses class year differences among the various target variables. Class year differences were observed for subjective EMCD usage. First, freshmen scored significantly higher than juniors ($p < .05, \eta^2 = .06$) and seniors ($p < .005, \eta^2 = .06$) on the Facebook/MySpace as a Vehicle for Popularity index. Second, freshmen scored significantly higher than juniors ($p < .05, \eta^2 = .05$) and seniors ($p < .01, \eta^2 = .05$) on the Medial Identity via Cell Phone index. Third, freshmen scored significantly higher than sophomores ($p < .05, \eta^2 = .10$), juniors ($p < .005, \eta^2 = .10$), and seniors ($p < .001, \eta^2 = .10$) on the Self-isolation index. Class year differences were also observed for objective
Table 2: 

Descriptive Statistics for Class Year

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<td>9.38*</td>
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<td>4.42</td>
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<td>P</td>
<td>26.73*</td>
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<td>15.37</td>
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</table>
EMCD usage. First, freshmen scored significantly higher than seniors on the Albums index ($p < .005, \eta^2 = .05$). Second, freshmen scored significantly higher than seniors on the Mp3tot index ($p < .05, \eta^2 = .04$). Additionally, class year differences were observed for Postconventional and Personal Interests moral judgment development scores. Freshmen had significantly lower Postconventional scores than juniors ($p < .01, \eta^2 = .07$) and seniors ($p < .005, \eta^2 = .07$). Also, sophomores had significantly lower Postconventional scores than seniors ($p < .05, \eta^2 = .07$). Referring to Personal Interests scores, seniors scored significantly lower than freshmen ($p < .005, \eta^2 = .05$) and sophomores ($p < .05, \eta^2 = .05$).

As seen below, Table 3 addresses correlations among the various indices of interest. Cases were excluded pairwise in order to include the most possible pairings of available data. First, regarding relationships between moral judgment development and narcissism, P scores and NPI scores were significantly and negatively associated, as
hypothesized. There was no specific relationship anticipated between MN scores and NPI scores; although the observed relationship was negative, it was not significant and the correlation coefficient was nearly 0. The expected significant correlation between PI scores and NPI scores was not observed; however, the relationship between these two constructs was positive, as anticipated. Second, regarding the hypothesized relationships between EMCDs and narcissism, many significant relationships were observed between NPI scores and scores on the subjective EMCD indices (i.e. FVP, FSP, MICP, iPOD, SI, EX); only two significant relationships were observed between NPI scores and objective EMCD indices (i.e. Friends and CPT). All of these relationships were positive, as expected. Third, significant associations between EMCDs and moral judgment development were observed. It was hypothesized that P scores and scores on the subjective and objective EMCD indices would be negatively associated; although this was the case for most of the significant relationships between P scores and scores on the EMCD indices, there were two exceptions. Specifically, P scores positively correlated with scores on the Number of Photo Albums on Facebook/MySpace index and with scores on the Number of Photos on Facebook/MySpace index. It was anticipated that there would be no specific relationship between MN scores and scores on the EMCD indices; it is clear that this was the case given the mix of positive and negative (non-significant) relationships between MN scores and scores on the subjective and objective EMCD indices. Unexpectedly, MN scores did positively correlate with Mp3tot (objective measure of mp3/iPod usage). It was hypothesized that PI scores would positively correlate with scores on the EMCD indices, but this was not largely observed. For PI scores and scores on the subjective EMCD indices, relationships were both
Table 3

Correlation Matrix for NPI, EMCD Scale Subjective and Objective Indices, and DIT2

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<th>MICP</th>
<th>IPod</th>
<th>SI</th>
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<td>.545**</td>
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<th>PI</th>
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Given correlations observed in Table 3, linear regression was utilized to assess the relationships among the various constructs considered in this study. Three linear regressions were conducted. P scores, MN scores, and PI scores served as the dependent variables. Each consisted of three blocks: the first block included NPI scores; the second block included scores from the subjective EMCD indices (i.e. FVP, FSP, MICP, iPOD, SI, INTP, EX, CM); and the third block included scores from the objective EMCD indices (i.e. FB1_7, Albums, Photos, Friends, Lines, Twittot, Tfollow, CPT, Mp3tot).

Because the purpose of these analyses was to assess how these sets of variables relate in concert, cases were excluded listwise in each analysis; as such, any participant with missing data was not included in these analyses. For DIT2 P scores (see Table 4), significant contributions were seen from EMCD scale subjective attitudes about usage
Table 4

Summary of Linear Regression Analyses for Variables Predicting Postconventional Reasoning Scores

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<th>B</th>
<th>T</th>
<th>Sig.</th>
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<td>.946</td>
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<td>.439</td>
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<td>(ΔR² = .247, p = .067)</td>
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<td>FB1_7</td>
<td>Albums</td>
<td>Photos</td>
<td>Friends</td>
</tr>
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*Note:* P = DIT-2 Postconventional score, MN = DIT-2 Maintaining Norms score, PI = DIT-2 Personal Interest score, NPI = NPI score, FVP = Facebook (FB) / MySpace (MS) as a vehicle for popularity score, FSP = FB/MS for self-promotion score, MICP = medial identity via cell phone score, iPOD = iPod activity score, SI = self-isolation score, INTP = using FB/MS for interpersonal reasons score, EX = exhibitionism score, CM = communication mode, FB1_7 = objective FB/MS usage score, Albums = # of photos albums on FB/MS score, Photos = # of photos on FB/MS score, Friends = # of friends on FB/MS score, Lines = # of lines in About Me section of FB/MS score, Twittot = objective Twitter usage score, Tfollow = # of followers on Twitter score, CPT = objective text messaging usage via cell phone score, Mp3tot = objective mp3/iPod usage score.
Table 5

Summary of Linear Regression Analyses for Variables Predicting Maintaining Norms

Reasoning Scores

<table>
<thead>
<tr>
<th>Block 1</th>
<th>B</th>
<th>SE B</th>
<th>B</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
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<td>-.060</td>
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\( R^2 = .004, p = .671 \)

