A THEORETICAL STUDY OF THE INTERACTIVE

COMMUNICATION PROCESS IN VIDEO GAME PLAYING:

A SYMBOLIC INTERACTIONIST APPROACH

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TABLE OF CONTENTS

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## ABSTRACT

Video games have become the most popular leisure activity among children and

adolescents.  The increasing popularity of video games has urged researchers to

determine the effects of video game playing on youngsters.  Given the fact that most

popular video games are violent in nature, much of the research has primarily focused on

the correlation between playing video games with violent content and aggressive

behavior in children.  Most researchers have relied on previous media violence research,

assuming similarities between television viewing and video game playing.  However,

video games are interactive media allowing the player to participate in the game scenario,

which may intensify the impact of video game playing.  Furthermore, the extent of

possible influence by a video game may depend on the individual and environmental

factors surrounding the player.  This study examines the factors involved in video game

playing within an interactive communication context.

To achieve this goal, symbolic interactionism is used as a theoretical ground to

explicate the interactive communication during video game playing.  Once the pertinence

of symbolic interaction theory to the player-video game interaction is demonstrated, the conceptual framework of symbolic interactionism is applied to video game playing. Based on the previous mass media models and symbolic interactionism, the interactive communication during video game playing is investigated. First, the individual and environmental factors surrounding the player are identified. Second, a theoretical model named "video game interaction model (VGIM)" is developed to examine how these factors affect the interactive communication during video game playing. VGIM illustrates the dynamics of the player-video game interaction and the relations among the variables contributing to this interaction.

CHAPTER I

INTRODUCTION

Playing video and computer games has become a highly popular leisure activity among children and adolescents. As these games became more violent in content, parents became more concerned. Educators, scholars, and critics have debated whether these games actually harm children. While proponents describe video games as one of the most powerful educational tools ever invented for children and adolescents, opponents suggest that playing video games with violent content increases aggressive behavior. Researchers have spent much effort to ascertain the possible negative impact of video game playing on youngsters. Yet, most of the attempts in this respect have been unconvincing due to the variety of video games in the market and the diversity of factors affecting game players. Consequently, the ongoing debates have not provided an answer to the question of video games' effect on youngsters.

Due to the interactive nature of video game playing, the assessment of video game effects on players has been quite challenging. The extent of possible influence by a video game is not only subject to video game content but also dependent on the individual and environmental factors surrounding the player. Furthermore, the player's interaction with video game may intensify the influence of video games. This study examines the individual and environmental factors involved in video game playing within an

interactive communication context. In this study, I do not attempt to determine the impact of video games on youngsters, but rather investigate the possible factors affecting video game interaction.

**Definition of Electronic Games**

The electronic game era began when automated and fairly sophisticated games that involved violence of one sort or another replaced pinball in arcades in the 1960s (Loftus & Loftus, 1983). In the 1970s, a new game named Pong--which was entirely under the control of a computer, completely electronic, and played on the screen with a joystick--launched today's version of video games (Loftus & Loftus, 1983). Since then, electronic games have come a long way, developing and becoming more sophisticated with the integration of advanced computer technology.

Today's electronic games include arcade games, home computer and video games, and virtual reality games. Arcade games are the electronic console games found in arcades, department stores, shopping malls, or at other public areas where one inserts a quarter to play the game for a specified time period. A home computer/video game set enables one or multiple players to play games by plugging it into a screen. These entertainment sets, such as Nintendo and Sony Playstation, have become extremely popular due to their continuous technological development and integration with computer software, graphics, and accessories. The quality of graphics and real-life imitations has also attracted adults as well as children. In addition to the computer/video game sets, computer games are also available on CD ROMs which can be downloaded on the hard discs of personal computers.

Virtual reality is defined as a three dimensional imaginary world in which a person has the ability to look, move around, and modify the simulated scenario with the help of a computer (Biocca, 1992b). In a virtual reality game, the player immerses into the simulated world by the help of special technological gear such as virtual reality goggles, data gloves, and headphones that convert the player's actions into commands for the computer (Biocca, 1992b). The player is not restricted with any screen boundaries, as in the case of a television or computer screen, because the goggles provide a continuous, peripheral view (Calvert & Tan, 1994). Due to complications inherent in the social environment of arcades and in the peculiar play characteristics related to virtual reality games, this study will only focus on home computer/video games while examining the communication process in video game playing. As a means to simplify the whole concept of home computer/video games, "video game" will be used as a general term throughout the study.

**Popularity of Video Games**

Since the introduction of video games in the 1970s, video game playing has been very appealing to young generations, particularly after the integration of computer technology with game playing. By late 1980s, video game sales had skyrocketed through the introduction of the Japanese game set Nintendo. Alone, Nintendo sold a total of one billion games between 1983 and 1995 (Dill & Dill, 1998), and easily became the industry leader. Between 1985 and 1990, annual industry sales increased 40 times and went up from a low of $100 million to $4 billion (Funk, 1993). Computer and video games have been the fastest growing segment of the US entertainment industry during 1990s,

reaching total sales of $6.1 billion in 1999 (IDSA, The State of the Industry Report, 2000).

With the continuous production of sophisticated home video game systems, the popularity of video games among youngsters has reached phenomenal proportions. A survey conducted by Dominick (1984) among 250 tenth and eleventh grade students showed that more than 80% of the sample at least sometimes played video games. Among 357 middle-class seventh and eighth grade students surveyed by Funk (1993), 22% of the girls and 52% of the boys spent at least 3 to 15 hours playing video games at home every week. Furthermore, the video games with violent content have become the most popular games among youngsters. Funk's survey also revealed that 50% of the students preferred violent video games, whereas only 2% preferred educational video games. The findings of Provenzo's (1991) study indicated that 40 out of 47 most popular video games are violent in nature (as cited in Dill & Dill, 1998, p. 408).

The amount of electronic game advertising and marketing has kept on growing, encouraging children and adolescents to engage in game playing activities. On June 1, 1999, when President Bill Clinton ordered a federal government study into how the entertainment industry markets violence to children through movies, music and video games, he specifically pointed out, "we ought to think twice about the impact of ads for so-called first-person shooter video games, like the recent ad for a game that invites players to, and I quote, 'get in touch with your gun-toting, cold-blooded murdering side." The Federal Trade Commission reported the results of this study before the US Senate on September 13, 2000, which revealed that 70% of the selected violent electronic games target the children under 17.

**Video Games and Media Violence**

The long history of media violence research suggests that children learn attitudes, values, and behavior from television through observational learning (Lowery & DeFleur, 1995). Studies on video games have relied on previous media violence research, assuming similarities between television viewing and video game playing (Dominick, 1984; Funk, 1992; Selnow, 1984). These studies have emerged from two premises posited by prior media violence literature: 1) television violence results in cultivation of fear and convinces viewers that the world is a more violent place than it really is (Gerbner & Gross, 1976; Gerbner, Gross, Morgan, & Signorielli, 1980), and 2) exposure to media violence subsequently causes increases in aggressive behavior (Berkowitz & Rawlings, 1963; Berkowitz & Geen, 1966 ). Regarding these premises, video game research has been based on the assumption that repeated exposure to violent video games may affect the players, particularly children, and increase the likelihood of aggressive responses.

The literature on video games presents a sparse range of studies, most of which have concentrated primarily on the effects of game playing on attitude and behavior. A majority of the studies have incorporated the theoretical models of previous media violence research and applied these models to assess the effects of video games (e.g., Anderson & Ford, 1986; Schutte, Malouff, Post-Garden, & Rodasta, 1988; Silvern & Williamson, 1987). The most frequently applied models are physiological arousal, social learning theory, and aggression catharsis.

<u>Physiological Arousal</u>

This model suggests that when human beings are exposed to an aggressive

situation, their physiological responses increase (e.g., blood pressure, heart rate, hormonal balance, etc.). Because the energy from the physiological arousal and excitation needs to be transferred, it could lead to increased aggression (Watt & Krull, 1977; Zillmann, 1971). Thus, as a function of physiological arousal, a person could act aggressively if engaged in a threatening experience.

Social Learning Theory

Also known as social cognitive theory, social learning theory is based on observational learning and modeling. Observational learning comprises the phases of attention, retention, production, and motivation. According to this theory, children pay more attention while observing, retain the content in their memories, and can reproduce the observed behavior when motivated to do so (Bandura, 1973). Bandura's observational learning of aggression analysis suggests that children are more likely to act aggressively after they observe an aggressive behavior.

Imitation of an observed behavior, which is known as modeling, can be initiated in two ways: by weakening of inhibitions or by reinforcement. As human beings mature, they acquire an inhibition mechanism to control the expression of aggressive behavior. However, when a person is exposed to aggression, the inhibitions may weaken, which may result in a readiness to display aggression (Bandura, 1973). According to Bandura, if the observed model's behavior is perceived as permissible, acceptable, or rewarding, the likelihood of the observer's choosing aggressive responses increases. Likewise, early media violence research demonstrated that when violence is presented in a justified manner, it arouses more aggression than if presented in an unjustifiable manner (Berkowitz & Rawlings, 1963; Berkowitz & Geen, 1966).

<u>Aggression Catharsis</u>

Contrary to the premise that violent media content has negative effects on the viewers, some researchers suggest that exposure to violence can lead to a reduction in subsequent aggressive behavior (e.g., Feshbach & Singer, 1971). This theory is based on the idea that engaging in aggressive behavior releases latent aggressive energy or desires, subsequently reducing aggression.

Previous research on television violence established a correlation between the intense engagement of a viewer and the subsequent aggression when the program content is violent (Lowery & DeFleur, 1995). However, video game research has failed to determine an absolute correlation between video game playing and aggressive behavior. While some studies exhibited a positive correlation between the two (e.g., Irwin & Gross, 1995; Silvern & Williamson, 1987), there are also studies in which violent video games had positive effects on the players due to aggression release during the game play (e.g., Graybill, Kirsch, & Esselman, 1985). Despite the wide range of outcomes, video game research has been inconclusive for both the opponents and proponents of video game playing.

**Communication Perspective**

Television has been the main focus of media violence research. With considerable empirical evidence, media violence research has confirmed the cause and effect relationship between violent media content and aggressive behavior (Lowery & DeFleur, 1995). As stated earlier, the theoretical rationale underlying a causal relationship between video game playing and aggression relies upon the very large

literature on media violence (Dill & Dill, 1998). However, television differs from video games to a great extent. Television viewing does not allow the viewer to engage actively and personally in the scenarios. Unlike television, video games require active player participation to continue. Although McLuhan (1994) viewed television as a cool medium that requires viewer participation, the viewer is not able to modify or control the television content. In contrast with the television viewer, the video game player is able to modify, control, participate in, or respond to the content of the medium. Simply put, video game is an interactive medium, whereas television is not. Therefore, one may suggest that television is a one-way communication medium whereas video game playing involves interaction, participation, mutual responsiveness, and control.

While playing a video game, children need to actively participate in the interaction for the game to proceed as the plot of the game is determined by both the player and the computer (Greenfield, 1984). Furthermore, many video games, particularly the violent ones, have a social theme in which the player is interacting with the designed game setting and characters by means of a fantasy or a human character (Loftus & Loftus, 1983; Silvern & Williamson, 1987). Participant modeling, in which the player is required to control and become the fantasy or human character during the video game playing (Schutte et al., 1988), may enhance the interaction between the medium and the player.

In spite of the variety of studies investigating the cause-effect relationship in video game play, previous video game research has failed to consider the interactive communication process within video game playing. Most scholars have merely contemplated the behavioral effects of video games and applied the strategies from

previous television research. Some scholars have also incorporated psychological models into their work to assess aggressive behavior after playing a video game. During video game play, the required direct participation of the game player may result in more subsequent aggression relative to television viewing due to interactivity which may intensify the impact of game playing (Bowman & Rotter, 1983). Yet, very few studies have attempted to explore the influence of interactivity on the player during video game playing (e.g., Calvert & Tan, 1994; Cooper & Mackie, 1986; Silvern & Williamson, 1987). These studies will be addressed in the following chapter. Although reviewing each and every study conducted so far is not possible, one may still conclude that previous video game research has overlooked the notion of a broad communication approach that would describe the nature of interaction during video game play.

