2019

Gaming, Workplace, Self-Esteem, Counterproductive Work Behaviors

Sarah Marie Dyson
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Sarah Marie Dyson

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Brian Cesario, Committee Chairperson, Psychology Faculty
Dr. Sandra Rasmussen, Committee Member, Psychology Faculty
Dr. Patti Barrows, University Reviewer, Psychology Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2019

Abstract

Gaming, Workplace Self-Esteem, and Counterproductive Work Behaviors

by

Sarah Marie Dyson

MBA, Colorado Technical University 2008

BS, Colorado Technical University 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Social Psychology

Walden University

June 2019

Abstract

Although there is ample information on the negative aspects of video game playing, we know less about the benefits and how the benefits transfer to the gamers' workplace. Further understanding of these relationships may offer employees and employers more insight on how they can reduce counterproductive workplace behaviors (CWB) while also improving workplace morale and productivity. The purpose of this quantitative non-experimental study is to examine the relationships between time spent engaging in gameplay, workplace self-esteem, and positive and negative workplace behaviors among gamers. Participants anonymously completed an online questionnaire utilizing the Behind the Screen Measure, Counterproductive Workplace Behavior Checklist, the Rosenberg Self-Esteem Scale, and the Work Extrinsic Intrinsic Motivation Scale. The cross-sectional design consisted of 202 self-identified employed gamers over the age of 18 living in the United States. A series of linear regressions was used to test the hypotheses. According to the study results, frequency of gameplay and workplace self-esteem levels predicted CWB and intrinsic motivation, with low workplace self-esteem being a significant predictor of negative work-related behaviors. Employers, gamers, and friends and family also benefit from the knowledge that over two and a half hours of gaming could have negative effects on their self-esteem and work behaviors. This study facilitates positive social change by promoting a need for increased awareness to gamers and organizations which offer support and long-term positive social change among two different populations.

Gaming, Workplace Self-Esteem, and Counterproductive Work Behaviors

by

Sarah Marie Dyson

MBA, Colorado Technical University 2008

BS, Colorado Technical University 2006

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Social Psychology

Walden University

June 2019

Dedication

I would like to dedicate this dissertation my mother, Suzanne Badeaux, for allowing me to dream and believe that I could accomplish anything. Next, I would like to thank my best friend and love of my life – my wife who extended unconditional support, love, and patience throughout this process. I would also like to extend a thank you to everyone involved thank you for being a part of the positive process, and productive life journey.

Acknowledgments

I would like to acknowledge my chair, Dr. Brian Cesario, who has offered support, encouragement, patience, and guidance during my dissertation journey. I would also like to thank my committee member, Dr. Sandra Rasmussen for her support, guidance, and responsive feedback. Next, I would like to thank Dr. Suzanne Throesch who has also offered support, encouragement, and a kick in the pants when needed. I would like to thank each of you for developing my skills to become a better researcher.

Table of Contents

List of Tables

Chapter 1: Introduction to the Study

Over the past decade, researchers have started to embrace the notion that video gameplay promotes positive behaviors; however, scholars continue to investigate how these positive behaviors transfer to real world environments, such as the workplace (Birk, Mandryk, Miller, & Gerling, 2015; Granic, Lobel, & Rutger, 2014; Petridis et al., 2015; Ryan, Rigby, & Przybylski, 2006). According to Granic et al. (2014), 10 million adults participate in daily gameplay on computers, consoles, and mobile devices. Birk et al. (2015) and Ryan et al. (2006) determined that gameplay promotes high self-esteem during and post gameplay. Because of this, certain workplace environments have implemented gaming to provide training, decision support, and consumer outreach (Petridis et al., 2015). There is currently a lack of research examining the relationships of gaming on self-esteem, motivation, and negative behaviors correlated with counterproductive workplace behaviors (CWB).

This chapter provides an overview of the current literature and background information that demonstrate the need for further evaluation of time spent gaming, workplace self-esteem, and CWB. This summary expounds on the positive relationships between gameplay, workplace self-esteem, and CWB. In addition, this chapter also provides a detailed problem statement, the purpose of the study, the variables that were investigated, the research questions, and hypotheses. The theoretical framework presented here served as a foundation to evaluate time spent gaming, workplace self-esteem, CWB, and gaming motivation. The nature of the study section presents the methodologies. To clarify precise usage, this chapter then presents definitions of key

terms, such as gameplay, CWB, and workplace motivation. This chapter also provides an overview of the assumptions, limitations, and scope of delimitations of the study. This chapter also highlights the need for evaluation in an area that has evolved drastically over the past decade. Finally, this chapter ends with an examination of the potential significance of the study to adult gamers and to organizations that encourage gameplay and team building.

Background of the Study

Historically, research on the behaviors and emotions of players has not explored the positive effects of gaming. Even though gaming has become part of everyday life for many age groups, few studies have explored the positive relationships of gaming on individuals while they are on the job. Most of the work that has been done relates to the negative implication of gaming related to on-the-job behaviors (Birk et al., 2015; Felicia, 2014; Granic et al., 2014). The lack of research on the potential positive impact of gameplay leaves an important gap in the literature regarding how positive self-esteem from gaming may lower a player's propensity to engage in CWB.

Gameplay in the Workplace

Over the past 30 years, video games evolved from a niche market in entertainment to a multibillion-dollar industry; educators and employers increasingly use games to promote learning and train their employees (Jin & Li, 2017). The Entertainment Software Association (2015) reported in April 2015 that 150 million Americans participate in gameplay, and that the average gamer is 35 years old (Lee & Leeson, 2015).