Block 2

<table>
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<th>B</th>
<th>T</th>
<th>Sig.</th>
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</thead>
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<tr>
<td>FVP</td>
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<td>.409</td>
<td>.095</td>
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<td>.635</td>
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</table>

\( \Delta R^2 = .080, p = .872 \)

<table>
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<th>B</th>
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<th>Sig.</th>
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\( \Delta R^2 = .328, p = .057 \)
<table>
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<th>EX</th>
<th>CM</th>
<th>FB1_7</th>
<th>Albums</th>
<th>Photos</th>
<th>Friends</th>
<th>Lines</th>
<th>Twittot</th>
<th>Tfollow</th>
<th>CPT</th>
<th>Mp3tot</th>
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<td>.004</td>
<td>.384</td>
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<td>-.282</td>
<td>1.122</td>
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<tr>
<td></td>
<td>.799</td>
<td>.856</td>
<td>.638</td>
<td>.109</td>
<td>.003</td>
<td>.136</td>
<td>.119</td>
<td>.809</td>
<td>.013</td>
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<td>.584</td>
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<td>-.035</td>
<td>-.119</td>
<td>.085</td>
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<td>.704</td>
<td>.063</td>
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</tbody>
</table>

*Note:* P = DIT-2 Postconventional score, MN = DIT-2 Maintaining Norms score, PI = DIT-2 Personal Interest score, NPI = NPI score, FVP = Facebook (FB)/MySpace (MS) as a vehicle for popularity score, FSP = FB/MS for self-promotion score, MICP = medial identity via cell phone score, iPOD = iPod activity score, SI = self-isolation score, INTP = using FB/MS for interpersonal reasons score, EX = exhibitionism score, CM = communication mode, FB1_7 = objective FB/MS usage score, Albums = # of photos albums on FB/MS score, Photos = # of photos on FB/MS score, Friends = # of friends on FB/MS score, Lines = # of lines in About Me section of FB/MS score, Twittot = objective Twitter usage score, Tfollow = # of followers on Twitter score, CPT = objective text messaging usage via cell phone score, Mp3tot = objective mp3/iPod usage score.
Table 6

Summary of Linear Regression Analyses for Variables Predicting Personal Interests

Reasoning Scores

<table>
<thead>
<tr>
<th>Block 1</th>
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<th>SE B</th>
<th>B</th>
<th>T</th>
<th>Sig.</th>
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<td>Block 2</td>
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<td>-.054</td>
<td>.957</td>
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<td>.041</td>
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*Note:* P = DIT-2 Postconventional score, MN = DIT-2 Maintaining Norms score, PI = DIT-2 Personal Interest score, NPI = NPI score, FVP = Facebook (FB)/MySpace (MS) as a vehicle for popularity score, FSP = FB/MS for self-promotion score, MICP = medial identity via cell phone score, iPOD = iPod activity score, SI = self-isolation score, INTP = using FB/MS for interpersonal reasons score, EX = exhibitionism score, CM = communication mode, FB1_7 = objective FB/MS usage score, Albums = # of photos albums on FB/MS score, Photos = # of photos on FB/MS score, Friends = # of friends on FB/MS score, Lines = # of lines in About Me section of FB/MS score, Twittot = objective Twitter usage score, Tfollow = # of followers on Twitter score, CPT = objective text messaging usage via cell phone score, Mp3tot = objective mp3/iPod usage score.
scores in the second block. The Facebook as a Vehicle for Popularity (FVP) scale was particularly influential as significance was seen in the second block for this construct. A small contribution (i.e., non-significant when \( p < .05 \) but significant when \( p < .10 \)) was seen in the third block from the EMCD scale objective usage scores. In this block, the significant contributions from the FVP scale remained while a significant contribution from the Communication Mode (CM) scale was also observed. Significant contributions for EMCD scale objective usage scores occurred for the Number of Photos on Facebook/MySpace score, the objective Twitter usage score, and the objective mp3 player/iPod usage score. For DIT 2 PI and MN scores, no significant contributions to variance were seen in any of the three blocks (see Tables 5 and 6), although a small contribution (i.e., non-significant when \( p < .05 \) but significant when \( p < .10 \)) is seen on MN scores in the third block from the objective EMCD indices.
Discussion

The purpose of this study was to address the relationships among moral judgment development, narcissism, and electronic media and communication devices. Assertions made by Thoma and Bebeau (2008) about increasing PI scores, declining P scores, and the possible influence of socio-historical trends (i.e. increasing narcissism rates and increasing use of technological devices) called for such an investigation. The current study proposed several hypotheses pertaining to relationships among the aforementioned constructs. First, it was hypothesized that narcissism would be significantly and positively associated with Personal Interests reasoning. This hypothesis was not supported, as no significant correlation was observed. Second, it was hypothesized that narcissism would have no specific relationship with Maintaining Norms reasoning. Given the non-significant and low correlation coefficient that was observed, this was supported. Third, it was hypothesized that narcissism would be significantly and negatively associated with Postconventional reasoning. This hypothesis was partially supported as a significant and negative correlation was observed between these two constructs. However, as the regression analysis noted, narcissism did not significantly account for variance in postconventional reasoning. Fourth, it was hypothesized that attitudes about and usage of electronic media and communication devices would be significantly and positively associated with narcissism. Given the many significant and positive correlations between scores on the EMCD scales and narcissism, this was supported. Fifth, it was hypothesized that attitudes about and usage of electronic media and communication devices would be significantly and positively associated with Personal Interests reasoning. Given the lack of positive, significant relationships between these
two constructs in both the computed correlations and conducted regression analysis, this assertion was not supported. Sixth, it was hypothesized that attitudes about and usage of electronic media and communication devices would have no specific relationship with Maintaining Norms reasoning. It is clear that this was the case, given the mixture of positive and negative, non-significant correlations among these constructs and the minimal contribution seen in the conducted regression analysis on MN scores. Seventh, it was hypothesized that attitudes about and usage of electronic media and communication devices would significantly and negatively associate with Postconventional reasoning. This was supported as many negative and significant correlations were observed between scores on the EMCD scales and P scores and the significant contribution to P score variance from the EMCD subjective attitude scales in the conducted regression analysis. Finally, it was hypothesized that attitudes about and usage of electronic media and communication devices would mediate the effect of narcissism on moral judgment development. This hypothesis was not supported because NPI scores did not significantly contribute to P score variance.