Biocca (1992a) referred to all computer-based interactivity as a form of interaction with other humans, even when none are present. Also, Reardon & Rogers (1988) suggested that interactive media have the capability to talk back to the user, almost like an individual participating in a conversation. Considering that video game playing is a two-way communication process based on interaction, participation, and mutual response, one may argue that not only mass communication but also an interpersonal communication approach can be used to explicate the symbolic relationship between the game and its player. Based on this argument, in this study, I intend to use symbolic interaction theory in examining the interactive communication during video game playing. The individual and environmental factors affecting video game playing will also be explored from a symbolic interactionist standpoint.

**Rationale of Study**

Mass communication is used by individuals to connect (or sometimes to disconnect) themselves with others resulting in different preferences of mass media for different kinds of connections (Katz, Gurevitch, & Haas, 1973). Nordlund (1978) emphasized that humans have a basic need for social interaction which is perceived as a universal human requirement. Interpersonal communication channels are potentially coequal alternatives to mass media channels for the gratification of social and psychological needs (Rubin & Rubin, 1985). Individuals interact with mass media to gratify their social interaction needs (Rosengren & Windahl, 1972) by using the same cognitive processes they have for interpersonal channels.

In his symbolic interactionism, Mead (1972) also argued that humans need to interact with others to fulfill their needs for expression. Through such expression and social interaction, individuals develop their self-concept. Mead's symbolic interactionism is a comprehensive view of social order which conceptually links communication process to social interaction (Altheide, 1985). Since mass media have a significant role in people's lives and their social interaction process, it is misleading to presume that mass communication and interpersonal communication are mutually exclusive fields.

Because video game playing involves interaction, one may argue that video game use may be viewed as a surrogate social interaction alternative by players, particularly by children (Selnow, 1984). On the other hand, children may also perceive video game playing as a means for social interaction (i.e., a source of conversational material, a common activity among peers). Rubin (1984) described this type of selective and

intentional media use as instrumental use. To simplify, video game may be selected either as a an alternative to social interaction or an instrument for interaction with others. Either way, video game use is related with socialization process, and thus, symbolic interaction is pertinent to the examination of player-video game interaction.

According to Mead's (1972) symbolic interactionist approach, game playing is an illustration of children's becoming a member of society. In a game, children initiate their socialization process and development of self-concept by taking the roles of others. Children often create invisible, imaginary companions with whom they have conversations. Mead referred to playing with an imaginary companion as a phase of ordinary play. He pointed out, "Play, in this sense, especially the stage which precedes the organized games, is a play at something. A child plays at being a mother, at being a teacher, at being a policeman; that is, it is taking different roles, as we say" (p. 150). In an organized game, a child is ready to take the roles of everyone else involved in the game. As Mead explained, "the game represents the passage in the life of the child from taking the role of other in play to the organized part that is essential to self-consciousness in the full sense of the term" (p. 154). Therefore, through playing games, children initiate their socialization process, form their own senses of self and learn to be a part of the society. In this sense, the conceptual framework of symbolic interaction can be used to investigate the factors that might affect children and their self-concept during video game playing.

The act of playing video games is similar to playing an organized game, because, unlike television viewers, video game players do not remain as passive recipients of the messages transmitted. They participate in the development and continuation of the

predetermined scenario within the video game, which differentiates video games from

television, or movies. Furthermore, children often take the role of another fantasy or

human character in a video game. Mead (1972) asserted that children's socialization

process begins by taking the role of others in a game. In this way, children learn how to

interact with others, determine their roles in society, and thus, develop their self-concept.

Based on Mead's symbolic interactionism, one may suggest that playing video games

with violent content may produce subsequent aggressive behavior and have a negative

impact on children's self-concept. On the other hand, it is plausible to suggest that the

distinctive two-way communication of video game playing may fulfill the child's need

for social interaction. Children and adolescents may actually perceive the video game as

a kind of surrogate companion and see their interaction with it as social in nature

(Selnow, 1984). While playing a video game, children may either interact with the world

or escape from its reality. Either way, symbolic interaction can be used as the theoretical

grounds to explore the interaction and the two-way communication process during video

game play.

## Purpose of Study

Symbolic interaction embodies the theoretical basis to explicate children's

relationship with video games. In this study, the mediated communication within video

game playing is examined from a symbolic interactionist standpoint. The compatibility

of the fundamentals of symbolic interactionism with media interaction constitutes the

rationale behind this attempt. The following chapters explain these fundamentals and

illustrate their relations to video game interaction. In addition, the pertinence of symbolic

interaction theory to video game playing is used to develop an exploratory communication model applicable to video game interaction.

The main objective of this study is to construct an exploratory communication model that illustrates the communication process during video game play. While this model is based on the core concepts of symbolic interactionism, it also incorporates aspects of previous mass communication models. Referred as the "video game interaction model," this new typology attempts to explain the interactive communication within video game play. Video game interaction model (VGIM) may shift the focus of video game research from cause-effect relationship to understanding the nature of communication during video game playing. Also, the integration of interpersonal communication with mass communication will add a new perspective to video game research. With this new perspective, VGIM may provide the means to understand the dynamics of video game interaction, identify its surrounding factors, and reconcile earlier video game research findings. The contents of video games differ from each other to a great extent (i.e., violence, fantasy, educational, etc.), and there are numerous types of video games in the market today. Therefore, it is not my intention to verify or nullify the negative effects of video games on children. My goal, in this study, is to provide a tool for future video game research in examining the interaction and in understanding the nature of communication during video game play.

CHAPTER II

LITERATURE REVIEW

Most popular video games involve actions that are violent in nature (Dominick, 1984). The increasing popularity of violent video games among children has often forced scholars to study their effects on children and adolescents as well as on adults. Current video game literature focuses primarily on the relationship between aggression and video games. Researchers often attempted to assess the behavioral effects of aggressive video games on the players and sought a positive correlation by using prior psychological, aggression, and media violence research models. A review of the current video game literature shows applications of social learning theory, physiological arousal, and aggression catharsis models, but reveals a lack of a symbolic interactionist approach. Still, these studies have made valuable contributions to the video game issue, and they may also contribute to the formulation of this study.

**Studies on Physiological Arousal and Aggression**

Anderson and Ford (1986) conducted two consecutive experiments to investigate the short-term effects of highly aggressive video games on players' emotional states. In the first experiment, each of 55 undergraduates played video games to determine the violence level of eleven games. Following that, the subjects were assigned to highly aggressive game, mildly aggressive game, and no-game control groups. Their responses

showed that the highly aggressive game leads to the highest level of hostility and anxiety among the three game conditions. While the mildly aggressive game also increased the hostility of the game players relative to the no-game control group, their anxiety level did not change. Their findings were consistent with the physiological arousal model.

Kubey and Larson (1990) compared traditional media (television viewing, reading, and listening to popular music) with new video media (music videos, video games, and videocassettes) with a sample of 9- to 15-year-old children. The authors found that video game playing is associated with significantly higher arousal, attention, and motivation than television viewing. Also, Ballard and Weist (1996) examined the differences in cardiovascular activity and hostility among 30 male undergraduates by using three types of video games: highly violent, fairly violent, and nonviolent. The most violent video game resulted in the highest blood pressure increase relative to the other two games. In addition, post-game hostility levels for all three video games increased linearly with game violence. Based on their findings, the authors concluded that physiological arousal during playing violent video games produces aggressive feelings.

One of the rare empirical studies published to date on the effects of violent virtual reality games was conducted by Calvert and Tan (1994). In their study, the authors compared the impact of playing versus observing a violent virtual reality game on 36 middle-class college students. The subjects were divided into three groups as virtual reality condition, observation condition, and control group. Unlike a video game where both players were seen, the player of the violent virtual reality game was one of the characters who could see only the represented opponent inside a three-dimensional animated world. The authors measured the pulse rates of the subjects in all three groups

both before and after the game. The post-game analysis revealed that both physiological arousal and aggressive thoughts were higher for participants than for observers of the violent virtual reality game, whereas the feelings of hostility remained the same. The authors concluded that physiological arousal and aggression were a function of the virtual reality experience.

## Studies on Social Learning Theory and Aggression

The literature on video games offers a significant amount of research that has investigated the effects of video games on children in terms of observational learning and modeling. Silvern and Williamson (1987) compared young children's aggressive, fantasy, and prosocial behaviors under three conditions: at base line, after playing a violent video game, and after watching a violent cartoon on television. They found that both video game and television violence raised levels of aggression relative to the baseline condition. Children's prosocial behavior also decreased after exposure to television and video game violence. The authors interpreted both measures as an indication of children's disposition to learn aggressive behavior through observation and stated that the findings uphold social learning theory.

Chambers and Ascione (1987) explored the effects of both prosocial and aggressive video games on children's prosocial behavior. They randomly assigned a set of third, fourth, seventh, and eighth grade children to one of the five conditions: playing solo or cooperatively with a prosocial video game, playing solo or competitively with an aggressive video game, and control conditions. Subsequent measurements of donating and helping behaviors evidenced that children under both of the aggressive video game conditions give significantly less money to a donation box than those who play prosocial

games by themselves. While this finding supported the authors' hypothesis that playing aggressive video games suppresses prosocial behavior, playing prosocial video games did not stimulate prosocial behavior contrary to their predictions. Although Chambers and Ascione suggested further research be done, it is crucial to emphasize that their results are consistent with Silvern and Williamson's (1987) findings.

In a study conducted by Irwin and Gross (1995), a group of seven and eight year-old boys played video games with aggressive and nonaggressive themes. Following the video game play, the authors measured the subjects' interpersonal aggression and aggression toward inanimate objects in a free-play setting. The results showed that aggressive video game play produces more verbal and physical aggression towards objects relative to the nonaggressive one. Furthermore, the subjects who played the aggressive video game exhibited significantly more interpersonal aggression during a frustrating situation.

Likewise, Cooper and Mackie (1986) examined the effects of video game aggression on fifth graders under three conditions: aggressive video game, nonaggressive video game, and control group. The subjects were instructed either to play one of the games or observe while someone else played. When the subjects were allowed to play in a free-play setting, the girls' aggressive behavior towards toys increased significantly, whereas that of boys' remained unaffected. The authors also found that playing or observing video games did not affect the boys' or girls' interpersonal aggression. Their findings partially supported social learning theory.

**Studies on Aggression Catharsis**

Graybill, Kirsch, and Esselman (1985) tested a group of second, fourth, and sixth

grade children after they played either a violent video game or a nonviolent one.

Children who played the violent video game exhibited more need-persistent fantasies in

frustrating situations, whereas children under nonviolent game condition showed ego-

defense fantasies. In other words, while subjects under the violent video game condition

became more likely to find solutions in a frustrating situation, subjects who played the

nonviolent video game tended to blame others, deny any wrongdoing, and blame

unavoidable circumstances. The authors suggested that playing violent video games

discharges aggressive impulses in a socially acceptable way and thus, may have only

short-term benefits for children. However, they also noted that the results of this study

should be viewed with caution, because the video game content might be confounded

with game difficulty since participants consider the aggressive video game more difficult.

In a descriptive study, Kestenbaum and Weinstein (1985) argued that heavy video

game use does not result in increased aggression, social withdrawal, escape into fantasy,

or increased neuroticism. The authors hypothesized that heavy video game playing helps

male adolescents discharge their restrained energies, particularly aggressive energies.

For the purpose of this study, a group of male adolescents were classified as high video

game players (playing five or more hours a week), and low video game players. The high

video game players reported that they like to play video games when they are tense or

wound up and feel more relaxed after playing a game. The authors interpreted the

findings as indicating that video game playing has a calming effect on heavy male

players, since playing a video game helps them discharge their aggressive energies.

## Studies Showing Mixed Results or No Aggression

Graybill, Strawniak, Hunter, and O'Leary (1987) used behavioral measures in addition to two self-report measures to assess aggression in children after playing or observing violent video games versus nonviolent video games. During the post-game stage, a group of second- through sixth-grade children from both sexes were instructed to push the help or hurt buttons on a panel which is supposedly connected to a game that another child would be playing in an adjoining room. The results showed no significant differences on the measures of aggression between the nonviolent and violent game conditions. The authors stated that children should be studied over an extended period of time to detect the effects of violent video games.