A few studies suggest that gaming while at work can reduce fatigue and decrease the level of work strain (Bejjanki et al., 2014; Collins & Cox, 2014; Reinecke, 2009). Furthermore, Reinecke (2009) found that employees participated in gameplay while on break, at lunch, or during downtime. Collins and Cox (2014) suggested that engaging in gaming at home as an active pastime could reduce stress while at work and optimize the employee's health. Organizations found that these attributes increased productivity and were financially beneficial. Collins and Cox (2014) and Reinecke (2009) indicated that healthier, more productive employees took less time off due to illness and health-related factors.

Bejjanki et al. (2014) found that action video games, such as *Call of Duty*, *Halo*, and *Counter Strike* significantly improve performance in a range of areas. Researchers indicated that action games improved attentional control, visual perception, and cognitive tasks, and that these improvements resemble those gained by multitasking. Furthermore, Bejjanki et al. (2014) suggested that these benefits carry over into real-world experiences. Blacker, Curby, Klobusicky, and Chein (2014) found similar benefits from action gameplay; they found that playing action video games could enhance visual working memory. Findings by Bejjanki et al. (2014) and Blacker et al. (2014) have suggested that action games can improve perceptual processing and affect a broad range of skills that are useful to employers today.

Counterproductive Work Behavior

Recently, the study of CWB has become increasingly prominent among organizations, entrepreneurs, and supervisors (Whelpley & McDaniel, 2014). CWB

represents any intentional acts viewed by the organization as contrary to its authorized interest (Spector et al., 2005). Choi, Lee, and Park (2015), Fida et al. (2015), and Whelpley and McDaniel (2014) described CWB as a voluntary set of behaviors that potentially violate organizational formalities within the work environment. CWB can take several forms, such as direct aggression or covert acts (such as failing to follow instructions). These behaviors have led to millions of dollars in lost productivity and decreased job performance (Shoss, Jundt, Kobler, & Reynolds, 2016).

According to Shoss et al. (2016), individuals who participate in CWB in response to provocation during negative workplace events reported feeling better. Shoss et al. (2016) determined that these respondents were motivated by their sense of control or influence in a situation. These findings were congruent with those of Bauer and Spector (2015), who found that individuals view CWB as a coping strategy, rather than as motivational acts based on the individual's values. Emotional and situational factors also contribute to CWB (Bauer & Spector, 2015). Emotions such as anger, jealousy, and anxiety are associated with CWB (Bauer & Spector, 2015). According to Bauer and Spector (2015) and Shoss et al. (2016), the cognitive process of respondents underlined the emotional reaction factors, which led to the respondents participating in CWB. Organizations continue to search for techniques to reduce CWB among employees (Bauer & Spector, 2015; Fida et al., 2015; Spector et al., 2005). Additionally, Choi et al. (2015) and Whelpley and McDaniel (2014) reported a correlation between self-esteem and CWB, suggesting that high self-esteem alleviated negative behaviors and promoted positive outcomes while improving the employees' mental health.

Workplace Self-Esteem

Several studies have associated high self-esteem with learning new skills, solving problems, and adapting to change within the organization (Choi et al., 2015; McIntyre, Mattingly, Lewandowski, & Simpson, 2014; Pierce & Gardner, 2004). According to Whelpley and McDaniel (2016), employees with higher self-esteem are less likely to engage in CWB. CWB manifests in aggressive behavior, theft, and lack of productivity among employees (Choi et al., 2015; Pierce & Gardner, 2004).

Huysse-Gaytandjieva, Groot, and Pavlova (2013) and Thompson and Gomez (2014) associated high self-esteem with reduced turnover rates among organizations and a reduction in symptoms associated with depression, anxiety, and overall stress among employees. Huysse-Gaytandjieva et al. (2013) claimed that employee self-esteem is a predictor of job satisfaction. Additionally, Huysse-Gaytandjieva et al. (2013) found that individuals with higher self-esteem are more likely to adjust and adapt to new situations and environments and tend to cope better with stressful conditions. Thompson and Gomez (2014) suggested that high self-esteem helps to moderate stress and various types of strain. Thompson and Gomez (2014) also indicated that persons with higher levels of self-esteem demonstrated lower levels of stress, anxiety, and depression, whereas persons with lower levels of self-esteem had elevated levels of stress, anxiety, and depression. These results are consistent with those of McIntyre et al. (2014) and Pierce and Gardner (2004): an individual with higher levels of self-esteem is less likely to be adversely affected by negative workplace events and more likely to be productive in the workplace.

Nevertheless, researchers have expressed concern that gameplay could negatively affect an individual's self-esteem and work behaviors (Beard & Wickham, 2016; Liu & Peng, 2009). Current research lacks empirical evidence indicating a possible correlation between gameplay, workplace self-esteem, motivation, and CWB. Further understanding of these relationships may contribute to positive social change by providing employees and employers with more insight about how they can reduce CWB while also improving workplace morale and productivity. The study was needed to explore the relationships that gaming has on workplace self-esteem, CWB, and positive and negative workplace behaviors.

Problem Statement

Positive self-esteem among employees enhances performance on the job and reduces CWB (Whelpley & McDaniel, 2016). CWB include aggressive behavior, theft, and lack of productivity among employees with low workplace self-esteem (Choi et al. 2015; Kuster, Orth, & Meier 2013; Pierce & Gardner, 2004; Whelpley & McDaniel, 2014). Birk et al. (2015) and Sublette and Mullan (2012) postulated that gaming yields several positive effects, which may transfer to the players' real-world environments. However, researchers have not explored the positive effects of gaming (Bargeron & Hormes, 2017; Lee & Leeson, 2015; Liu & Peng, 2009). Gaming may lower the incidence of CWB and improve an employee's well-being by increasing workplace self-esteem and by aligning intrinsic and extrinsic forms of motivation (Birk et al., 2015; Petridis et al., 2015; Ryan et al., 2006). Despite these advantages, organizations and

employers remain uninformed about the potential benefits of video games for their employees.