Overall, this study provides some insight in explaining the decreases in Postconventional reasoning that Thoma and Bebeau (2008) observed but not the increases in Personal Interests reasoning. Beyond the significant correlation between NPI and P scores, NPI scores had little influence on any of the DIT-2 scores. This may have to do with the fact that NPI scores were decreased relative to other recent reported trends (i.e., Twenge et al., 2008). Though narcissism is decreased in the current sample (which also brings to question the role of social desirability where the NPI is concerned), it is conceivable that narcissism does not have to deter the kind of principled reasoning that
the Postconventional schema promotes. For example, narcissistic yet principled figures do exist in pop culture (i.e., Bono, Brad Pitt, Angelina Jolie, etc.), and one could even make the case that a number of political figures are narcissistic yet principled (hopefully). Hence, it is plausible that narcissism (or at least varying degrees of narcissism) does not have to deter Postconventional moral reasoning as long as it does not detract from consideration of others.

The EMCD scales shed light on some important aspects that pertain to decreased postconventional reasoning. It is not simply focusing on the self (as is the case with narcissism) that appears to be the problem; it is the promotion of and effort to draw attention to the self that appears particularly noteworthy. Three of the indices from both the EMCD scale subjective and objective areas (i.e. Facebook/MySpace as Vehicle for Popularity, the number of number of posted photos on Facebook score, and the amount of time spent on Twitter score) providing significant contributions to variance in postconventional reasoning have to do with this. Literature discussed previously supports this finding. Recall the prevalence with which individuals use Facebook/MySpace for purposes which relate to self-promotion, such as posting pictures (Raacke & Bonds-Raacke, 2008), collecting friends (Ellison et al., 2007), and constructing their identity in a “show rather than tell” manner (Zhao et al., 2008). Because individuals are using these websites for such purposes so often, it makes sense that negative effects could ensue, particularly if one is promoting oneself at the expense of considering others.

Also, self-isolation is a key issue as significant contributions from the Communication Mode score (i.e., which has to do with a preference for communicating with others using technology rather than face to face) and IPOD score (i.e. objective mp3
player/iPod usage) attest. That is, spending too much time with such devices at the expense of interacting with others appears to deter Postconventional reasoning. In addition to limiting the amount of time one spends in face-to-face interactions with others, self-isolation may be problematic where advanced moral judgment is concerned because it may facilitate the existence of electronic narcissism (Chen, 1998) and may aid in the emergence of an object relationship (Ermann, 2004). Recall that electronic narcissism refers to creating a world in which one has a reason to ignore others and others have a reason not to interrupt, namely because of the use of an electronic device (Chen). Similarly, an object relationship refers to a relationship in which a technological medium replaces the need for an interpersonal relationship (Ermann).

Although this study has shed light regarding reasons for decreased moral judgment development, some other interesting findings were observed that are of note – specifically where the usage of and attitudes about EMCD’s are concerned. Regarding demographic variables, gender and class year differences are noteworthy. Consistent gender differences were observed with regard to the EMCD indices. For example, for all of the subjective EMCD indices in which gender differences were observed (i.e. FVP, MICP, SI, and EX), males scored higher than females. So, males reported that they are more likely than females to use Facebook/MySpace as a vehicle for popularity, to use cell phones as a means of creating a medial identity, to isolate themselves with these technological devices, and to use Facebook/MySpace and cell phones for exhibitionistic display. Additionally, for all but one of the objective EMCD indices in which gender differences were observed, females scored higher than males. That is, females reported having more photos, photo albums, and friends linked to their Facebook/MySpace
account than males. Overall, then, though females tend to use EMCD’s more often than males, the attitudes of males regarding their EMCD usage appear to be more detrimental where social functioning is concerned.

Consistent trends were also seen with regard to EMCD indices and class year differences. For example, for all subjective EMCD indices in which class year differences were observed (i.e. FVP, MICP, and SI), freshmen scored significantly higher than any other class. That is, freshmen indicated that they are more likely to use Facebook/MySpace as a vehicle for popularity, to use cell phones as a means of creating a medial identity, and to isolate themselves with these technological devices. Hence, it can be construed that such attitudes regarding the usage of EMCD’s lessen across time or that underclassmen are particularly susceptible to such attitudes.

Future directions

It could prove fruitful to study the relationships addressed in this study according to gender only and class year only. For example, it is possible to have advanced moral reasoning as a freshman or sophomore (Rest et al., 1999). As such, would more advanced moral judgment development be seen among those with lower narcissism and more desirable attitudes about EMCD usage? Similarly, future research should focus on trends seen among individuals in their 30’s and 40’s. Moral judgment development still advances during these decades (Rest et al.) and those of these ages are immersed in technology (though not necessarily as much as teens and individuals in their 20’s). Also, the current study observed that (where significant differences were observed) males scored higher on subjective EMCD scales and females predominately scored higher on the objective EMCD scales. Given this finding, future research might look into whether
females are more affected by a social desirability bias. Along the same lines of research, if social desirability was controlled for, would narcissism play more of a role? Indeed, in a subsequent correlations and regression analysis involving females only, the relationship between NPI scores and P scores was minimal ($r = -.09$). As such, it would be useful to know if this relationship is the result of true differences in narcissism between males and females or if it is due to tendencies among females to portray a certain, though not accurate, image. Finally, modeling of the considered relationships using advanced modeling procedures such as structural equation modeling is needed.