Nelson and Carlson (1985) measured trait and mood state game players who played a video game from a set of two violent and two nonviolent arcade games. The authors tested a group of male undergraduates both before and after game playing and reported that the mood of subjects after game play became more hostile, aggressive, depressive, and anxious. Also, their fatigue increased and concentration decreased. However, the authors found no differences between the violent and nonviolent post-game results and therefore concluded that none of these effects varied as a function of video game content.

In a study involving eighth graders, Winkel, Novak, and Hopson (1987) assessed the effects of video games varying in aggressive content on post-game aggression. The subjects were randomly assigned to one of the four conditions; highly aggressive, moderately aggressive, nonaggressive video game playing, or no game control condition. The authors used a pretend "teacher/learner" role-play situation as the aggressive

behavior measure. The postgame analysis showed no increase in aggression towards peers in the "teacher/learner" role-play situation after playing aggressive video games. Since the aggression level of the video games had no effect on aggressive behavior, the findings of this study did not support the hypothesis that teenagers might be mimicking the violence in video games.

Scott (1995) exposed 117 university students to one of the three video games: highly aggressive, moderately aggressive, or nonaggressive. Contrary to the predictions, postgame evaluation showed no linear increase in aggression associated with the aggressive content of the video games. Furthermore, both moderately and highly aggressive video games reduced feelings of aggression, whereas nonaggressive video game increased postgame aggression. However, the author stated that the results were inconclusive, due to the individual differences among the players.

**Studies on Video Games' Correlation with Self-Esteem and Self-Concept**

Some authors also investigated the need for playing video games by using measures such as self-esteem, social conformity, solitude, fantasy, action, companionship, and desire to learn more about other people. These authors sought an answer to questions of why children turn to video games and to what extent they are influenced by video game playing. Funk and Buchman (1996) used a group of seventh and eighth graders to investigate the relationship between game preference, game-playing, and self-concept. The authors found significant relationships between game-playing habits and self-concept only for girls and note that girls are usually highly sensitive to gender-based behavioral restrictions. According to Funk and Buchman, there

was no indication that playing video games causes major adjustment problem for children.

Fling et al. (1992) surveyed 153 adolescents to investigate the relationships between aggression, self-esteem, and the amount of both home and arcade video game play. The survey results supported Fling et al.'s three hypotheses: boys play video games more than girls, boys are more aggressive than girls, and amount of game play correlates positively with aggression. However, the authors found no evidence to ascertain any correlation between the amount of game play and self-esteem. Their findings were also inconclusive in proving a negative correlation between self-esteem and aggression.

According to the questionnaire data collected from 244 teenagers by Selnow (1984), teenagers play video games for several reasons: they consider games as more exciting and fun than human companions; they seek solitude or companionship; video games teach about other people; and video games provide players with an opportunity for direct personal involvement and participation in the action. Although the questionnaire was conducted among arcade patrons who generally played arcade games for social interaction, 74% of the respondents stated that they preferred playing video games alone. Therefore, the author concluded that teenagers may feel a real sense of companionship with the video games and develop a perception that these games fill a variety of roles observed in human relationships.

## Other Studies on the Possible Effects of Video Games

Braun and Giroux (1989) conducted a study to determine the psychological complexity and reinforcement characteristics of arcade games. The authors sampled 18

of Montreal's largest urban video arcades, picked 21 most popular arcade video games, and observed a selected group of young arcade patrons. They found that a typical popular video game requires several perceptual, cognitive, and motor skills. The authors reported that while playing an arcade game, the video game player is expected to constantly and simultaneously process multimodal perceptual information and respond to it with coordinated motor sequences on the bases of cognitive modeling, executive planning, and evaluation of ongoing feedback. The authors also noted that 60% of the arcade clients preferred video arcades for solitary recreation.

Mehrabian and Wixen (1986) evaluated the emotional reactions of 58 undergraduates to a set of 22 popular arcade games. Instead of playing the games, the subjects rated these games according to their past play experience on scales of pleasure, arousal, and dominance. The ratings showed that most games were evaluated as highly unpleasant, moderately arousing, and moderately dominance-inducing. Based on these data, the authors concluded that the predominant emotional response to video games is aggression, anger, or hostility. In a subsequent study, Mehrabian and Wixen tried to determine the relationship between emotional reactions to arcade games and game preferences with a group of young arcade patrons. After playing two different arcade games, the participants rated their emotional reactions and game preferences. The data showed that the games that generated more pleasure, more arousal, and more dominance (for males only) were preferred.

Lin and Lepper (1987) surveyed 234 fourth- to sixth graders to examine the potential negative effects of frequent home and arcade video game usage. The authors also obtained ratings on the students' academic achievement, personality characteristics,

and behavior patterns from their teachers. According to the results, arcade video game usage showed significant positive correlations with the ratings of impulsiveness and aggressiveness for boys, whereas for girls, the correlations between these variables were marginally significant. In addition, video game usage demonstrated significant negative correlations with academic achievement ratings. The authors found no indication of a significant relationship between video game usage and sociability.

With a group of 30 male and 30 female undergraduates, Anderson and Morrow (1995) assessed the effects of competitive versus cooperative instructions on the aggressiveness of behavior in a novel video game task. In pairs, participants played the video game under either a competitive or a cooperative set of instructions, while their game performance was being taped. The results showed that both male and female subjects in the competitive condition killed 60% more creatures they encountered in the video game than those in the cooperative condition. The authors concluded that putting people in a competitive frame of mind increases their aggressive tendencies even when the aggression is not directed at the competitor.

Ballard and Lineberger (1999) examined the impact of video game violence and gender of competitor on reward and punishment behavior. In their study, 119 male college students played either a nonviolent or one of three levels of an increasingly violent video game against either a male or female competitor. After the game play, the participants engaged in a memory task in which rewards and punishment were administered. The authors reported that subjects who played the video game with the highest violence level punished competitors significantly more than those who played the nonviolent video game. The findings of the study also indicated that subjects under the

nonviolent game condition rewarded male, but not female, competitors significantly more than those under any of the violent game conditions.

With two consecutive studies, Anderson and Dill (2000) examined violent video game effects on aggression-related variables. The first study involved 227 undergraduates who respond to questionnaires concerning aggression, irritability, delinquency, video game usage, and game preference. According to their responses, real-life violent video game play was positively related to aggressive behavior and delinquency, whereas academic achievement was negatively related to overall amount of time spent playing video games. Within the second study, 210 undergraduates played either a violent or a nonviolent video game. The authors found that exposure to a graphically violent video game increased aggressive thoughts and behavior. In both studies, males had a more hostile view of the world than females.

Despite the variety of studies, one can not draw firm conclusions from previous research, not only because the empirical evidence is limited but also because there are methodological problems and inconsistencies within the prior studies conducted. There are also many different types of video games that may have different effects on the player. Furthermore, the psychological and social factors shaping children's interpretation process during exposure to video games have been overlooked. Video game playing simultaneously involves all these components in question, which together produce the post-exposure effects of video games on children. Therefore, the attempts to ascertain any correlation between playing video games and children's behavioral changes have been inconclusive.

Moreover, the literature review reveals that almost all the studies have

disregarded the interactive nature of communication in video game playing. Although most studies have followed preceding media violence research, they have not addressed video game playing as an interactive communication. Past research has merely studied the effects of video games by using a cause-effect linear model. However, video game interaction is a complicated activity in which various psychological, sociological, and communication variables are involved. To conclude briefly, this study does not focus on the video game content, nor does it seek an answer to the question of whether video games have negative impacts on children. The main goal of this study is to examine the interactive communication in video game playing and develop a model that illustrates the elements within the video game interaction. Still, previous studies are pertinent to the theme of this study and may provide insights for video game interaction. The following chapter of this study will focus on the interaction in video game playing and its connection to the symbolic interaction theory.

CHAPTER III

SYMBOLIC INTERACTION THEORY

George Herbert Mead is regarded as the major authority on symbolic

interactionism. With his symbolic interactionist approach, Mead interconnected mind,

self, and society. According to Mead (1972), society evolves through social interactions

of human beings during which they assign meanings to each other's actions by using

symbols. Social interaction is accomplished through communication of symbols, and

thus, meanings arise from social interaction within this communication process. Mead

described meaning as the relationship between a given stimulus by an individual and the

subsequent behavior of the receiving individual, provided that the stimulus instigates the

same behavior by others (1972, p. 76). Therefore, human beings understand each other's

behavior by assigning meaning to experiences and interactions with others.

Based on Mead's (1972) symbolic interactionism, mind emerges from and

develops within social interaction (p. 133). He referred to thinking as an internal

conversation within one's self, which is a reflection of one's interaction with others.

During their thinking process, individuals see themselves from the eyes of the others and

become objects to themselves. Mead's notion of "taking the role of other" is a way of

seeing one's self as others see it and behaving accordingly. The term "generalized other"

was used by Mead to describe the perception of an individual's own self as the way

others see that individual. The continuous process of responding to others and responding to self generates "self-concept." An individual forms his or her own self-concept through social interaction by means of taking the role of others within his or her own mind.

Mead (1964) retained the idea that the human being is an active agent rather than a passive recipient of external stimuli. Introspection provides an individual with the capability to assign meaning to a stimulus sent by another. However, identical stimuli may have different meanings to different human beings or to the same human being in different situations (Mead, 1964, p.xxi). According to Mead, human perception is an exceedingly complicated activity, in which stimuli are responded to selectively during the course of acts and are interpreted symbolically and with reference to self (Mead, 1964, p.xxi). Mead's notion of selective perception makes meaning the core element of social interaction. Consequently, human life is founded on the act of giving meanings to symbols through human interaction and their interpretation by the individuals.

Following Mead, Blumer (1969) also focused on meaning and proposed three new premises: 1) human beings act toward things on the basis of the meanings that the things have for them, 2) the meaning of such things is derived from, or arises out of, the social interaction that one has with one's fellows, and 3) these meanings are handled in and modified through an interpretative process used by the person in dealing with the things he encounters (p. 2). While the meanings of things arise from social interaction, Blumer claimed that the use of these meanings by individuals in their actions involves a process of interpretation. According to Blumer (1969), for the interpretative process to occur the individual has to determine the things toward which he is acting by communicating with

himself. As a result of this internal conversation, the individual starts handling the meanings by selecting, checking, suspending, regrouping and transforming them in the direction of his action (p. 5). Consequently, by selecting, interpreting, and assigning meanings through social interaction, human beings act upon external stimuli rather than merely reacting to their environment. Simply stated, human beings are active rather than passive recipients of external stimuli (Mead, 1964).

## Symbolic Interaction Theory and Mass Media Interface

The theoretical perspective of symbolic interaction embodies the entire communication process from message formulation to message reception (Altheide, 1985). Mead (1972) claimed that individuals constitute society through social interaction by assigning meanings to each other's actions with symbols (language). Introspection provides an individual with the capability to assign meaning to a stimulus from another person. The essence of human life is the meanings given to symbols through human interaction and their interpretation by the individuals. Blumer (1969) described human social life as a dual process of indicating to others how to act and interpreting the indications made by others (p. 10). During this mutual response process, individuals comprehend what is real and what is not and, thus, they construct reality.

While symbolic and meaningful communication occurs within the individual in the form of defining, recognizing, and affirming one's self, it also goes on between the individual and others (Altheide, 1985). As Altheide pointed out, "It is in the sharing of meaning and use of certain symbols, and conveying these through a myriad of situationally specific media of communication –voice, body, clothing, facework, print,

electronic, etc.– that one actor may provide symbolic material for another to select, define, recognize, interpret and, ultimately, understand" (p. 74). The sharing of symbolic communication between two or more individuals indicates that communication, social interaction, and mass communication are all theoretically interrelated. More specifically, interpersonal communication coexists with mass communication, and therefore, symbolic interaction is compatible with mass media.