Gaming is a fast-growing industry affecting most organizations and game play has the potential to enhance mental health and well-being (see Birk et al., 2015; Granic et al., 2014; Ryan et al., 2006). Choi et al. (2015) and Kuster et al. (2013) proposed a prospective relationship between self-esteem, work conditions, and work outcomes. According to McIntyre et al. (2014) and Whelpley and McDaniel (2016), CWB in employees with lower self-esteem is costly across various domains, leading to lower effectiveness within the organization. The lack of research on the potential positive impact of gameplay leaves an important gap in the literature regarding how positive self-esteem from gaming may lower employees' engagement in CWB. This study may also provide evidence that gaming could be beneficial in increasing workplace self-esteem and reducing employees' propensity to engage in CWB.

Purpose of the Study

The purpose of this quantitative study was to investigate the relationship between video gameplay, CWB, workplace self-esteem, and positive and negative workplace behaviors using self-determination theory (SDT) as a framework (Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009). Some gamers spend 21 to 40 hours a week in gameplay, so this hobby represents a significant amount of time in a player's life. So far, the research in this area has focused primarily on the negative aspects of gaming (Lee & Leeson, 2015). Researchers are beginning to address the positive aspects of gaming in relation to workplace education, training, and communication, but information is still

limited (Collins & Cox, 2014). This study explored the predictive relationships between time spent engaging in gameplay, CWB, and workplace self-esteem. Also, the predictive relationships between motivation in the context of gaming and both positive and negative workplace behaviors were also revealed.

Research Questions and Hypotheses

RQ1: Do hours spent engaging in video gameplay predict CWB?

$H_0$1: Hours spent engaging in video gameplay do not predict CWB.

H_a1: Hours spent engaging in video gameplay predict CWB.

RQ2: Does the gamer's workplace self-esteem predict CWB?

$H_0$2: The gamer's workplace self-esteem does not predict CWB.

H_a2: The gamer's workplace self-esteem predicts CWB.

RQ3: Does the gamer's gaming motivation predict work-related behaviors addressed in the Work Extrinsic Intrinsic Motivation Scales (WEIMS)?

$H_0$3: The gamer's workplace motivation does not predict work-related behaviors addressed in the WEIMS.

H_a3: The gamer's workplace motivation does predict work-related behaviors addressed in the WEIMS.

Theoretical Framework

The framework for the study arose from Deci and Ryan's (1985) SDT in the context of gameplay. SDT focuses on motivation and the underlying assumption that human beings are active and growth-oriented organisms who are naturally inclined to progress forward (Gagné & Deci, 2005 &Tremblay et al., 2009). Gagné and Deci (2005)

indicated that intrinsic motivation consists of a relationship between a person's interest in an activity and obtaining the desired consequences. Ryan et al. (2006) postulated positive effects of intrinsic motivation on self-esteem due to motivational factors of well-being as a basic psychological function.

This study focused on aspects of video gaming and their potential correlations with workplace self-esteem, and counterproductive workplace behaviors Tremblay et al. (2009) explained that motivations and work values lead to positive and negative work-related behaviors. Participants' responses to the WEIMS were used to predict work-related behaviors in the context of motivation related to time spent gaming. Chen et al. (2015) and Lafrenière, Verner-Filion, and Vallerand (2012) have also used SDT to determine motivations related to time spent gaming. The existing research on SDT in the context of video gameplay and workplace behaviors are explained in further detail in Chapter 2.

Nature of the Study

This quantitative, nonexperimental study used survey data collected online from participants who were (a) between 18 and 65 years old, (b) currently engaged in gameplay for at least 1 hour per week, and (c) employed. In this study I examined the relationships between video gameplay, workplace self-esteem, motivation, and CWB. The predictor variable was the frequency of video gameplay (hours spent gaming per day), measured by the Behind the Screen Measure (Carrier, Spradlin, Brunce, & Rosen, 2015b), and the outcome variables were workplace self-esteem, motivation, and CWB. I conducted a linear regression analysis to determine the relationships between video

gameplay, workplace self-esteem, intrinsic and extrinsic motivation, and CWB. The WEIMS addressed motivation in the context of gaming, and I conducted a linear regression to determine positive or negative work behaviors (Tremblay et al., 2009). None of the variables was manipulated during data collection or analysis. A nonexperimental design was appropriate for this study because it allowed for the discovery of relationships between the four variables without manipulation (Breaugh, 2008). The research study was quantitative in nature, using a single-stage design with a one-time capture approach. Participants in the study responded to surveys provided to them through an electronic format (Amazon Mechanical Turk or MTurk). This study used pre-established surveys that have shown validity and reliability in previous research. The variables in this study included hours spent gaming per day, workplace self-esteem, counterproductive workplace behavior, gaming motivation, intrinsic motivation, and extrinsic motivation.

Definitions of Key Terms

Gameplay: For this quantitative study, gameplay was defined by Granic et al. (2014) as the player's engagement in one of several different types of video games. Gameplay was defined as any genre of game on any device capable video gameplay—either single or multiplayer—played cooperatively or competitively.

Counterproductive workplace behaviors (CWB): Spector et al. (2005) described CWB as intentional behaviors that harm an organization and its members.

Workplace motivation: Workplace motivation is a set of energetic forces that reside internally and externally within an individual to initiate work-related behaviors

(Tremblay et al., 2009). Workplace motivation manifests in the employee's attention, effort, and persistence, sustained over time to perform productively in the workplace.

Game motivation: Ryan et al. (2006) described gaming motivation as filling a psychological need of satisfaction. This is attested by both the enjoyment of gaming and the preference for future play.