Limitations

The current study is not without limitations. One important limitation is that the sample includes an influx of underclassmen and females. Generalizability of results is also a concern. For example, a sample solely made up of participants from Kentucky, such as the one used in the current study, may be more rural, of lower socioeconomic status, and be overly representative of first-time college students than the general population. All of these factors certainly have ramifications where moral judgment development and EMCD access and use are concerned.

Conclusion

This study was able to provide some insight about the decreases in moral judgment development that have recently been observed (Thoma & Bebeau, 2008). Though narcissism did not appear responsible for decreased moral judgment development, EMCD usage and attitudes about their usage had an adverse impact on Postconventional reasoning. Additionally, this study illustrated that EMCD usage and attitudes about usage tends to vary according to certain factors such as gender and class.
year. Where the relationship between moral judgment development and EMCD attitudes and use is concerned, this study illustrated that what is critical is when these items are used either as a venue for promoting one’s self or in a manner that leads to self isolation (or both). As such, the additional means for promoting and isolating the self that EMCD’s can promote offers a novel area of research where the study of moral judgment development (and sociocognitive development in general) is concerned. This is particularly true for college students given the prevalence of technology in their lives and its allure to them. In closing, it is important to note that these findings should not be used as a means for advising individuals against EMCD usage. Instead, the focal point should be that EMCD usage may prove to be detrimental to moral judgment development to the extent that such devices are used as a replacement for face to face peer interactions or other venues that are beneficial for moral judgment growth. Further, how EMCD’s are used is a particular concern where moral judgment development is concerned. Therefore, EMCD’s should not be considered problematic as long as usage accompanies and does not replace venues conducive to moral judgment growth.
References


Twenge, J.M., Konrath, S., Foster, J.D., Campbell, W.K., & Bushman, B.J. (2008). Egos inflating over time: A cross-temporal meta-analysis of the narcissistic personality inventory. *Journal of Personality, 76*, 875-902.

Appendix A

Demographics
Demographics

1. Age: _____ years.

2. Gender (circle one): Male Female

3. Are you currently a college student? _____ Yes _____ No

4. If you answered “Yes” to number 3, please answer questions a – d below:
   a. Cumulative GPA: 3.6 - 4.0
      _____ 3.1 - 3.5
      _____ 2.6 - 3.0
      _____ 2.1 - 2.5
      _____ below 2.1
   
   b. ACT score: ______ or SAT Score: Total: ______ Verbal: ______
   
   c. Number of semesters in college (including junior college): ____________
   
   d. Education level: _____ Freshman
      _____ Sophomore
      _____ Junior
      _____ Senior
      _____ Other: ____________________________

5. If you answered “No” to number 3, please answer question a below:
   a. What is your highest level of education?
      _____ High school diploma/GED
      _____ Some college
      _____ Associates degree or certificate
      _____ BA/BS degree
      _____ MA/MS
      _____ PhD, JD, MD, DMD, or equivalent
      _____ Other

6. Ethnicity (optional):
   _____ African American/Black
   _____ American Indian or Alaska Native
   _____ Asian
   _____ Hispanic/Latino
   _____ Native Hawaiian or Pacific Islander
   _____ White
   _____ Other: ____________________________
Appendix B

Narcissistic Personality Inventory
Narcissistic Personality Inventory

This inventory consists of a number of pairs of statements with which you may or may not identify.

Consider this example:

A. "I like having authority over people."
B. "I don't mind following orders."

Which of these two statements is closer to your own feelings about yourself? If you identify more with "liking to have authority over people," than with "not minding following orders," then you would choose option "A."

You may identify with both "A" and "B." In this case you should choose the statement which seems closer to yourself. Or, if you do not identify with either statement, select the one which is least objectionable or remote. In other words, read each pair of statements and then choose the one that is closer to your own feelings. Indicate your answer by writing the letter in ("A" or "B") or checking the space provided to the right of each item. Please do not skip any items.

1. A. I have a natural talent for influencing people.
   B. I am not good at influencing people.

2. A. Modesty doesn't become me.
   B. I am essentially a modest person.

3. A. I would do almost anything on a dare.
   B. I tend to be a fairly cautious person.

4. A. When people compliment me I get embarrassed.
   B. I know that I am a good person because everybody keeps telling me so.

5. A. The thought of ruling the world frightens the hell out of me.
   B. If I ruled the world it would be a better place.

6. A. I can usually talk my way out of anything.
   B. I try to accept the consequences of my behavior.

7. A. I prefer to blend in with the crowd.
   B. I like to be the center of attention.

8. A. I will be a success.
   B. I am not too concerned about success.

9. A. I am no better or no worse than most people.
   B. I think I am a special person.

10. A. I am not sure if I would make a good leader.
    B. I see myself as a good leader.
11. A. I am assertive.  
   B. I wish I were more assertive.

12. A. I like having authority over other people.  
   B. I don't mind following orders.

13. A. I find it easy to manipulate people.  
   B. I don't like it when I find myself manipulating people.

14. A. I insist upon getting the respect that is due me.  
   B. I usually get the respect I deserve.

15. A. I don't particularly like to show off my body.  
   B. I like to show off my body.

16. A. I can read people like a book.  
   B. People are sometimes hard to understand.

17. A. If I feel competent I am willing to take responsibility for making decisions.  
   B. I like to take responsibility for making decisions.

18. A. I just want to be reasonably happy.  
   B. I want to amount to something in the eyes of the world.

19. A. My body is nothing special.  
   B. I like to look at my body.

20. A. I try not to be a show off.  
    B. I will usually show off if I get the chance.

21. A. I always know what I am doing.  
    B. Sometimes I am not sure what I am doing.

22. A. I sometimes depend on people to get things done.  
    B. I rarely depend on anyone else to get things done.

23. A. Sometimes I tell good stories.  
    B. Everybody likes to hear my stories.

24. A. I expect a great deal from other people.  
    B. I like to do things for other people.

25. A. I will never be satisfied until I get all that I deserve.  
    B. I will take my satisfactions as they come.

26. A. Compliments embarrass me.  
    B. I like to be complimented.

27. A. I have a strong will to power.  
    B. Power for its own sake doesn't interest me.
28. A. I don't care about new fads and fashion.
   B. I like to start new fads and fashion.