Blumer (1969) viewed the individual as the actor who selects, suspends, and transforms the meanings through a process of interpretation. His notion of "interpretation process" is reflected on his critiques of the studies on mass media effects. While criticizing the efforts to determine a stable relationship between people, medium, and medium effect, Blumer (1969) asserted that media effects can not be measured or quantified by isolating a sample of the population and eliminating other possible influences on the population. To avoid drawing false generalizations from such studies on media effects, Blumer suggested that the variability of media content, the variability in the responsiveness of people, and the interdependency of all forms of media must be taken into account (p.184). Since the meanings assigned by individuals vary depending on their distinct interpretation processes, one may assume that a mass medium may have different effects on its spectators due to individual interpretations. Receivers of mass media messages are the active interpreters of the messages. On that account, McLeod and Reeves (1980) suggested that one-way communication model of mass media effects has failed to describe accurately the complex process of mass media communication. With these arguments in mind, it is plausible to conclude that interpersonal communication plays an important role in understanding the effects of mass media.

The theories of interpersonal communication and mass communication cannot be distanced from each other, since it is not possible to understand the entire communication process by focusing merely on one of the two subdisciplines (Reardon & Rogers, 1988). The communication discipline, as a whole, seeks to explain human behavior under several contexts, ranging from intrapersonal to interpersonal, through group and organizational, to public and mass communication (Rubin, 1991). Among these contexts, mass communication focuses on symbolic human interaction. Therefore, the theoretical framework of symbolic interaction theory is congruent with mass communication and can be applied to mass media to understand more completely the symbolic relationship between the medium and its spectator.

## Definition of Interactive Electronic Media

The transition from traditional electronic mass media such as radio, television, and movies to interactive electronic media has become one of the most appealing topics within the communication discipline recently. While some researchers continue to investigate the effects of new communication media on users, the tools used to explain the communication process through interactive technologies remain questionable. The new interactive communication technologies cannot be easily categorized as either interpersonal or mass media channels, because they possess certain characteristics of both (Reardon & Rogers, 1988). Scholars have long debated the definition of interactivity and the relevant communication theories that should be employed to examine interactive media. Despite this ongoing discussion, the definition of interactivity and the relevant theories for communication via interactive electronic media remain ambiguous.

<u>Interactivity</u>

All of the new communication systems have a computer element, which provides

them with their most distinctive characteristic (Reardon & Rogers, 1988, p. 297). The

computer component enables the medium to act upon and respond to the stimuli sent by

the user, which makes the medium interactive. Reardon and Rogers described

interactivity as the capability of new communication media to talk back to the user,

almost like an individual participating in a conversation (1988, p. 297). Likewise, Biocca

(1992a) referred to computer interactivity as a means of human-to-human

communication. According to Rockwell (1993) interactivity is the extent to which a user

may affect the order of information presented by a medium. Steuer (1992) regarded

interactivity as the degree to which users of a medium can participate in modifying the

form or content of the mediated environment in real time (p. 84). However defined,

interactivity created an ambiguous boundary between humans and interactive

"intelligent" media (Turing, 1950).

## Classification of Interactive Electronic Media

The variety of interactivity definitions and the rapid development of new

communication technologies have raised the question of how to classify interactive

electronic media. Communication scholars not only have attempted to investigate the

interactivity dimension of new media but have also reconsidered the range of previous

media (Biocca, 1992a). Some scholars identified the factors that contribute to

interactivity (e.g., Arnold, 1996; Biocca, 1992a; Steuer, 1992). Various disciplines other

than communication, such as engineering and business, have attempted to define

interactive media (Arnold, 1996), but the rapid development of communication technology and the variety of new electronic media forms have made it complicated to attain a conclusive interactive media classification. Nevertheless, distinct characteristics set interactive media apart from others and provide the means for the classification of interactive media. For the purpose of this thesis, two essential dimensions of interactive media will be examined--control and reciprocity.

Control

The extent that users have control over media form or content indicates interactivity. While using an interactive medium, spectators or audiences are actively involved. However, being active, in this sense, is different from the concept of "active audience" postulated by uses and gratifications theory. Uses and gratifications theory defines the audience's activeness as a goal-directed and need-oriented selection of mass media use (Katz, Blumler, & Gurevitch, 1974), whereas in interactivity, activeness is considered as a stimulus-driven dimension. During an interactive media use process, the spectator can actively shape the output, content, or form of the medium by his or her own input in maintaining control. Therefore, during interactive media use, the spectator has ultimate control in shaping or modifying the response of the medium.

Reciprocity

The mutual responsiveness during interactive media use enables the spectator to act upon and respond to the output by the medium. While using an interactive medium, the spectator actively participates in the formation of the output. Reciprocity is the ability of an interactive medium to react or respond to the external stimuli sent by the spectator and vice versa. For instance, a computer user sends signals or symbols to the

computer and acts upon the output he or she receives from it. Hence, reciprocity maintains the interaction between the spectator and the medium. Overall, through the characteristics of control and reciprocity simple mediated communication is transformed into a two-way communication process with interactive media. Given the dimensions of control and reciprocity, one may presume that interactive media range from computers and video games to the Internet and virtual reality.

**The Link between Symbolic Interaction Theory and Video Games**

Video games are interactive in nature, since the communication process requires the player's active participation and control to continue. During video game play, reciprocity enables the player to act upon or react to the response given by the game and vice versa. Although video games are considered interactive media, the current video game literature manifests a wide range of studies that converge on merely cause-effect relationships within video game play. Like other interactive media, video games involve a two-way communication process that cannot be explained by the linear model of mass media effects. Because of the interactivity, the mediated communication within video game playing strongly resembles interpersonal communication. Therefore, existing concepts of interpersonal communication, associated with those of mass communication, can effectively explicate the interactive mediated communication in video game playing. In this study, symbolic interaction theory is used as a theoretical basis to examine the two-way communication process during video game play. Before applying symbolic interaction theory to video game playing, it is essential to have a closer look at the basic

assumptions elicited from symbolic interactionism and their relations to the interactive communication process within video game play.

Need for Interaction

Based on symbolic interactionism, society and human beings emerge from social interaction, and all the meanings of objects, things, and concepts that surround humankind arise from human interaction (Mead, 1972). Hence, it is plausible to speculate that human beings need to interact with others. As Nordlund (1978) put it "It is assumed that man has a basic need for social interaction with other human beings. This need for interaction is thus perceived as a universal human requirement" (p. 153). While the ideal way to fulfill this need is to interact socially with other people, there are also other ways, such as mass media, through which individuals can channel their motives for interaction. Rubin and Rubin (1985) viewed human interaction and mass media use as the coequal communication alternatives that satisfy similar social and psychological needs. As communication media become interactive, individuals may further perceive them as an alternate to social interaction.

Rapidly advancing video game technology provides children with various game alternatives that involve greater interactivity and control. One of the reasons why children show greater tendency for playing with video games may be to fulfill their needs for interaction. Based on the results of his study, Selnow (1984) proposed that video game players may actually perceive the game as a kind of surrogate companion and thus see their interactions with the game as social in nature (p. 155). Also, Nordlund's (1978) media interaction model suggested that interaction with people in the mass media world may be a way to replace social interaction. To take this argument one step further, it is

plausible to suggest that highly sophisticated video game graphics and software may enhance the children's interaction with vivid fantasy characters created in game scenarios and motivate them to spend more time with game playing than with their friends or families.

<u>Interpretation</u>

Paraphrasing Mead's analysis of the basis of symbolic interaction, Blumer (1969) asserted ". . . individual action is a construction and not a release, being built up by the individual through noting and interpreting features of the situations in which he acts . . ." (p. 82). Human beings have selves and they act by making indications to themselves, which originate from their psychological conditions (p. 83). The "self" is associated with organic drives, motives, attitudes, feelings, internalized social factors, or psychological components (p. 83). Hence, individuals act based on their needs, motives, feelings, and their internal social and psychological structures. Blumer's (1969) critique on the efforts to measure mass media effects emphasizes the notion of "self." He argued that the linear model of media effects research does not function accurately because the variability in the responsiveness of audience is ignored. The extent to which mass media have an impact on the audience depends on the needs, feelings, social, and psychological state of the audience. The perception of mass media messages varies due to the interpretations of the audience, and audience is the actor who selects, defines, and interprets the media messages. Likewise, uses and gratifications proponents have also referred to audiences as active agents who select, define, and interpret mass media channels and content based on their own needs. Uses and gratifications theory has defined mass media use as a goal-directed process in which media audiences are active, because their media choices are

based on their own need gratifications (Katz, Blumler, & Gurevitch, 1974). The distinction between uses and gratifications approach and symbolic interactionism will be addressed in the following chapter.

The act of video game playing is accomplished by the active participation of the game player and the mediated messages or symbols that maintain the reciprocity during the interplay. The messages and symbols in a video game software may have different meanings to the players due to their interpretation process. For instance, in the case of violent video games, the graphics, symbols, and messages used in the game do not really aim for a behavior change in children who play with them. However, the encoded meaning does not necessarily correspond to the meaning decoded by the media spectator (McQuail, 1994, pp. 33-60). Therefore, during a video game play, the same messages may have different meanings to different players. Although not all studies show a positive correlation between violent video games and aggressive behavior, it has been argued that children who play with violent video games are more likely to behave aggressively compared to when playing with nonviolent games. Because efforts to ascertain a positive correlation between violent games and aggression have been inconclusive, it is plausible to suggest that children's responses may vary depending on their perception and interpretation of messages.

Construction of Reality

The general premise of symbolic interaction is that human beings act on the basis of meanings derived through an interpretation process during social interaction and experience with others (Blumer, 1969). In this sense, it is often suggested that reality is socially constructed (Altheide, 1985). The concept of social reality does not nullify the

existence of physical reality. Mead (1972) referred to physical reality as the physical objects around human beings that can be identified by sensory channels. Mead noted, "The actual enjoyments may take on forms which represent an experience that is accessible only to separate individuals, but what the hand handles is something that is universal" (p. 185). Unlike physical reality, social reality implies the extent that representations provide information as a function of an individual's perception (Shapiro & McDonald, 1992). In this sense, mediated messages and representations may influence the construction of social reality based on the perceptions of the spectators.

In video games, the symbols and representations not only maintain the continuance of interplay but also convey social messages that may be received, interpreted, and stored by the player. For instance, in violent video games, the fighting, killing, and destruction may foster subsequent aggressive behavior in children who play with these games (Cooper & Mackie, 1986). Also, previous media violence research suggests that exposure to violent media content may lead to the formation of a distorted world view, and accordingly, children may perceive the world as a dangerous place where violence appears more prevalent than it actually is (Gerbner & Gross, 1976). The experiences gained from fictional or mediated events may be judged as if they are real and integrated into social reality judgments (Shapiro & McDonald, 1992). However, children have limited reality judgments due to knowledge deficits and immature information processing strategies (Shapiro & McDonald, 1992). Therefore, one may suggest that video games may have greater impact on children's perceived reality than that of adults.

Based on the concepts discussed, this study examines the mediated communication during video game play from a symbolic interactionist standpoint. After reviewing previous mass communication models, the following chapter focuses on the development of an exploratory communication model for video game playing. To construct such a model, an examination of both the theoretical and applied mediated communication models of previous mass media research is briefly presented. Relying on prior communication models, the following chapter introduces an exploratory model, named "video game interaction model," to illustrate the interactive communication process in video game playing.

# CHAPTER IV

## VIDEO GAME INTERACTION MODEL

Earlier video game research has primarily focused on the cause-effect relationship between video game use and post-exposure effects. Researchers have striven either to ascertain a correlation between video game content and attitude change in players, or to identify the relationship between game players' self-esteem and amount of video game consumption. Although video game playing is a multidimensional activity, the variables coexistent in this activity have been overlooked. Past researchers seem to have dismissed the possibility that players are simultaneously affected by their psychological states, social structures, motives, needs, and the sociological factors, as well as by the video game content. For that reason, it has been difficult for past researchers to ascertain any correlation between playing video games and children's behavioral changes. To understand video game interaction thoroughly, the tradition of viewing video game playing as a cause-effect relationship needs to be abandoned.