Assumptions

For this study, I assumed that participants would be truthful and honest in responding to the survey questions, including the qualifier items. Birk et al. (2015), Granic et al. (2014), and Ryan et al. (2006) agreed that time spent gaming correlates with individuals both positively and negatively. There is a small body of research that implies that gaming can increase the player's self-esteem, reduce fatigue, decrease the level of work strain, and increase productivity while at work (Birk et al., 2015; Collins & Cox, 2014; Granic et al., 2014; Reinecke, 2009). It was necessary for the purposes of this study to assume that gameplay affects the individual's self-esteem.

Additionally, I assumed that at least half of the respondents regularly engaged in some form of CWB while at work or in their work environment. Based on the findings of Greco, O'Boyle, and Walter (2015), this assumption was necessary to approximate the normality of CWB. Greco et al. performed a meta-analysis based on 81,689 individuals drawn from 258 studies, representing 28 nationalities and multiple industries, such as healthcare, government workers, manufacturers, and service workers. Greco et al. collected self-report assessments and peer or supervised assessment responses to determine the percentage of the sample that frequently engages in CWB; they found that

52.7% of the individuals engaged in some form of CWB while at work daily. These assumptions were necessary for the study in order to understand the components that predict negative and positive workplace behaviors and CWB in employed individuals who participate in gameplay.

Limitations

The sampling method of this study created certain limitations. This study was limited to respondents in the United States who understood written English and who were between the ages of 18 and 65. As a result, the findings may not represent other age groups or other geographical locations. Results of the study may not be generalizable to all employed individuals who participate in gameplay in other geographic areas; this could limit the external validity of the study.

Further, this study was limited to self-reporting measurements for data collection. The data gathered was limited to participants' self-reported engagement in gameplay, workplace self-esteem, and CWB. Data was limited to one-time capture through MTurk, an Internet survey platform. Because this study used an online survey method to collect research, there were circumstances such as self-selection bias and incompletion of the survey that limited the internal validity of the study (Wright, 2005). One-time capture surveys are limited to a snapshot view of the respondent (Lowry, D'Arcy, Hammer, & Moody, 2016). Collecting data once provides retrospective data about past experiences.

Another limitation of this study stemmed from a lack of research regarding work motivation in the context of gaming. Tremblay et al. (2009) reported that the WEIMS could measure the interrelationships between work outcome variables and predict actual

work behaviors. However, there remains a lack of research regarding the effectiveness of the WEIMS in assessing work motivation in the context of gameplay.

Scope and Delimitation

The specific aspects of the research problem addressed in the study were whether time spent engaging in gameplay, the gamer's workplace self-esteem, and gaming motivation predict positive or negative workplace behaviors (such as CWB) in the United States. This focus was chosen because of the potential positive effects that gameplay could have in relation to workplace education, training, and communication. The sample consisted of employed adults between the ages of 18 and 65 who partake in gameplay daily. Participants were able to engage in any gameplay on any available platform. Participants were instructed to report how often they had engaged in gameplay, experienced various levels of self-esteem, and engaged in particular workplace behaviors within the past month. The short timeframe imposed on participants was meant to allow them to accurately recall their time spent engaged in gameplay, effects on self-esteem, and workplace behaviors. This 1-month period is congruent with other research on gameplay (Gabbiadini & Greitemeyer, 2017; König & Caner de la Guardia, 2014).

SDT was chosen as the theoretical framework for this study because this model helps to explain gaming motivation and how time spent gaming is associated with positive and negative workplace behaviors. Theories of self-motivation, such as protection motivation theory (Rogers, 1975) or Maslow's (1943) human motivation theory were not used because these theories explain motivation based on humanistic needs. Although both theories relate to humanistic motivation, neither theory

encompasses intrinsic motivation or the notion that human beings are active, growth-oriented, and naturally inclined to progress forward (Deci, Olafsen, & Ryan, 2017). Deci and Ryan (1985) and Ryan et al. (2006) explained that intrinsic motivation comprises pursuing an activity because an individual finds it interesting and satisfying, while extrinsic motivation involves pursuing an activity for the purposes of value and meaning.

Delimitations for this study included the use of measures such as the Rosenberg Self-Esteem Scale (RSES; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). Whelpley and McDaniel (2016) and Kuster et al. (2013) found that global self-esteem had a stronger relation to workplace self-esteem than organization-based self-esteem. The CWB Checklist (CWB-C; Spector, Bauer, & Fox, 2010) asks individuals how often they perform behaviors that correspond with CWB (Spector et al., 2005). The WEIMS (Tremblay et al., 2009) was used to assess positive and negative workplace behaviors. The WEIMS measured three subconstructs: self-determination, self-determined, and oneself-determined motivation results. These subconstructs support the WEIMS's ability to predict positive and negative criteria in the workplace. Delimitations also included the use of the Behind the Screen Measure (Carrier, Spradlin, Bruce, & Rosen, 2015a) to gather data regarding the participants' time spent engaging in gameplay.

Significance of the Study

Video games have evolved quickly over the past decade, and the number of adults participating in gameplay has increased (Birk et al., 2015; Collins & Cox, 2014; Nagygyörgy et al., 2013; Sublette & Mullan, 2012). Self-esteem gained through gameplay may increase positive work behaviors while simultaneously decreasing CWB

(Birk et al., 2015; Deci & Ryan, 2008). These results could be beneficial to organizations, employers, employees, and self-employed individuals by providing an alternative application for gaming and insight into how to reduce CWB and increase workplace self-esteem, which could lead to increased teamwork, productivity, profit, and employee well-being in the organization (Birk et al., 2015; Ducheneaut & Moore, 2004; Wang & Hsu, 2016). Birk et al. (2015), Ducheneaut and Moore (2004), and Wang and Hsu (2016) discovered that participants who played multiplayer games experienced an increase in team-building skills.