29. A. I like to look at myself in the mirror.
   B. I am not particularly interested in looking at myself in the mirror.

30. A. I really like to be the center of attention.
    B. It makes me uncomfortable to be the center of attention.

31. A. I can live my life anyway I want to.
    B. People can't always live their lives in terms of what they want.

32. A. Being an authority doesn't mean much to me.
    B. People always seem to recognize my authority.

33. A. I would prefer to be a leader.
    B. It makes little difference to me whether I am a leader or not.

34. A. I am going to be a great person.
    B. I hope I am going to be successful.

35. A. People sometimes believe what I tell them.
    B. I can make anyone believe anything I want them to.

36. A. I am a born leader.
    B. Leadership is a quality that takes a long time to develop.

37. A. I wish someone would someday write my biography.
    B. I don't like people to pry into my life for any reason.

38. A. I get upset when people don't notice how I look when I go out in public.
    B. I don't mind blending into the crowd when I go out in public.

39. A. I am more capable than other people.
    B. There is a lot I can learn from other people.

40. A. I am much like everybody else.
    B. I am an extraordinary person.
Appendix C

Electronic Media and Communication Devices Scale
Electronic Media and Communication Devices Scale

This questionnaire contains three sections, which address your usage of and attitudes about modern technological devices such as social networking websites (i.e., Facebook/MySpace, Twitter), cell phones (i.e., texting), and mp3 players. Please complete each section.

SECTION I: Questions in this first section ask you about how often you use modern technological devices including Facebook/MySpace, cell phone texting services, and mp3 players. If you do not know the answer, please make your best estimate.

Facebook/MySpace:
1. Do you have a Facebook or MySpace account? _____ Yes _____ No
2. Do you log into your Facebook/MySpace account daily (Note: for questions 2 - 11, if you have both a Facebook and MySpace account, consider the account that you use most often)? _____ Yes _____ No
3. If no to #2, would you say you log in weekly or monthly? _____ Weekly _____ Monthly
4. If yes to #2, how often do you log in (estimate according to the scale below)?
   1   2   3   4   5   6   7
   Once or twice Every couple of hours Hourly
5. Do you change your Facebook/MySpace status daily? _____ Yes _____ No
6. If no to #5, would you say you change your status weekly or monthly? _____ Weekly _____ Monthly
7. If yes to #5, how often do you change your status (estimate according to the scale below)?
   1   2   3   4   5   6   7
   Once or twice Every couple of hours Hourly
8. How many photo albums do you have on your Facebook/MySpace account? _____
9. How many photos are linked to your Facebook/MySpace account? _____
10. How many friends are linked to your Facebook/MySpace account? _____
11. How many lines is your “About Me” section on Facebook/MySpace? _____

Twitter:
12. Do you have a Twitter account? _____ Yes _____ No
13. Do you post to your Twitter account daily? _____ Yes _____ No
14. If no to #13, would you say you post to your account weekly or monthly? _____ Weekly _____ Monthly
15. If yes to #13, how often do you post to your Twitter account (estimate according to the scale below)?
   1   2   3   4   5   6   7
   Once or twice Every couple of hours Hourly
16. How many people “follow you” on Twitter?

Cell phone use/Texting
17. Do you text message daily? ___Yes ___No
18. If no to # 17, would you say you text weekly or monthly? ___ Weekly _____ Monthly
19. If yes to # 17, how often?

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mp3 player/iPod
20. Do you have an mp# player or iPod? ___Yes ___No
21. If you answered yes to # 20, do you use it daily? ___Yes ___No
22. If you answered yes to # 21, how many hours would you estimate that you listen to your mp3 player/iPod on a daily basis? _____ hours
23. If you answered no to # 21, would you say you use your mp3 player/iPod weekly or monthly? _____ Weekly _____ Monthly

SECTION II: Questions in section two ask you to consider your attitudes about various technological devices such as social networking websites (i.e., Facebook/MySpace and Twitter), texting via cell phones, and mp3 players/iPods. Our world today is greatly affected by these kinds of technological devices. Attitudes about these types of technological devices have changed as their popularity has increased. We are interested in understanding ways in which people think about these modern technologies.

Please note that some questions ask you to think about these technological devices together while other questions ask you to focus on a specific device. Please respond according to the following scale: 1 = Strongly agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly disagree (SD).

SA A N D SD
1 2 3 4 5 1. I am consumed by these devices.
1 2 3 4 5 2. It bothers me when people don’t respond quickly to my texts or Facebook/MySpace status changes.
1 2 3 4 5 3. All of the technological devices emphasize who I am.
1 2 3 4 5 4. My Facebook/MySpace page really shows my personality. FSP
1 2 3 4 5 5. I love to post on Facebook/MySpace about the things that I’ve done.
1 2 3 4 5 6. I take pride in having the newest phone that I can.
1 2 3 4 5 7. All of these technological devices are necessary in today’s world.
1 2 3 4 5 8. I would be reluctant to do without these technological devices.
1 2 3 4 5 9. I’d rather communicate with these devices than have face to face conversations. CM
1 2 3 4 5 10. While using these devices, it is easy for me to notice other people who are trying to get my attention.
1 2 3 4 5 11. I think the number of friends I have on Facebook/MySpace speaks to
1. I feel bad for people who do not have a lot of Facebook/MySpace friends. **FVP**