The review of current video game literature shows s lack of an interactive communication approach in examining video game play, which entails the development of a new typology for video game interaction. In this study, my intention is to fill this

gap with an interactive communication model that involves all the variables coexistent during video game interaction. I do not seek an answer to the question of video games' possible negative impact on children, but rather attempt to provide a basis for investigating the sources of video game effects. To achieve this goal, this chapter introduces an exploratory communication model applicable to video game interaction. The basic components of the model are derived from symbolic interaction theory and previous mass media models, particularly those utilizing the uses and gratifications approach. As the new model merges all the phases of interaction with a video game, it is called *video game interaction model (VGIM)*. This model illustrates the major factors that contribute to video game interaction and may enhance future research on video game play.

## Review of Previous Mass Media Models

The essence of this study is focused on the assumption that video game playing is an interactive communication process. As discussed earlier, interactive media have been a new concept in the communication discipline. Therefore, it has been a common practice to employ earlier mass communication models and theories in explaining interactive media use. Past research on media use offers a wide range of theoretical and applied models on mediated communication. Particularly, uses and gratifications research presents the most pertinent models to this study, because these models have often emerged from the notion of human need for interaction, the core concept of symbolic interaction theory. In this sense, these models are compatible with symbolic interaction conceptually, specifically with the concepts of social interaction need,

interpretation, and reality construction. To conceive the pertinence of these models to symbolic interaction and video game interaction, it is imperative to have a closer look at both uses and gratifications theory and at some of the succeeding models that are most relevant to this thesis.

Uses and Gratifications Theory

Uses and gratifications approach has sought to replace the concept of "passive audience" with "active audience": a person who actively selects media content according to his or her needs. The proponents of this theory postulated that media audience is active, and media use is a goal directed process based on the audience's needs (Katz, Blumler, and Gurevitch, 1974). As these authors noted, the premise that media use is associated with need gratifications of media audience challenged the linear model of media effects on attitudes and behaviors. Uses and gratifications theory urged researchers to understand the audience involvement in media use rather than focusing merely on media effects.

Subsequent research has generated various studies, models, and typologies that adopt uses and gratifications perspective. Among these, the following four models are selected to be used as the foundation of VGIM due to their pertinence to interactive communication. Although most of these models primarily focus on the individual needs and motives for mass media use, they also illustrate various individual and environmental factors that take place in a mediated communication. Depending on their relevance, some of these factors will be applied to player-video game interaction. Based on empirical evidence, these models need to be reviewed briefly before describing the development of VGIM.

<u>Typology of Media-Person Interactions</u>

Early uses and gratifications research viewed media or media content

dichotomously as 'fantasist-escapist' or 'informational-educational' and categorized mass

media use as either 'surveillance' or 'escape' in terms of audience gratifications (Katz,

Blumler, & Gurevitch, 1974).  McQuail, Blumler, and Brown (1972) argued that

surveillance and escape are not the only formulations of needs served by mass media.

They drew the attention to several other need-oriented formulations that are involved in

mass media use and put forward the typology of "media-person interactions" supported

by empirical evidence.  In explaining the origin of their typology, McQuail et al. pointed

out:

> The audience member temporarily occupies a particular position in relation to
>
> what he is viewing, a position affected by a large number of factors, including
>
> those deriving from his personality, social background, experience, immediate
>
> social context, and, of course, from the content itself.  He brings certain
>
> expectations and responds in line with these, and he derives certain affective,
>
> cognitive and instrumental satisfactions. (pp. 154-155)

The typology of media-person interactions reflects the need-oriented media

functions based on the perceptions and need gratifications of the audience member.  The

categories of the typology are as follows:

1.Diversion

   a)  escape from the constraints of routine

   b)  escape from the burdens of problems

   c)  emotional release

2. Personal Relationships

a) companionship

b) social utility

3. Personal Identity

a) personal reference

b) reality exploration

c) value reinforcement

4. Surveillance

1. *Diversion* signifies the type of gratification by which the audiences can temporarily enter into a fantasy world, where they can escape from the boredom of their daily lives and forget their problems. Also, through media interaction, audiences get an opportunity to relieve their feelings (i.e., sorrow, stress, etc.). Emotional release indicates that audiences do not use mass media only as an escape into a more desirable world or to escape from the reality of life, and therefore, distinguishes "diversion" from the concept of "escape."

2. *Personal relationships* refer to the relations that the audience has either with real-life people or media personalities. McQuail et al. (1972) suggested that the audience member perceives his or her relationship with media personalities as a vicarious friendship and treats them as companions. Their premise originated from the theory of para-social interaction which was initially introduced by Horton and Wohl (1956). Para-social interaction will be addressed later in this chapter. In addition to companionship, audiences may use media for social utility, which represents an instrumental use for social interaction. Media use may serve a as a source of conversational material or a

common activity in social groups, or may help the audience member meet the membership requirements of his or her peer groups.

      3. *Personal identity* category incorporates the ways that audiences use media to discern or reflect upon something important in their personal lives. Personal reference indicates that media use helps audiences to identify the features that are similar to those of their own lives, situations, or characters. This supposition is consistent with the perspective of symbolic interactionism, according to which the notion of one's self (so-called self-concept) is formed by looking at oneself through the eyes of others (p. 159). Therefore, not only interpersonal communication but also mass communication can help individuals to form or review the impressions of themselves (p. 159). When the content of a medium stimulates ideas for the audiences to resolve their personal problems, audiences satisfy their needs for reality exploration. Value reinforcement indicates the approval or support that audiences receive from the media content for the values they already believe in. Also, audiences become familiar with public affairs and become knowledgeable about issues outside their personal lives through certain types of media content.

      4. *Surveillance* represents the need to get information through mass media. Surveillance differs from the category of reality exploration, because it is directed more towards having information and opinions about events in the wider world of public affairs rather than towards stimuli for reflecting upon a set of more immediately experienced personal problems (p. 161).

Typology of Mass Media Consumption as a Functional Alternative

Rosengren and Windahl (1972) criticized mass media research for using raw demographic variables as independent variables, and simply the amount of media consumption as a dependent variable. Instead, they proposed that various sociological, social, and psychological variables should be considered as independent or intervening variables, while the dependent variable, mass media consumption, should be qualitatively differentiated into various types of consumption. Hence, they postulated a typology that interrelates the audience's needs, possibilities to fulfill these needs, and the individual itself.

With their typology, Rosengren and Windahl (1972) suggested that a person's reliance upon a mass medium for need fulfillment depends on that person's individual and environmental possibilities for need satisfaction. As the perceived number of need satisfying alternatives decreases, the person is more likely to become dependent on a mass medium for the fulfillment of basic needs. As dependency on a medium or its contents increases, the likelihood of its effects may also increase. The typology identifies media dependence in relation to the degree of need satisfying alternatives. According to Rosengren and Windahl, individuals may use mass media as a *supplement*, a *complement*, or a *substitute* for their need gratification alternatives. Accordingly, the same mass medium may be used either a supplement, a complement, or a substitute alternative to actual social interaction depending on the individual's circumstances. The authors also determined the motives for seeking need gratification alternatives which include *change*, *compensation, escape*, and *vicarious experience*. Depending on their individual and environmental possibilities, people may use mass media to seek a change in their lives, to

compensate the lack of social life, to escape from their problems, and to have a vicarious experience as a substitute for human interaction.

Rosengren and Windahl (1972) also examined the relations between the audience and mass media personalities. They explained these relations with two concepts: *interaction* and *identification*. While interaction signifies mutual stimulation and response, identification is defined as the act of imagining oneself to be in the place of another person (p. 172). As the audience's interaction and identification with media personalities increase, their degree of involvement also increases, which correlates linearly with *detachment, para-social interaction, solitary identification,* and *capture.* Detachment occurs when the audience neither interacts nor identifies with any of the actors of the medium he or she is attending to, whereas capture represents a high degree of interaction and identification with one or more actors. Para-social interaction denotes the interaction with a media personality as if he or she were present. When the audience identifies with the media personality without interaction, the relationship is called solitary identification. This type of involvement is rare, but it may happen especially in the case of a one-man-show, or if the media personality is very dominating (p. 173).

Lastly, Rosengren and Windahl (1972) explained the *degree of reality proximity of media content* depending on whether the content is fictional or informational. The degree of reality increases when the media content involves news, educational issues, or instructional material. If the media content involves entertainment, music, drama, novels, etc., the degree of reality will decrease. Within their typology, the authors postulated that the audience's degree of dependence and degree of involvement are negatively correlated with the degree of reality that the media content offers (p. 175). More specifically, if the

reality proximity of the media content is low (e.g., entertainment), the audience is more likely to become dependent on the media, or identify with the media personalities.

Media Interaction Model

In the media interaction model, Nordlund (1978) focused on four main concepts: audience involvement in mass media (so-called media interaction); origins of media interaction; the relation of media interaction to media exposure and content preferences; and consequences of media interaction. The model is founded on the assumption that human beings have a basic need for social interaction with others. Nordlund suggested that if individuals fail to fulfill their need for social interaction, they will search for alternative ways of need fulfillment (p. 153). Mass media may serve as an option for human beings to replace social interaction with some other form of interaction with people in the mass media world. The ways people seek to fulfill their need for social interaction depends on their relevant social and psychological structures, and the interplay between them (p. 153).

Nordlund's (1978) model of media interaction represents a set of possible relationships among four types of variables: a) social/psychological structures that affect need fulfillment possibilities, b) mass media exposure; c) media relations especially including media interaction; and d) consequences of media interaction. Briefly, the basic need for social interaction motivates individuals' socialization process which takes place in a context of co-functioning social and psychological structures. Unfulfillment of social interaction need generates other need gratification alternatives, such as mass media exposure. Therefore, when individuals do not fulfill their need for social interaction to a reasonable extent, they gratify themselves through media interaction, which yields to

various consequences. Nordlund suggested that the relations occurring between media and spectators during media interaction can partly explain these consequences.

To examine the relation of media behavior and content preferences with social and psychological structures, Nordlund (1978) tested multiple variables such as neuroticism, leisure activity, and social interaction. The results showed positive associations between neuroticism and media interaction, as predicted. Also, the variety of leisure activity and social interaction correlated negatively with media interaction, as anticipated. Therefore, the supposition that neurotic disposition, limited opportunities for social interaction, and limited leisure activity lead to a greater usage of mass media was supported. Overall, the empirical results confirmed the covariations postulated by the media interaction model. However, the psychological and social variables proved to be better predictors of media consumption experience (media interaction) than of media exposure and content preferences. Nordlund speculated that the amount of media exposure may depend on availability, habit, and social norms rather than on factors related to real-life social interaction.

### Outlined Paradigm for Uses and Gratifications Research

Rosengren (1974) outlined a basic paradigm for uses and gratifications research. Briefly, Rosengren postulated that individuals have biological and psychological needs that interact with individual, environmental, and societal characteristics. This interaction generates both perceived problems and perceived solutions to these problems. Based on the intensity of these problems and solutions, the individual constitutes different motives for attempts at problem-solving or gratification-seeking behavior. These motives result in different patterns of media consumption and other behavior that produce various

gratifications or nongratifications. The gratification and nongratifications affect both individual and environmental characteristics. Being influenced, the individual also affects the structure of the society, which may include political, social, cultural, economic structures, and the media structure.

## Uses and Gratifications Models and Symbolic Interactionism Interface

The models presented in this chapter are based on empirical evidence, which confirms their suitability in explaining audience's interaction with mass media. Although these models involve different variables to describe media interaction, they all share a common concept: human's need for interaction. The central premise behind these models is that individuals use mass media to fulfill their needs for social interaction. The availability of need gratifications determines the audience's amount of media consumption, selection of media content, and degree of involvement with mass media. The need for human interaction constitutes the essence of symbolic interactionism. Furthermore, both uses and gratification theory and the succeeding models have viewed the audience as an active individual, a notion proposed by symbolic interactionism. Altheide (1985) addressed this common ground and suggested that symbolic interaction theory completes uses and gratifications research in explaining mass media use:

> it posits an active actor who defines, selects, and interprets media channels and content, rather than merely being passively acted upon. It is this point of departure which affords a theoretically appropriate possibility for integrating uses and gratifications within a more comprehensive interactionist view. (p. 75)

On the other hand, one may argue that uses and gratifications approach might be as equally pertinent to explicating video game interaction as symbolic interactionism due to the commonalties between the two. Since the models of uses and gratifications research involve the essential elements to examine the video game interaction, one may question the preference for the application of symbolic interaction theory in this study. To clarify this skepticism, two key concepts of symbolic interactionism, interpretation and reality construction, that are not included in uses and gratifications theory need to be emphasized.