This study contributes to the existing literature pertaining to gameplay, workplace self-esteem, motivation, and CWB. Although there is a small body of research on each of those separate topics, there is minimal research on the potential real-world applications of increased self-esteem gained through gameplay (Collins & Cox, 2014; Sublette & Mullan, 2012). Current research lacks empirical evidence indicating a possible correlation between game play, workplace self-esteem, motivation, and CWB (Spector et al., 2005). The results of this study may be used to develop workplace protocols and training modules addressing gameplay, reduced recovery time, and negativity among employees. Researchers noted that workplace training modules that included gameplay reduced recovery time, negativity, and contributed to overall health benefits among employees who took time to partake in gameplay on break or at lunch while at work (Beard & Wickham, 2016; Chiappe, Conger, Liao, Caldwell, & Vu, 2013; Ducheneaut & Moore, 2004; Nagygyörgy et al., 2013; Reinecke, 2009; Sublette & Mullan, 2012). Further understanding of these relationships may contribute to positive social change by

providing employees and employers with more insight about how they can reduce CWB and improve workplace morale and productivity (Tremblay et al., 2009).

Results of this study could signify the importance of the impact that gameplay has on individuals, communities, and organizations, as well as illustrating the various psychological concepts associated with gameplay. The relationship between these variables is of interest to employers, employees, the self-employed, and current job seekers, who could all benefit from an increase in positive workplace behaviors. Organizations and employers may also find the alignment between intrinsic and extrinsic motivation beneficial in relation to the well-being of employees and to the reduction of negative behaviors that contribute to CWB. This study may support adult gamers, organizations, self-employed individuals, and game developers by increasing awareness of the potential problems and assets of game play. The ability to increase adult gamers' workplace self-esteem, motivation, and productivity through gameplay could be beneficial to the lives of not only the adult gamers, but also those who interact with the gamers (Beard & Wickham, 2016).

Summary

In Chapter 1, I introduced ideas of gameplay, workplace self-esteem, CWB, and gaming motivation in the workplace. I suggested that gameplay affects workplace self-esteem and that workplace self-esteem affects CWB, as well as positive and negative workplace behaviors. This chapter provided a brief description of the importance of gameplay and workplace self-esteem and how it could affect workplace environments and employee behaviors. This chapter presented definitions of important terms related to

gameplay and workplace behaviors, along with an overview of assumptions and limitations of the study. This quantitative study was designed to explore the relationships between time spent gaming, workplace self-esteem, CWB, and positive and negative workplace behaviors. Chapter 2 contains a review of literature related to the problem statement and explores the current research related to gameplay, workplace self-esteem, and workplace behaviors.

Chapter 2 Literature Review

CWB are an ongoing problem in organizations (Bauer & Spector, 2015; Huangfu, Lv, Sheng, & Shi, 2017; Whelpley & McDaniel 2016). If not addressed appropriately, these behaviors could lead to chaos within an organization (Kim & Beehr, 2017; Whelpley & McDaniel 2016; Yang, Zhang, Kwan, & Chen, 2018). According to Thompson and Gomez (2014) and Whelpley and McDaniel (2016), CWB have prompted employees to miss days of work and incur higher medical costs; the behaviors also lowered overall productivity levels in the organization.

The purpose of this quantitative study was to investigate the relationship between video gameplay, CWB, workplace self-esteem, and positive and negative workplace behaviors using SDT as a framework (Tremblay et al., 2009). Granic et al. (2014), Ryan et al. (2006), and Birk et al. (2015) suggested that gaming is a rapidly-growing industry affecting most organizations and that gameplay has the potential to enhance mental health and overall well-being. The lack of research on the potential positive impact of gameplay leaves an important gap in the literature regarding how positive self-esteem from gaming may lower the player's propensity to engage in CWB. Historically, research that has focused on the behaviors and emotions of players has not explored the positive effects of gaming nor aligned intrinsic and extrinsic forms of motivation.

There is a limited body of empirical research that explains the benefits of gameplay and a lack of research on integrating gameplay into the workplace; however, Birk et al. (2015), Granic et al. (2014), and Ryan et al. (2006) suggested that time spent gaming can impact individuals both positively and negatively. Likewise, Beard and

Wickham (2016), Birk et al., (2015), Kaye, Kowert, and Quinn (2017), and Wang and Hsu (2016) found that video gameplay among adults increased overall self-esteem. In their works, the prevalence of gameplay influenced researchers to study the negative impacts of gaming due to several factors, such as time spent gaming and lack of face-to-face socialization. Sublette and Mullan (2012) and Birk et al. (2015) postulated that gaming created several positive effects, which may transfer into the players' real-world environment or workplace. Gaming may lower the incidence of CWB and improve the employee's well-being by increasing workplace self-esteem.

Although there is much research on the negative aspects of gaming, very little is known about the benefits of gaming and how it transfers to gamers' real-life relationships. The purpose of this literature review is to critically evaluate the empirical studies regarding self-esteem among adults who partake in video gameplay. I also evaluated studies on self-esteem and the prevalence of CWB, as well as research on motivation in the context of gaming. In the following sections, I present the literature search strategy used to gather empirical research as well as the theoretical foundation of SDT. I also provide a synopsis of the current literature regarding gameplay, workplace self-esteem, CWB, and motivation in the context of gaming. This is followed by a concluding summary.

The literature search strategy involved gathering peer-reviewed articles from the past 5 years in databases such as Business Source Complete, EBSCO, Emerald Insight, ProQuest, PsycINFO, PsychARTICLES, Science Direct, and Taylor and Francis. Keywords used for the search included *gameplay, motivation workplace gaming, gaming*

and self-esteem, workplace self-esteem, counterproductive workplace behaviors, intrinsic motivation, extrinsic motivation, and *gaming motivation.* The literature review included an initial search for sources from 2010 to the present. This was followed by a search for materials from any year to explore issues examined using SDT (Deci & Ryan, 2008).