12. The number of tagged Facebook/MySpace pictures linked to my account proves that I am popular. **FVP**

13. The number of friends I have on Facebook/MySpace speaks to my popularity. **FVP**

14. On Facebook/MySpace, I like when people comment on my pictures and posts. **FVP**

15. On Facebook/MySpace, I mainly post good pictures of myself. **FSP**

16. On Facebook/MySpace, I like to post pictures that display my body.**EX**

17. On Facebook/MySpace, I like to look at my own profile. **FV**

18. If I am on my cell phone before class, it is not a big deal for me to come in late. **FV**

19. Texting during class is not a big deal. **FV**

20. I like to use these devices because they allow me to get away from the world. **SI**

21. I don’t worry about how loud my music is when I have my iPod on. **SI**

22. I only have music on my iPod that I can relate to. **SI**

23. If you looked at my Facebook/Myspace page, you would quickly get me or understand me. **FV**

24. My phone is more than just a phone. It’s a part of me. **FV**

25. I get excited when people respond to my status changes and the pictures I post on Facebook/MySpace. **FSP**

26. It is hard to imagine what life would like without these kinds of technological devices. **FV**

27. People who do not use these devices very often are out of touch with the world. **FV**

28. It would bother me to not have many Facebook/MySpace friends. **FVP**

29. Having as many Facebook/MySpace friends as I can is important to me. **FVP**

30. Having as many people as possible follow me on Twitter is important to me. **FV**

31. The number of wallposts/messages linked to my Facebook/MySpace account shows how popular I am. **FV**

32. The number of people that follow me on Twitter indicates that I am popular. **MICP**

33. I text a lot of people regularly. **FV**

34. On Facebook/MySpace, I often post pictures where I have been captured being particularly amusing. **FSP**

35. On Facebook/MySpace, I like for people to compliment me on my how much I am liked.
pictures. **FSP**

1 2 3 4 5 40. On Facebook/MySpace, I get annoyed when people don’t comment on my pictures.

1 2 3 4 5 41. On Facebook/MySpace, I like to look at the pictures that I post. **FSP**

1 2 3 4 5 42. I am not afraid to text photos of myself to people. **EX**

1 2 3 4 5 43. It’s OK to set my cell phone to vibrate so that I know when I have received a message.

1 2 3 4 5 44. On Facebook/MySpace, I have the right to post whatever I want.

1 2 3 4 5 45. I can’t believe how quickly time passes when I’m on Facebook/MySpace.

1 2 3 4 5 46. When going from place to place or waiting, I’m either using my phone or listening to music. **iPOD**

1 2 3 4 5 47. I don’t answer my phone or check texts when I’m talking to someone.

1 2 3 4 5 48. I hate it when someone I don’t know that well IM’s me on Facebook/MySpace.

1 2 3 4 5 49. The best thing about Facebook and texting is that I can easily let others know what I’m up to. **FSP**

1 2 3 4 5 50. My phone says a lot about who I am. **MICP**

1 2 3 4 5 51. I enjoy posting notes about myself on Facebook/MySpace.

1 2 3 4 5 52. I pretty much accept friend requests from anyone.

1 2 3 4 5 53. I am very selective in making friend requests.

1 2 3 4 5 54. On Facebook/MySpace, posting good pictures of myself is not a priority to me.

1 2 3 4 5 55. On Facebook/MySpace, I don’t see why anyone would find my profile exciting.

1 2 3 4 5 56. On Facebook/MySpace, I often let people know when I have done an exciting activity by posting pictures or updating my status. **FSP**

1 2 3 4 5 57. My friends on Facebook/MySpace are truly friends.

1 2 3 4 5 58. When I’m on Facebook/MySpace, I’m most interested in seeing what others have said about things that I’ve posted. **FSP**

1 2 3 4 5 59. I have often texted photos of myself to people. **EX**

1 2 3 4 5 60. I typically own the latest model cell phone available. **MICP**

1 2 3 4 5 61. I like it when people notice that I’m texting someone. **MICP**

1 2 3 4 5 62. Sometimes I keep my mp3 player/iPod earbuds in even when I don’t have music playing. **SI**

1 2 3 4 5 63. I like it when people notice or compliment my phone. **MICP**
SECTION III: Questions in section three ask you to consider your usage of various technological devices such as social networking websites (i.e., Facebook/MySpace and Twitter), texting via cell phones, and mp3 players/iPods. Technological devices like these affect the lives of individuals in unique ways. People use these modern technological devices for various reasons and in different capacities. We are interested in why and the extent to which people use different types of technological devices. Please note that some questions will ask you to think about these technological devices together while other questions ask you to focus on a specific device. Please respond according to the following scale: 1 = Strongly agree (SA), 2 = Agree (A), 3 = Neutral (N), 4 = Disagree (D), 5 = Strongly disagree (SD).

SA A N D SD

1. I rarely use such devices.
2. I only use these devices every now and then.
3. I use these devices in moderation.
4. I use Facebook/MySpace to promote causes that I believe in. INTP
5. I use Facebook/MySpace to connect with people who have mutual interests. INTP
6. I use Facebook/MySpace to let people know about events that I have planned. INTP
7. I spend way too much time using these devices.
8. My usage of these devices causes me to put off or avoid day to day responsibilities.
9. I have been known to use any or all of these devices in class.
10. I use Facebook/MySpace to keep in touch with old friends.
11. I use Facebook/MySpace to post and look at pictures.
12. I use my mp3 player/iPOD to tune people out. SI
13. I text while driving.
14. I use these devices as much as everybody else my age does.
15. I use these devices more than everybody else my age does.
16. I use Facebook/MySpace to express my political beliefs.
17. I use my mp3 player/iPOD to relax. iPOD
18. I listen to my mp3 player/iPOD to get myself psyched up. iPOD
19. I’ve been told that I use these devices too much.
20. I don’t think my usage of these devices bothers anybody.
21. I prefer to exercise with my mp3 player/iPOD. iPOD
22. I only text when necessary. CM (R)
23. I’d rather call people than text them. CM (R)
24. My texting is more social than it is informational.
25. I’ll text pretty much anything to anyone at anytime.
Appendix D

Defining Issues Test-2
Defining Issues Test 2

FAMINE

The small village in northern India has experienced shortages of food before, but this year's famine is worse than ever. Some families are even trying to sustain themselves by making soup from tree bark. Mustaq Singh's family is near starvation. He had heard that a rich man in his village has supplies of food stored away and is hoarding food while its price goes higher so that he can sell the food later at a huge profit. Mustaq was desperate and thinks about stealing some food from the rich man's warehouse. The small amount of food that he needs for his family probably wouldn't be missed.