Uses and gratifications research defined 'active audience' as a person who actively selects, defines, and interprets mass media channels or content based on his or her need gratifications. With the concepts of 'active audience' uses and gratifications approach challenged the traditional cause-effect model of the media effects research (Katz, Blumler, & Gurevitch, 1974). However, some researchers have criticized this approach for being too individualistic. Elliott (1974) argued that uses and gratifications theory assumes mass communication as an intra-individual process in isolation from other social processes. Elliott elaborated his argument as:

> The uses and gratifications approach is basically mentalistic, relying as it does on intervening mental states and processes. . . . The approach is individualistic in the sense that it deals with intra-individual processes. These can then be generalized to aggregates of individuals, but they cannot be converted in any meaningful way into social structure and process. It is empiricist. The existence of the intervening states and processes appears to be proved by the methods used, but they may also be an artifact of these methods. (p. 252)

Also, McGuire (1974) questioned the notion that audience motivation and gratification

determine media consumption. He made the following arguments:

> media exposure is not so much a deliberate process stemming from inner drives as
>
> rather haphazard, an outcome of chance and external circumstances. . . . the
>
> gratifications offered by the media are so paltry compared to the audience's real
>
> needs that the motivational factor could hardly loom large in determining
>
> exposure. . . . even where media gratifications are available, we would exaggerate
>
> the rationality of the audience and the indexing of the media to suppose that these
>
> gratifications could be efficiently found. (p. 168)

With these arguments in mind, one may need to reevaluate the definition of

'active audience' postulated by uses and gratifications approach. Levy and Windahl

(1984) argued that audience activity is not a constant, but a multidimensional variable.

The authors developed a model that linked the qualitative orientations of audiences

towards communication process to the temporal dimension of communication sequence.

Simply, the model indicated that the audience's cognitive, affective, and behavioral

involvement across different temporal phases of the media use process are linked to his or

her gratifications sought and obtained. Their model showed that mass media audiences

are not only active because they select media channels and content depending on their

need gratifications but also because they act within a sociological context as well.

Therefore, one may argue that audience activeness can be explained by using a

behavioristic theory such as symbolic interactionism.

Derived from symbolic interactionism, the concepts of interpretation and reality

construction represent the audience's cognitive processing, affective involvement, and

behavioral response in all phases of media use process within a sociological context. Audiences act based on their need gratifications, select mass media to gratify their needs, interpret mass media messages, and act upon their interpretations. The actions originated from the media use process are also interpreted and given meanings by the audience depending on individual reality construction process as well as sociological factors. The beliefs and values obtained through media use affect one's attitudes and development of self-concept. Therefore, the media use process is an audience-medium interaction during which interpretation and reality construction simultaneously exist with need gratifications. Lin (1993) addressed this interactive process as follows:

> Audience activity (or audience engagement) . . . reflects the input and output
>
> process between the audience and the medium itself during the media use process.
>
> This could involve inputting a program selection, outputting a particular program
>
> selection, inputting certain media messages, or outputting certain cognitive,
>
> affective, or behavioral reaction. (p. 227)

Accordingly, audiences' need gratifications influence their levels of engagement with the medium from the pre-exposure to post-exposure phase, while their engagement might determine the degree of their need fulfillment (Lin, 1993).

Video game playing takes the user-medium exchange relationship one step further. As discussed earlier, video games are interactive media, and video game playing is a two-way communication process. In addition, psychological, sociological, and social factors surrounding the player simultaneously coexist in video game interaction. The development of the player's self-concept is influenced by the interactivity and the coexistent factors during video game playing. Interactivity may increase the intensity of

player's engagement in video game playing. Based on the interactive communication during video game playing, one may suggest that application of symbolic interactionism is more pertinent to explicating player-video game interaction than uses and gratifications approach. Still, the uses and gratifications models addressed in this chapter correspond to the premise of this study. Therefore, these models will be used as an example for developing VGIM.

## Development of Video Game Interaction Model

VGIM is established on three main concepts: need for interaction, interpretation, and reality construction. As addressed earlier in this study, these concepts are derived from the theoretical framework of symbolic interaction theory. Also, previous mass media models, which originated from uses and gratifications research, set an example for the development of this model. VGIM links all the factors included in video game playing in a temporal manner within an interactive communication scheme. The scheme illustrates the temporal nature of these factors in relation with pre-exposure, exposure, and post-exposure phases of video game playing. Within the interactive model, these three phases are interrelated with the player's interpretation process, reality construction process, and need for interaction. The model connects these factors to the post-exposure consequences of video game play along with the social, psychological, and sociological structures of the individual. Furthermore, each factor is influenced by the preceding or the related factor to a certain degree. The possible relationships among the factors of video game interaction model is illustrated in Figure 1. These relationships are based on the following propositions:

1. Individuals have a need for social interaction;

2. Gratification of social interaction need is dependent upon the individual's social structure, availability of socialization possibilities, and sociological factors, which may generate the need, preference, or tendency for playing video games;

3. Exposure to video games is interpreted by each player differently, based on his or her psychological, social, and sociological structures;

4. During video game interaction, the player goes through a reality construction process , which may produce post-exposure consequences;

5. Reality construction process and post-exposure effects of video game interaction may influence the player's psychological structure and own self.

Figure 1.                    Video Game Interaction Model
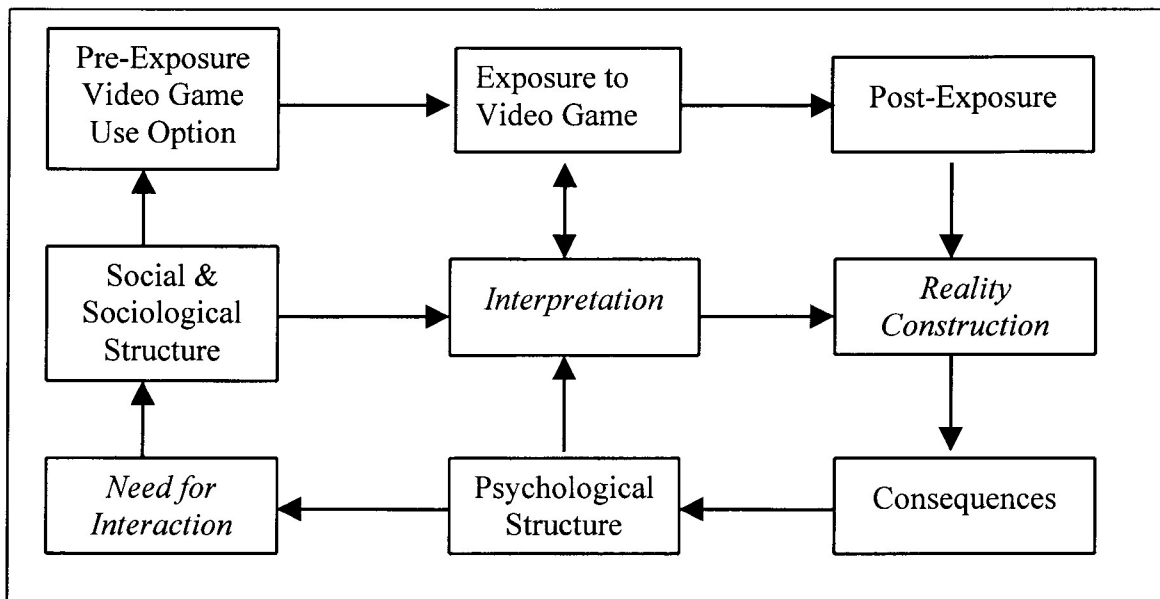
McQuail et al. (1972) described media use as an interactive process, relating

media content, individual needs, perceptions, roles, values, and the social context in

which a person is situated (p. 144). From the beginning, it has been assumed in this study

that video game playing is an interactive communication process, in which social

interaction need, individual interpretation and reality construction process are essential.

Accordingly, elicited from symbolic interaction theory, the player's own self and social

interaction need constitute the first proposition of the video game interaction model. A

person has a basic need for social interaction which is perceived as a universal human

requirement (Nordlund, 1978). The fulfillment of social interaction need depends on the

individual's social structure, the availability of individual and environmental possibilities

(Rosengren & Windahl, 1972). When individuals' social interaction needs are not

fulfilled to a reasonable extent, they pursue alternative ways to gratify themselves, such

as media use (Nordlund, 1978; Rosengren & Windahl, 1972). The degree of individuals'

fulfillment of their socialization determines the type, amount, and content of media use as

an alternative to social interaction (Rosengren & Windahl, 1972). In addition to these

propositions, VGIM also involves the sociological factors surrounding the player. Not

only the degree of individuals' fulfillment of their social interaction needs but also the

sociological and psychological structures in which they are situated determine their

preference or need for video game playing (Rosengren, 1974). Consequently, the

player's need, tendency, or preference for video game playing is related to his or her

social structure (i.e., social life, family, friends, etc.), psychological structure (i.e.,

personality, mood, etc.), and sociological structure (i.e., culture, society, etc.).
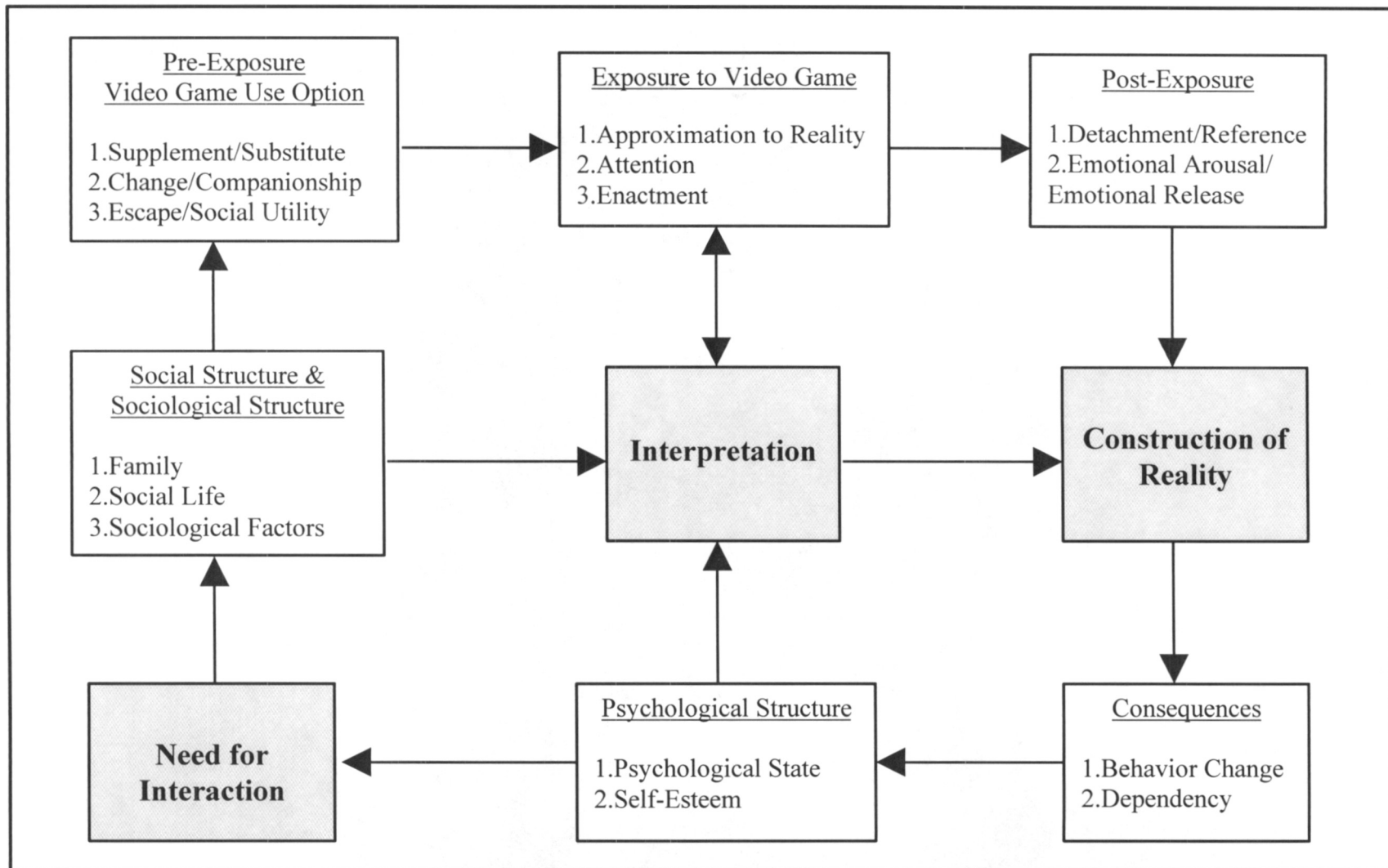
The relationship between the player's need for interaction and social structure is consistent with Nordlund's media interaction model. However, unlike in Nordlund's model, sociological structure is also a determinant of video game use. Also, contrary to Nordlund's model, psychological structure precedes the need for interaction, because it signifies the player's own self and therefore, should be included within that factor. During the exposure to video game, the video game content is interpreted individually based on the player's own psychological structure (i.e., neuroticism, mood, etc.). The interpretation process is also assumed to be influenced by the player's social structure (i.e., such as social life, family, etc.). While, the player's reality construction process occurs within the post-exposure phase and produces the consequences of video game playing, it is also under the influence of his or her interpretation during exposure. The post-exposure consequences or effects (i.e., behavior change, dependence, etc.) may influence the player's psychological structure and own self in turn (Rosengren, 1974). Although this model is applicable to all video game players regardless of their age and sex, it appears to be more suitable to children's video game playing due to their susceptibility to the possible impact of video games. Therefore, the rest of the chapter will examine video game interaction from children's perspective.