Theoretical Foundation: Self-Determination Theory

The framework for this study was Deci and Ryan's (2008) SDT. SDT focuses on intrinsic and extrinsic motivation while addressing basic individual needs and particular behaviors of effective performance, which are contingent upon self-esteem (Deci & Ryan, 2008). SDT is a macro theory of human motivation that has successfully been used across diverse fields, such as education, healthcare, sports, psychotherapy, and virtual reality (Deci et al., 2017). SDT is based on the assumption that all individuals have natural, innate tendencies to develop a unified sense of self by satisfying extrinsic and intrinsic needs for competence, autonomy, and relatedness (Brown & Leary, 2016; Deci & Ryan, 2008; Lafrenière et al., 2012). The two factors that guided this study were (a) the relationship of gaming to on-the-job self-esteem; and (b) CWB, which in SDT would be categorized as autonomous and controlled motivation. Di Domenico and Ryan (2017), Przybylski, Rigby, and Ryan (2010), and Ryan et al. (2006) suggested that SDT could be successfully applied to gaming and motivational play; however, it does not appear to have been previously applied to how gaming effects self-esteem on the job and CWB. SDT may indicate that gaming, self-esteem, and motivation for gameplay have positive effects on well-being and workplace self-esteem.

Origin of Self-Determination Theory

SDT (Deci & Ryan, 2008) comprises autonomous motivation and controlled motivation. Autonomous motivation encompasses both intrinsic motivation and a particular type of extrinsic motivation in which people have identified with an activity's value or ideal and considered how it will integrate into their sense of self. When Deci and Ryan (1982) started theorizing about motivation, two primary cognitive processes that affect intrinsic motivation were discovered, establishing causality evaluation theory (CET). Deci and Ryan (2002) explained that CET focuses on the effects of intrinsically-motivated behaviors. In fact, CET applies primarily to activities that people find interesting, optimally challenging, and aesthetically pleasing (Deci & Ryan, 2002). SDT, on the other hand, accounts for a notable variance in the outcomes of studies within organizations and distinguishes between autonomous motivation and controlled motivation (Deci et al., 2017). Deci and Cascio (1972) noted that money alone did not satisfy intrinsic motivation. Deci and Ryan (2011) discussed the experiments and indicated that subjects who received rewards became dependent upon the external reward. Deci and Cascio (1972) and Harlow (1953) noted that the subjects were essentially performing for payment rather than for health reasons.

SDT was formed based upon findings of Deci and Cascio (1972) and Deci and Ryan (1985); results showed that both internal and external factors contributed to motivation. Internal factors such as autonomy, relatedness, and competency represented needs that individuals sought to fulfill (Deci & Ryan, 2002; Deci & Ryan, 2008; Deci & Ryan, 2011). When people are autonomously motivated, they experience a self-

endorsement of their actions (Deci & Ryan, 2011). Deci and Ryan (2002), Kay et al. (2017) and Wang and Hsu (2016) explained that controlled motivation, consists of both external regulation, in which a person's behavior is a function of external contingencies of reward or punishment, and introverted regulation, in which regulation of action has been partially internalized and energized by factors such as approval, motive, avoidance of shame, contingent self-esteem, or ego involvement.

Ryan et al. (2006) investigated how SDT applies to gameplay and a person's motivation to participate in gaming, as well as the impact of gameplay on psychological well-being and basic psychological needs. They conducted a series of four studies (N = 50 undergraduates). A paired sample t test conducted before gameplay established a vitality baseline ($t = 3.13$, $p < .01$) of well-being. A paired sample t test showed an average increase in self-esteem ($t = 2.69$, $p < .1$) immediately after the participant completed their play time. Ryan et al. (2006) provided initial evidence indicating that gameplay affects self-esteem. Likewise, Kay et al. (2017) and Wang and Hsu (2016) also noted significant correlating outcomes between video gameplay and self-esteem.

Intrinsic motivation refers to the tendency to be curious and interested, to pursue challenges, develop skills, and further understanding even without tangible rewards; in other words, to act simply because of the inherent satisfactions the activity yields (Di Domenico & Ryan, 2017). Extrinsic motivation refers to engaging in an activity to obtain a consequential reward or achievement or to evade punishment (Deci et al., 2017; Di Domenico & Ryan, 2017). However, extrinsically-motivated activities can still engender

intrinsic motivation under certain circumstances, where people engage in an activity with authenticity and vitality (Deci et al., 2017).

Early evaluations of CET noted that intrinsic motivation would likely happen in an atmosphere where an individual felt a secure connection with the surrounding people (Deci & Cascio, 1972). By connecting with people, individuals likely feel higher levels of efficacy and receive positive feedback for their contributions. Harlow (1953) noted an incident along the same lines: when primates were rewarded, they eventually stopped being curious about their surroundings. Most learning is intrinsically motivated, occurs across a person's lifespan, and serves as an important impetus to engagement and revitalization.

Extrinsic motivation refers to behaviors performed in service of an outcome outside of the activity itself (Di Domenico & Ryan, 2017; Deci et al., 2017; Niemiec & Ryan, 2009). According to Deci and Ryan (2009) and Niemiec and Ryan (2009), the least autonomous type of extrinsic motivation is externally regulated. For example, Deci et al. (2017) noted that when an individual is more autonomously motivated, their performance improved, and they become better adjusted. Furthermore, when extrinsic forces control motivation (e.g., rewards or power dynamics), they have a negative effect on individual performance and the work environment (Di Domenico & Ryan, 2017; Deci et al., 2017). Niemiec and Ryan (2009) explained another type of extrinsic motivation: introjected regulation. This process consists of acting to either satisfy internal contingencies or serve as self-aggrandizement and avoidance. For example, a student may study solely to get

good grades; however, the student might then begin studying to feel pride or to avoid feeling guilty for not adequately studying (Niemiec & Ryan, 2009).