What should Mustaq Singh do? Do you favor the action of taking the food? (Mark one)

___ Should take the food ___ Can't Decide ___ Should not take the food

Please rate in the space beside each statement how important each particular item/question is in making a decision about what you should do one way or another.

1=Great 2=Much 3=Some 4=Little 5=No

1. Is Mustaq Singh courageous enough to risk getting caught stealing? ___
2. Isn't it only natural for a loving father to care so much for his family that he would steal? ___
3. Shouldn't the community's laws be upheld? ___
4. Does Mustaq Singh know a good recipe for preparing soup from tree bark? ___
5. Does the rich man have any legal right to store food when other people are starving? ___
6. Is the motive of Mustaq Singh to steal for himself or to steal for his family? ___
7. What values are going to be the basis for social cooperation? ___
8. Is the epitome of eating reconcilable with the culpability of stealing? ___
9. Does the rich man deserve to be robbed for being so greedy? ___
10. Isn't private property an institution to enable the rich to exploit the poor? ___
11. Would stealing bring about more total good for everybody concerned or not? ___
12. Are laws getting in the way of the most basic claim of any member of society? ___

Now that you have rated these items, please rank them below from most important to fourth most important in making a decision about what Mustaq Singh should do.

___ # of Most important item ___ # of Third most important item
___ # of Second most important ___ # of Fourth most important item
Molly Dayton has been a news reporter for the Gazette newspaper for over a decade. Almost by accident, she learned that one of the candidates for Lieutenant Governor for her state, Grover Thompson, had been arrested for shop-lifting, 20 years earlier. Reporter Dayton found out that early in his life, Candidate Thompson had undergone a confused period and done things he later regretted which were very out-of-character now. His shop-lifting had been a minor offense and charges had been dropped by the department store. Thompson has not only straightened himself out since then, but in addition built a distinguished record in helping many people and in leading community projects. Now, Reporter Dayton regards Thompson as the best candidate in the field and likely to go on to important leadership positions in the state. Reporter Dayton wonders whether or not she should write the story about Thompson's earlier troubles because in the upcoming close and heated election, she fears that such a news story would wreck Thompson's chance to win.

Do you favor the action of reporting the story? (Mark one)

___ Should report the story ___ Can't Decide ___ Should not report the story

Please rate in the space beside each statement how important each particular item/question is in making a decision about what you should do one way or another.

1 = Great 2 = Much 3 = Some 4 = Little 5 = No

1. Doesn't the public have a right to know all the facts about all the candidates for office?

2. Would publishing the story help Reporter Dayton's reputation for investigative reporting?

3. If Dayton doesn't publish the story wouldn't another reporter get the story anyway and get the credit for investigative reporting?

4. Since voting is such a joke anyway, does it make any difference what reporter Dayton does?

5. Hasn't Thompson shown in the past 20 years that he is a better person than his earlier days as a shop-lifter?

6. What would best serve society?

7. If the story is true, how can it be wrong to report it?

8. How could reporter Dayton be so cruel and heartless as to report the damaging story about candidate Thompson?

9. Does the right of 'habeas corpus' apply in this case?

10. Would the election process be more fair with or without reporting the story?

11. Should reporter Dayton treat all candidates for office in the same way by reporting everything she learns about them, good and bad?

12. Isn't it a reporter's duty to report all the news regardless of the circumstances?

Now that you have rated these items, please rank them below from most important to fourth most important in making a decision about what Reporter Dayton should do.

_____ # of Most important item _____ # of Third most important item
SCHOOL BOARD

Mr. Grant was elected to the School Board District 190 and was chosen to be Chairman. The district was bitterly divided over the closing of one of the high schools. One of the high schools had to be closed for financial reasons, but there was no agreement over which school to close. During his election to the School Board, Mr. Grant had proposed a series of "Open Meetings" in which members of the community could voice their opinions. He hoped that dialogue would make the community realize the necessity of closing one high school. Also he hoped that through open discussion, the difficulty of the decision would be appreciated, and the community would ultimately support the school board decision. The first Open Meeting was a disaster. Passionate speeches dominated the microphones and threatened violence. The meeting barely closed without fist-fights. Later in the week, school board members received threatening phone calls. Mr. Grant wonders if he ought to call off the next Open Meeting.

Do you favor calling off the next Open Meeting? (Mark one)

__ Should call off the next open meeting __ Can't Decide __ Should have the next open meeting

Please rate in the space beside each statement how important each particular item/question is in making a decision about what you should do one way or another.

1 = Great 2 = Much 3 = Some 4 = Little 5 = No

1. Is Mr. Grant required by law to have Open Meetings on major school board decisions? ___

2. Would Mr. Grant be breaking his election campaign promises to the community by discontinuing the Open Meetings? ___

3. Would the community be even angrier with Mr. Grant if he stopped the Open Meetings? ___

4. Would the change in plans prevent scientific assessment? ___

5. If the school board is threatened, does the chairman have the legal authority to protect the Board by making decisions in closed meetings? ___

6. Would the community regard Mr. Grant as a coward if he stopped the Open Meetings? ___

7. Does Mr. Grant have another procedure in mind for ensuring that divergent views are heard? ___

8. Does Mr. Grant have the authority to expel troublemakers from the meetings or prevent them from making long speeches? ___

9. Are some people deliberately undermining the school board process by playing some sort of power game? ___

10. What effect would stopping the discussion have on the community's ability to handle controversial issues in the future? ___
11. Is the trouble coming from only a few hotheads, and is the community in general really fair-minded and democratic? __
12. What is the likelihood that a good decision could be made without open discussion from the community? __

Now that you have rated these items, please rank them below from most important to fourth most important in making a decision about what Mr. Grant should do.