There are also several attributes inherent in the factors shown by the video game interaction scheme. The covariation of these attributes defines the nature of video game interaction. Briefly, the variables associated with each factor determine the degree of influence among the factors of the model. Figure 2 illustrates these variables and their relations within video game interaction. To understand the dynamics of VGIM

completely, the implications of the variables associated with each factor will be examined

more closely.

# Variables of Video Game Interaction Model

Figure 2.



Pre-Exposure
Video Game Use Option

1. Supplement/Substitute
2. Change/Companionship
3. Escape/Social Utility

Exposure to Video Game

1. Approximation to Reality
2. Attention
3. Enactment

Post-Exposure

1. Detachment/Reference
2. Emotional Arousal/
   Emotional Release

Social Structure &
Sociological Structure

1. Family
2. Social Life
3. Sociological Factors

Interpretation

Construction of
Reality

Need for
Interaction

Psychological Structure

1. Psychological State
2. Self-Esteem

Consequences

1. Behavior Change
2. Dependency

**Variables Included Psychological Structure**

1) <u>Psychological State</u>: Individuals have different psychological states due to their emotions, moods, traits, or affective states. In VGIM, The psychological state variable represents the child's inner feelings and affective states such as neuroticism, empathy, and extroverted or introverted personality. Past video game research has focused on the correlation between heavy video game playing and the psychological structures of children. For instance, Kestenbaum and Weinstein (1985) investigated the correlation between neuroticism and heavy video game playing, and found that violent video game content had a calming effect on male adolescents by helping them release their aggressive energy. However, this study suggests that video game playing is a multidimensional interactive communication process which can not be evaluated linearly. For instance, the variable of psychological state is assumed to be both the starting point and the final component of VGIM (e.g., Rosengren, 1974). Nordlund (1978) evidenced that neurotic disposition leads to a greater usage of mass media. In this sense, psychological state is a primary factor that affects the need for video game playing. Also, the player is susceptible to the post exposure effects of video game playing, and these effects may influence his or her psychological structure in return (e.g., Rosengren, 1974).

2) <u>Self-esteem</u>: Self-esteem is the extent to which individuals have positive or negative feelings about themselves and their own worth (Baron, 1992, p. 515). Several researchers have investigated the relationship between self-esteem and video game effects (e.g., Fling et. al, 1992; Funk & Buchman, 1996). Within their studies, researchers have sought to ascertain a linear correlation between children's self-esteem and video game playing habits. However, not only the needs and habits but also the

interpretation of video game playing is subject to the child's self-esteem. Individuals with high self-esteem are less prone to be influenced compared to those with low self-esteem (Baron, 1992, p. 515). Based on this premise, children with low self-esteem are more susceptible to the impact of video games. On the other hand, since individuals with low self-esteem view themselves as possessing undesirable traits, and expect to fail (Baron, 1992, p. 515), they may experience difficulty in socially interacting with others. Considering that having problems with social interaction may generate the need for mass media use (Nordlund, 1978; Rosengren & Windahl, 1972), one may conclude that children's self-esteem plays an important role in selecting video game play as an alternative for social interaction.

**Variables Included in Social and Sociological Structures**

1) Family: Preliminary social interaction starts within the family. Stark (1998) defined family as a fundamental social institution occurring in all societies, although its particular forms differ substantially from place to place (pp. 375-376). Mead (1972) referred to family as the fundamental unit of human social organization and suggested that all such larger units or forms of human organizations are based upon, developed from, or extended from the family (p. 229). Past video game research often used family as a demographic variable in sampling children as subjects, rather than trying to evaluate families' influence on the children or children's relationships with their families. Beyond the initial socialization of the child, a family also has a huge a responsibility in monitoring the child's leisure activities, understanding the child's social interaction needs, and particularly selecting of appropriate video games if needed. Therefore, in the

child's social structure, family remains as the main factor that shapes the need, amount, or content of media consumption, which is video game playing in this model.

2) Social Life: In VGIM, the environmental and individual possibilities that provide the player with social interaction are denoted as social life. These possibilities include friends, peers, leisure activities, etc.. Particularly for children and adolescents, friendships play an important role for social development (Baron, 1992, p. 330). As the possibilities for an active social life decrease, mass media use increases, because the individual tends to use mass media for companionship, or as a substitute for social interaction (McQuail et al., 1972; Nordlund, 1978; Rosengren & Windahl, 1972). In the case of video game interaction, the quality and quantity of the child's social life may also correlate negatively with the amount of video game usage.

3) Sociological Factors: One's preference or need for video game use is also determined by the sociological factors surrounding oneself. These factors may include society, culture, other mass media content, etc.. Mead (1972) explained the effects of society on individual's acts as follows:

> The organization of social attitudes constituting the structure and content of the human individual self is affected . . . in terms of the general ordered pattern of social or group behavior or conduct in which the individual –as a member of the society or group of individuals carrying on that behavior– is involved. (p. 238)

Also, Rosengren (1974) suggested that individual's needs are in interaction with societal structure and his or her psychological structure. This interaction result in media consumption or other behavior. Based on this premise, one may suggest that individual's preference or tendency for video game use is determined by the society or community of

which the individual is a member, as well as by individual's own self. While making a decision to play a video game, the child might be affected by other media alternatives or content (i.e., the Internet, video game ads, etc.), cultural factors (i.e., language, etc.), or society (i.e., mass media structure, etc.). For instance, if the availability of a video game in that child's native language is limited, or if the Internet provides better entertainment options than video games, the child may prefer those over playing video games.

**Variables Included in Video Game Use Option (Pre-Exposure)**

1) Supplement/Substitute: The child's need for social interaction may take the form of the need or preference for video game use depending on the quantity and quality of social interaction possibilities. In their typology, Rosengren and Windahl (1972) suggested that the nature of media consumption is subject to individual satisfaction obtained from social interaction. When there are satisfactory individual and environmental possibilities, media consumption is a supplementary alternative. When neither of these possibilities is satisfactory or even existent, media consumption may become a substitute of socialization (p. 170). Based on this premise, during the pre-exposure phase, the child needs video game use either as a supplement or a substitute for his or her social interaction. In either way, the child's perception of video game use affects his or her interpretation of video game content, and reality construction process. In addition, the post-exposure effects of video game playing are also influenced by the child's perception of video game use as a supplement or a substitute.

2) Change/Companionship: This variable represents the way video game playing activity is perceived by the child. Although similar to the supplement/substitute variable,

the variable of change/companionship indicates the motives or needs behind video game use rather than the perception of video game consumption. Despite the satisfactory individual and environmental possibilities for social interaction, the person may still seek an alternative activity simply due to his motivation or his need for change (Rosengren & Windahl, 1972). Change does not imply escape from the problems of the real life, but it rather represents an alternative to social activities. The child may simply choose to play a video game as a leisure activity to relax, have fun, or get rid of boredom.

To the contrary, the companionship variable signifies the need gratification for interaction. Given that people tend to use mass media when feeling lonely (Nordlund, 1978), an individual may perceive his or her media interaction as a companionship. The media characters may become virtually real, knowable and cherished individuals for the media user, as if they were surrogate friends (McQuail et al., 1972). The notion of perceiving media personalities as companions is termed as "para-social interaction," and was first put forward by Horton and Wohl (1956). In para-social interaction, the media persona may be considered as a friend, counselor, comforter, or model by the spectator (p. 217). For the spectator, the persona offers a continuing relationship and an appearance that is a regular event to be counted on, planned for, and integrated into the routines of daily life (p. 216). When applied to video game interaction, children and adolescents may actually perceive the video game as a kind of surrogate companion and see their interaction with game characters as social in nature (Selnow, 1984).

3) Escape/Social Utility: Early uses and gratifications research categorized mass media use dichotomously as either 'surveillance' or 'escape' (Katz, Blumler, & Gurevitch, 1974). In a study about television's place in children's lives, Schramm, Lyle,

and Parker (1961) addressed children's escapist use of media as the most significant need gratification. The authors pointed out "the passive pleasure of being entertained, living in a fantasy, taking part of vicariously in thrill play, identifying with exciting and attractive people, getting away from real-life problems and escaping real-life boredom" (p. 57). The authors also elaborated the consequences of intensive television viewing as "leads not toward human interaction, but rather toward withdrawal into private communion with the picture tube and the private life fantasy. It is aimed less often solving the problems of life than escaping from them" (p. 58). Therefore, one may suggest that the need for escaping from the harsh reality of life into a fantasy world, and escaping from daily problems by social withdrawal are the motivation behind children's video game playing.

On the other hand, the dichotomy of "escape" and "surveillance" uses of media has long been disputed. McQuail et al. (1972) argued that the audience does not only use mass media to fulfill the need for surveillance and escape but also seeks other need gratifications. Among these, the need for social utility represents the instrumental use of mass media for social interaction. Social utility refers to the media use as a source of conversational material, as a common activity, or as the means to meet the membership requirements of one or more peer groups (p. 158). Based on this definition, social utility appears to be an important factor which may determine the child's need for video game use. For children, being accepted among their friends or sharing the popular interests with friends plays a significant role in their social interaction. In this sense, children may tend to play video games to share a common interest with their friends and to be accepted among them. Consequently, one may conclude that children use video games either to disconnect from or connect to social life.

**Variables Included in Exposure to Video Game**

1) Approximation to Reality: According to Nordlund (1978) certain media type

and contents involve a higher degree of media interaction potential than others depending

on a) the extent to which the medium is able to approximate reality; b) the presence of

one or more dominating or leading characters within the content; and c) the presence of

one or more characters who regularly appear in various media contexts. Rosengren and

Windahl (1972) suggested that if the content of a medium reflects concrete reality (e.g.,

news, public affairs, etc.), audience's involvement with that medium will be low or vice

versa. Accordingly, entertainment shows, music, movies, drama, and the like are

assumed to have high potential of both audience involvement and identification with

media personalities. Although not all video games have pictorial characters in them (e.g.,

educational, sports, etc.), most of them have either real-life or fantasy figures that act as

the protagonist, heroine, or victim within the scenario of the game. Given that a majority

of video games are violent in nature, featuring pictorial characters dealing with

destruction, combat, killing, bombs, or shooting (Cooper & Mackie, 1986, Dominick,

1984), these video games may have greater impact on children due to the high degree of

interaction. If the viewer does not perceive the medium content as believable, it should

have less impact than using media content perceived as being more believable (Rubin,

Perse, & Powell, 1985). The sophisticated graphics created by advanced computer

technology may intensify the child's involvement with both the scenario and the

characters.