Deci and Ryan (2008) believed that all humans have three basic needs: competence, relatedness, and autonomy. A human need is something that people must satisfy for optimal wellness and performance. If these needs are not met, there will be negative psychological consequences (Di Domenico & Ryan, 2017). Psychological needs are important to understanding what promotes autonomous motivation. When people feel competent and related to others, and when they feel volition in their own actions, they are autonomously motivated and positive consequences follow.

Competence

The need for competence leads people to seek challenges that are optimally suited to their capacities, as they attempt to maintain and enhance skills through activities (Niemiec & Ryan, 2009). Competence is regarded as a driving force motivating the individual to engage in gameplay. Additionally, competence suggests a feeling of effectiveness in a person's ongoing interaction with the social environment, creating occasions to exercise and express their capabilities (Deci & Ryan, 2002, 2010; Przybylski et al., 2010; Rigby & Ryan, 2011). Rigby and Ryan (2011) found that satisfying a person's need for competence is a significant predictor of motivation for gamers, regardless of the genre of game.

Competence is not, then, an attained skill or capability; more accurately, it is a sense of assurance and efficiency in action which is best for facilitating further development (Di Domenico & Ryan, 2017). Children are motivated as they learn to

crawl; they stretch these abilities and as they grow and learn to walk. As children master crawling, then walking, they find joy and happiness in these processes. Seeking out new tasks and mastering challenges is inherently enjoyable and energizing (Rigby & Ryan, 2011). In fact, intrinsically-motivated activities are reinforced by the need for competence and the need for novel stimuli and optimal challenges (Di Domenico & Ryan, 2017). Deci and Ryan (2010) and Gagné and Deci (2005) explained that the same is true for working adults: having a job that is not challenging—or that does not present new responsibilities—grows old. Humans continue to search for new challenges and ways to grow as individuals (Deci et al., 2017; Di Domenico & Ryan, 2017). Competence satisfaction is achieved by pursuing challenges that stretch one's abilities. However, Deci and Ryan (2010, 2011) and Niemiec and Ryan (2009) also believe that meaningful, non-judgmental feedback is also useful, allowing the individual to learn and improve.

Deci and Ryan (2010), Przybylski et al. (2010), and Rigby and Ryan (2011) found that video games satisfy a player's need for competence. Games provide players with challenges that stretch the players to new levels, allowing them to master new skills. Overcoming challenges satisfies the gamer's intrinsic need for competence (Deci & Ryan, 2002, 2010; Przybylski et al., 2010; Ryan et al., 2006; Rigby & Ryan, 2011; Wang & Hsu, 2016). Gameplay is designed to be an emotional engagement that satisfies the player's need for competence, achievement, and the development of new skills.

Wang and Hsu (2016) also discovered a positive relationship between gaming rewards and game enjoyment. This relationship suggests that extrinsic reward is an important mechanism that can trigger feelings of intrinsic reward (Wang & Hsu, 2016).

Hoffman and Nadelson (2010) reported that 66% of gamers ($N = 189$) felt that a degree of challenge was essential to their continuous engagement in gameplay. However, if the challenge was too difficult, the player would abandon the game (Hoffman & Nadelson, 2010).

Autonomy

Autonomy is an intrinsic motivational need encountered in several domains of life—including work, relationships, education, and health—which fosters feelings of well-being and satisfaction (Rigby & Ryan, 2011). Acting with autonomy involves endorsing the thing that one does. Intrinsic motivation causes individuals to experience happier, healthier, and more motivated lives as they engage in activities that instill a sense of personal autonomy (Deci & Ryan, 2002; Rigby & Ryan, 2011). If an individual is performing a task with a sense of volition or choice and value, then they are doing it with autonomous motivation.

Autonomous behavior coincides with abiding values and interests; these actions are self-endorsed, as well as congruent with implicit and explicit motivations. Deci and Ryan (1985, 2002) and Ryan and Rigby (2011) explained that, when people are autonomously motivated, they are more likely to perform better, and that they are healthier than when engaging in controlled motivation. Puerta-Cortés, Panova, Carbonell, and Chamarro (2017) listed several reasons for engaging in gameplay: wanting to make friends, emotional escapism, stress reduction, boredom alleviation, and experiencing increased self-esteem and autonomy. As a result, Puerta-Cortés et al. (2017) noted that an

increased understanding of autonomous gameplay motivation could facilitate the development of a treatment plan.

There are two types of autonomous motivation: intrinsic and extrinsic. When individuals internalize extrinsic motivation, they claim it as their own. When they understand the value of activities that may be requested of them—and integrate these tasks as part of themselves—they are autonomously motivated, and the outcomes are positive (Deci & Ryan, 1985, 2002, 2006; Przybylski et al., 2010; Ryan & Rigby, 2011). Fida et al. (2015) noted a relationship between autonomy and job control, like Niemiec and Ryan (2009). Both Niemiec and Ryan (2009) and Fida et al. (2015) concluded that a lack of job control and choice decreases autonomy and leads to negative behaviors.

Satisfaction of autonomous needs was found to be essential for psychological growth, integrity, and wellness (Deci & Ryan, 1985). The same process takes place when an individual engages in gameplay. Ryan and Rigby (2011) and Przybylski et al. (2010) found that most individuals do not feel autonomy every day, but that there are four features of gameplay that can provide the player with autonomous satisfaction: identity, activity, strategy, and open-world designs. Identity refers to the player's ability and association to his/her character. In many massive multiplayer online games (MMORPG), players can customize their characters' facial features, hair, clothes, and accessories. Features such as clothes and accessories are continuously changed and customized throughout gameplay. Przybylski et al. (2010), Gagné and Deci (2005), and Rigby and Ryan (2011) explained that this customization represents a significant creative outlet, allowing players to express themselves and satisfying their need for autonomy.