_____ # of Most important item _____ # of Third most important item
_____ # of Second most important _____ # of Fourth most important item

CANCER

Mrs. Bennett is 62 years old, and in the last phases of colon cancer. She is in terrible pain and asks the doctor to give her more pain-killer medicine. The doctor has given her the maximum safe dose already and is reluctant to increase the dosage because it would probably hasten her death. In a clear and rational mental state, Mrs. Bennett says that she realizes this; but she wants to end her suffering even if it means ending her life.

Should the doctor give her an increased dosage?

Do you favor the action of giving more medicine? (Mark one)

___ Should give Mrs. Bennett an increased dosage to make her die
___ Can't Decide
___ Should not give her an increased dosage

Please rate in the space beside each statement how important each particular item/question is in making a decision about what you should do one way or another.

1=Great 2=Much 3=Some 4=Little 5=No

1. Isn't the doctor obligated by the same laws as everybody else if giving an overdose would be the same as killing her? ___
2. Wouldn't society be better off without so many laws about what doctors can and cannot do? ___
3. If Mrs. Bennett dies, would the doctor be legally responsible for malpractice? ___
4. Does the family of Mrs. Bennett agree that she should get more painkiller medicine? ___

5. Is the painkiller medicine an active heliotropic drug? ___
6. Does the state have the right to force continued existence on those who don't want to live? ___
7. Is helping to end another's life ever a responsible act of cooperation? ___
8. Would the doctor show more sympathy for Mrs. Bennett by giving the medicine or not? ___
9. Wouldn't the doctor feel guilty from giving Mrs. Bennett so much drug that she died? ___

10. Should only God decide when a person's life should end? ___
11. Shouldn't society protect everyone against being killed? ___
12. Where should society draw the line between protecting life and allowing someone to die if the person wants to? __

Now that you have rated these items, please rank them below from most important to fourth most important in making a decision about what the doctor should do.

<table>
<thead>
<tr>
<th># of Most important item</th>
<th># of Third most important item</th>
<th># of Second most important</th>
<th># of Fourth most important item</th>
</tr>
</thead>
</table>

**DEMONSTRATION**

Political and economic instability in a South American country prompted the President of the United States to send troops to "police" the area. Students at many campuses in the U.S.A. have protested that the United States was using its military might for economic advantage. There is widespread suspicion that big oil multinational companies were pressuring the President to safeguard a cheap oil supply even if it means loss of life. Students at one campus took to the streets in demonstration, tying up traffic and stopping regular business in town. The president of the university demanded that the students stop their illegal demonstrations. Students then took over the college's administration building, completely paralyzing the college. Are the students right to demonstrate in these ways?

Do you favor the action of demonstrating in these ways?

<table>
<thead>
<tr>
<th>Should continue demonstrating in these ways</th>
<th>Can't Decide</th>
<th>Should not continue demonstrating in these ways</th>
</tr>
</thead>
</table>

Please rate in the space beside each statement how important each particular item/question is in making a decision about what you should do one way or another.

1=Great 2=Much 3=Some 4=Little 5=No

1. Do the students have any right to take over property that doesn't belong to them? __
2. Do the students realize that they might be arrested and fined, and even expelled from school? __
3. Are the students serious about their cause or are they doing it just for fun? __
4. If the university president is soft on students this time, will it lead to more disorder? __
5. Will the public blame all students for the actions of a few demonstrators? __
6. Are the authorities to blame by giving in to the greed of the multinational oil companies? __
7. Why should a few people like the Presidents and business leaders have more power than ordinary people? 

8. Does this student demonstration bring about more or less good in the long run to all people? 

9. Can the students justify their civil disobedience? 

10. Shouldn't the authorities be respected by students? 

11. Is taking over a building consistent with principles of justice? 

12. Isn't it everyone's duty to obey the law, whether one likes it or not? 

Now that you have rated these items, please rank them below from most important to fourth most important in making a decision about what the students should do.

_____ # of Most important item _____ # of Third most important item

_____ # of Second most important _____ # of Fourth most important item
Appendix E

Human Subjects Review Board Approval
In future correspondence, please refer to HS10-223, March 19, 2010

Meghan Saculla
c/o Dr. Pitt Derryberry
Psychology
WKU

Meghan Saculla:

Your research project, *Further Investigation into the Links among Self Presentation, Electronic Media and Communication Devices, and Social Decision Making*, was reviewed by the HSRB and it has been determined that risks to subjects are: (1) minimized and reasonable; and that (2) research procedures are consistent with a sound research design and do not expose the subjects to unnecessary risk. Reviewers determined that: (1) benefits to subjects are considered along with the importance of the topic and that outcomes are reasonable; (2) selection of subjects is equitable; and (3) the purposes of the research and the research setting is amenable to subjects' welfare and producing desired outcomes; that indications of coercion or prejudice are absent, and that participation is clearly voluntary.

1. In addition, the JRB found that you need to orient participants as follows: (1) signed informed consent is not required; (2) Provision is made for collecting, using and storing data in a manner that protects the safety and privacy of the subjects and the confidentiality of the data. (3) Appropriate safeguards are included to protect the rights and welfare of the subjects.

This project is therefore approved at the Exempt from Full Board Review Level.

2. Please note that the institution is not responsible for any actions regarding this protocol before approval. If you expand the project at a later date to use other instruments please re-apply. Copies of your request for human subjects review, your application, and this approval, are maintained in the Office of Sponsored Programs at the above address. Please report any changes to this approved protocol to this office. A Continuing Review protocol will be sent to you in the future to determine the status of the project. Also, please use the stamped approval forms to assure participants of compliance with The Office of Human Research Protections regulations.

Sincerely,

Paul J. Mooney, M.S.T.M.
Compliance Coordinator
Office of Sponsored Programs
Western Kentucky University

cc: HS file number Saculla HS10-223