2) Attention: During media use, audience members pay more attention to the

media content unless they engage in distracting activities. This view is consistent with

Levy and Windahl's (1984) typology of audience activity. According to Levy and

Windahl, audiences' degree of attentiveness varies during exposure depending on their

comprehension and organization of the messages and how much they enjoy the cognitive

and affective gratifications obtained from the media content. In other words, engaging in

distractive activities while viewing television has been suggested to indicate less attention

and involvement. In the case of playing video games, however, the possibility of

engaging in distracting or coviewing activities is relatively lower, because video games

are interactive. The plot of the game is not only determined by the computer, but also

influenced by the player's actions (Greenfield, 1984). Most video game designs and

scenarios require ultimate attention to perform the minimum actions needed for the game,

particularly the video games with violent content. For instance, if the video game

scenario entails the elimination of offensive fantasy fugues (e.g., alien ships, enemy

troops, etc.), children need to pay more attention to the content as compared to viewing

television.

3) Enactment: This variable is the most significant one in VGIM in terms of

children's development of self-concept. Although there are similar variables in other

media models such as solitary identification and capture (Rosengren & Windahl, 1972),

the concept of "taking the role of other" distinguishes enactment from those variables.

Enactment signifies the child's taking the role of another fantasy or human character in a

video game scenario. As discussed earlier, Mead (1972) described game playing as an

illustration of children's becoming a member of society. Children initiate their

socialization process and development of self-concept by taking the roles of others in a

game. In line with Mead's description, video game playing provides the child with the

opportunity to become a human or fantasy character in the game. Because most popular video games are violent in nature (Dominick, 1984), the child is required to perform the offensive actions for the game to proceed. Therefore, the child may be affected negatively when he or she takes the role of another character in the game and performs the violent acts in the game scenario. Children's disposition to take the role of others in a game setting is a way of their assuming the role of a society member. However, in video game playing, particularly the ones with violent content, the child often assumes the role of a character which does not conform with the values of society. Therefore, in video game playing, children are more likely to adopt the persona of an unacceptable model, and this may affect their self-concept negatively.

## Variables Included in Post Exposure

1) Detachment/Reference: As cited earlier, Rosengren and Windahl (1972) proposed that audiences fulfill their need for interaction through media use in four ways: detachment, para-social interaction, solitary identification, and capture. These forms indicate the personal relationships the audience has with media personalities. However, in VGIM, detachment is viewed as the outcome of the interaction with video game content and characters. Playing video games may alter the child's disposition to socialization, and thus, the child may withdraw from social interaction.

Reference, on the other hand, occurs when the media content is used by the audience to characterize or highlight some feature of his or her own situation, character or life, past or present (McQuail, Blumler, & Brown, 1972). Likewise, the child may perceive the video game interaction as an instrument to learn about social life and human

relations, or to reflect upon personal problems. This proposition is also consistent with symbolic interactionism, in terms of individual's perception of oneself through the eyes of others. Mead (1972) suggested that individuals form their self-concept by taking role of others and seeing themselves through their eyes. Therefore, the child may reflect upon his or her problems, emotions, individual characteristics, and beliefs through interaction with video game and its characters.

2) Emotional Arousal/Emotional Release: McQuail, Blumler, & Brown (1972) identified emotional release as a media function. They suggested that people view mass media use as an opportunity to relieve their feelings. VGIM considers emotional release as an outcome of playing video games rather than a motive. Based on the video game literature reviewed earlier, one may suggest that past researchers have striven to identify the emotional effects of video game playing on children and adolescents. Studies on physiological arousal and aggression catharsis have been among the theories used by these researchers.

In VGIM, the nature and amount of emotional arousal or release attained during post-exposure stage is determined by the needs or motives of the player at the pre-exposure stage. Briefly, the emotional effect of video game playing on children depends on their need gratifications or motives to play video games, such as supplement/substitute, change/companionship, etc.. To be specific, if a child perceives video game as a companion, his or her post-exposure emotional state will vary depending on the frustrations or achievements he or she had during video game playing. For instance, if a certain number of spaceships is not destroyed or hostage is not saved within a game scenario, the child will be frustrated, angry, or sad. Hence, the post-exposure

emotional arousal may correlate positively with the degree of his or her perception of video game or its character as a companion.

**Variables Included in Consequences**

1) <u>Behavior Change</u>: The consequences of playing video games take place after a process of reality construction. As one of those consequences, behavior change may take the form of antisocial, prosocial, or aggressive behavior. In VGIM, behavior changes in children after playing video games are subject to the children's motives, needs, perceptions, emotions, social interaction possibilities, and psychological structure, as well as the content of video game. It is not plausible to determine the effects of video game playing on children's attitudes unless all these factors are taken into account. VGIM may provide the opportunity to view video playing as an interactive process, and thus assess its influence considering all the factors within the video game interaction.

2) <u>Dependency</u>: Rosengren and Windahl (1972) proposed that a person's reliance upon a mass medium for need fulfillment and the availability of socialization alternatives are correlated negatively. The more one becomes dependent on a medium or its content, the more he or she gets involved with the medium or vice versa (p. 174). As dependency on a medium increases, the likelihood of its effects on audience cognitions, affects, and behaviors may also increase (Miller& Reese, 1982, p. 232). In addition, the approximation of reality within the media content is important for the development of dependency. Consistent with earlier research, VGIM suggests that children's dependency on video game playing is correlated with a combination of factors: social interaction

needs and possibilities, motives, psychological structure, and reality approximation of the video game content.

In addition, children are more likely to become dependent on playing video games due to the "reinforcement" factor. Loftus and Loftus (1983) viewed reinforcement as a major factor for children's dependency on video games.

> For the Vegas gambler, the slot machine's payoff is a reinforcement. And for the video game player, beating a previous high score, or winning a free game or shooting down enemy spaceships is a reinforcement. . . . any behavior that is followed by reinforcement will increase in frequency. In short, video games that do something to make a player feel good will be played again and again. (p. 14)

The authors also suggested that children receive reinforcement from other people in the form of recognition and stated "If video games are reinforcing in a variety of ways, at least some of the reinforcement is no doubt extrinsic, taking the form of praise and admiration from peers and other onlookers" (p. 26). Consequently, aside from child's psychological and social structures, and perception of content reality, his or her dependency on video game playing may also be related to reinforcement which takes the forms of recognition by others, and feeling of achievement.

CHAPTER V

CONCLUSION

The literature review on video games revealed that very little has been written about the interactive communication during video game playing. Most researchers have sought to determine the negative effects of video game playing on children in terms of aggressive behavior, antisocial behavior, hostility, decreased empathy, and distortion of worldview. Others have argued that playing video games might have beneficial effects on children such as aggression release, comprehension of computer technology, improvement of cognitive and learning skills, and development of eye-hand coordination. Despite the efforts to determine the impact video games have on children, the interactive communication during video game playing has been overlooked. I have attempted to fill this gap by examining the interactive communication during a video game play from a symbolic interactionist perspective.

The main goal of this study has been to investigate the nature of interactive communication during video game playing. To achieve this goal, symbolic interactionism was used as a theoretical ground for the formulation of the study. As Reardon and Rogers (1988) suggested, the new interactive communication technologies cannot be easily categorized as either interpersonal or mass media channels, because they possess certain characteristics of both. On that account, I argued that symbolic interaction theory is pertinent to explicate video game interaction. Based on symbolic

interaction theory, a new exploratory communication model was developed to illustrate the nature of communication in video game playing and the factors affecting the player-video game interaction. Due to the interactive nature of communication in video game playing, the new model is called "video game interaction model (VGIM)."

VGIM illustrates the temporal phases of video interaction in relation to psychological, social, and sociological structures surrounding the game player. The video game interaction begins with the individual's need for social interaction which is simultaneously shaped by his or her psychological structure. The nature of the individual's social interaction is dependent on individual and environmental socialization possibilities, and societal structure. Interaction with others generates needs, motives, perception of problems and solutions, which may result in selecting the option of video game use. The preference or need for video game use produces behaviors or consequences based on the individual's gratifications sought, nongratifications, gratifications obtained, and reality construction. These consequences may also affect the individual's own self, and hence, the structure of the society.

VGIM is based on previous mass media models such as, Typology of Mass Media Consumption as a Functional Alternative (Rosengren & Windahl, 1972), Typology of Media-Person Interactions (McQuail, et al., 1972), Media Interaction Model (Nordlund, 1978) and Outlined Paradigm for Uses and Gratifications Research (Rosengren, 1974). When compared to these models, VGIM may appear to have similar characteristics. However, the variables in VGIM are all specific to video game playing and exist simultaneously during video game interaction. Also, these variables are all interrelated and interactive. The portrayal of interactivity in VGIM reflects the interactive nature of

communication process during video game playing. As discussed earlier, the primary

characteristics of interactive media are reciprocity and control. As control represents the

user's being active in stimulating, responding to, and modifying the medium content, the

user actively participates in the mediated communication. However, in other models, the

audience has little or no control over the medium content. Hence, VGIM differs from the

other models, because it reflects the interactivity and the control of the video game

player.

Also, in other mass media models, the factors that affect the individual's

interpretation and reality construction process during media interaction are not

determined. VGIM embodies these factors and defines them within an interactive

scheme by using the concepts of interpretation and reality construction derived from

symbolic interactionism. The interactive scheme illustrates the interaction process during

video game playing. VGIM also represents video game interaction within a sociological

context. Consequently, the rationale underlying the application of symbolic

interactionism in this study is manifested within the structure of VGIM.

In VGIM, video game playing is examined in a broad context including

psychological, sociological, and social structures. Blumer (1969) suggested that the

variability of media content, the variability in the responsiveness of people, and the

interdependency of all forms of media must be taken into account while examining

mediated communication (p. 184). Although including all these factors within a

communication typology may not be possible, VGIM addresses most of the factors

associated with video game interaction. The variability in the responsiveness of people is

represented by psychological, social, and sociological structures along with individual

interpretation, reality construction, and need for social interaction. While determining the interdependency of all forms of media appears to be unattainable, the variable of sociological factors in VGIM addresses a few issues on the diversity of media.

Blumer's (1969) suggestion regarding the variability of media content has often been a problem for video game research. The types of video games range from sports, educational, and general entertainment games in which the main theme is nonviolent, to fantasy and human violence games which focus on violent action (Funk, 1993). Therefore, researchers have not been able to generalize the findings of video game research. In VGIM, the selection of video game content is dependent on the psychological, sociological, and social structures of the individual, which may provide an insight of the player's preference. Still, the determination of the player's preference seems unlikely due to the individual temporal state and variety of video games.

Although VGIM appears to be a practical theoretical model, it has some limitations. Due to the limited time and resources, VGIM has not been tested and therefore lacks the empirical evidence to support its operation. To confirm the applicability of VGIM, both the correlations between each variable and their proportions to the operation of the entire model need to be determined. Based on the correlations among the variables of VGIM, more variables affecting the video game interaction can be identified and added to VGIM to improve its effectiveness. As indicated earlier, it is not possible to determine the individual's preference for a video game completely, because there is a variety of video games in the market today. Furthermore, the individual temporal state makes the assessment of individual preference even harder. Nonetheless,

VGIM involves most of the elements needed for the assessment of video game interaction.

Palmgreen, Wenner, and Rosengren (1985) suggested that advanced communication technologies, particularly interactive media, challenge communication scholars to develop new typologies. In this study, I attempted to develop a new typology applicable to video game interaction. VGIM may play an important role for future video game research by providing the theoretical grounds needed for video game interaction. It may also be used to examine the characteristics of interactive communication. Consequently, VGIM may enhance future research not only for video games but also for interactive media.

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