Activity and strategy are other ways that games were found to satisfy a need for autonomy, by giving choices to the player (Gagné & Deci, 2005; Rigby & Ryan, 2011). These choices were found to be like the player might encounter in real-world situations or at work. Additionally, Rigby and Ryan (2011) found that games focused on providing autonomy in choices and strategy of gameplay by providing many different paths to accomplish goals, allowing the player to explore different options. Przybylski et al. (2010) and Rigby and Ryan (2011) explained that open-world game design excelled at providing multiple avenues of autonomy satisfaction, such as identity, action, and strategy. Players are free to go where they wish and make their own choices. Players could follow the story or make another choice and do something different. Rigby and Ryan (2011) explained that open-world designs are powerful in satisfying one's need for autonomy. Brown and Leary (2016) added that individuals who satisfy autonomy supply proximal support for intrinsically-motivated activities.

According to Birk et al., (2016), in-game context affects a gamer's sense of social interaction and in-game autonomy; this can lead to an increase in the amount of time one spends engaging in gameplay. Moreover, Beard and Wickham (2016) asserted that individuals engage in gameplay to meet self-esteem needs. Beard and Wickham (2016) noted that internal pressure motivated individuals to address self-esteem threats through online gaming. This was due to a limited sense of autonomy, which encouraged them to seek validation from external sources. Consequently, Di Domenico and Ryan (2017) noted that autonomy refers to self-organized rather than internally-conflicted, pressured, or externally-coerced behaviors. Autonomy within SDT is an essential election in which

individuals actively seek out challenges that satisfy their curiosity, keep them interested, and develop and express their capacities (Di Domenico & Ryan, 2017; Gagné & Deci, 2005; Olafsen et al., 2017).

Relatedness

With each passing year, video games become more social by providing players more opportunities to interact and communicate with each other. Many games now allow players to meet people, spend time with friends, share experiences, and work together on game tasks. This concept has been facilitated by the Internet, which allows the gamers to fully engage with each other. There is evidence that relatedness plays a large role in self-directed behavior in addition to intrinsic motivation (Deci & Ryan, 2000; 2011; 2012; Przybylski et al., 2010).

Relatedness refers to feeling of togetherness, to caring for and being cared for by others, and to having a sense of belonging (Harlow, 1953; Olafsen et al., 2017; Deci & Ryan, 2000, 2011). Relatedness reflects the integrative tendency of life and reflects an integral need to connect with and be accepted by others. Deci, Koestner, and Ryan (1999) and Przybylski et al. (2010) explained relatedness not as the attainment of certain outcomes or rewards, but rather as a sense of being with others in secure communion or unity. Likewise, Olafsen et al. (2017) found that relatedness was associated with higher levels of work-related stress than competency and autonomy, and that work-related stress arises from unsupportive work environments. Przybylski et al. (2010) and Rigby and Ryan (2011) explained that, unlike movies, the interactive nature of gameplay has the potential to satisfy the need for relatedness, even if the player is playing alone. According

to Rigby and Ryan (2011), multiplayer games allow the player to interact with non-player characters and other players. Players experience shared challenges to pursue opportunities to support one another and cooperate and are rewarded in victory. Rigby and Ryan (2011) indicated that each of these elements increase the feelings of meaningful connectivity and companionship.

Relatedness remains a central and direct influence on motivation (Di Domenico & Ryan, 2017; Huang, Sun, Hsiao, & Wang, 2017; Przybylski et al., 2010; Vallerand, Pelletier, & Koestner, 2008). More specifically, relatedness provides individuals—especially children—a sense of safety and a secure foundation from which to express their exploratory tendencies (Di Domenico & Ryan, 2017). Rigby and Ryan (2011) explained three primary components of relatedness satisfaction; acknowledgment, support, and impact. Acknowledgment was defined as the first step to relatedness: being acknowledged by another person with the same or similar thought process. Support was described as an individual's desire to be supported in goals and ambitions in life (as well as in gameplay). Impact represents healthy support, where individuals matter to each other. This is also considered a complex and deep connection between two partners, also known as mature dependence (Vallerand et al., 2008). In other words, relationships with significant others represent an opportunity to fulfill one's psychological needs, not only through the caring they provide the individual but also the caring the individual offers to others (Vallerand et al., 2008). Di Domenico and Ryan (2017) emphasized the fact that connection and caring for others are critical components in satisfying the need for relatedness. Additionally, Huang et al. (2017) noted that a lack of relatedness

significantly correlated with CWB within various organizations. Huang et al. (2017) concluded that to reduce organizational CWB, managers and supervisors should invest in training to improve perceived relatedness. Relatedness training could have a stronger effect on reducing organizational and interpersonal CWB than perceived competence (Di Domenico & Ryan 2017; Huang et al., 2017).

Summary of Self-Determination Theory

SDT characterizes human beings as active organisms who are innately motivated from birth to grow and improve by expressing their abilities and ability to actualize their humanistic possibilities (Birk & Mandryk 2016; Deci & Ryan, 2002; Di Domenico & Ryan, 2017; Gagné & Deci, 2005; Olafsen et al., 2017). To understand motivation, one must consider various motivational factors, such as social and environmental relationships. In a study of over 20,000 gamers, Rigby and Ryan (2011) found that video games are the most successful, engaging, and fun when they satisfy specific intrinsic needs. Research on the effects of relatedness, autonomy, and competence, as they relate to gaming motivation and gaming satisfaction, found that these three elements evoke a deep engagement in those who play video games (Gagné & Deci, 2005; Rigby & Ryan, 2011; Park & Choi, 2009). However, no extant research applies SDT to motivation in the context of gaming and CWB.

Motivation in the Context of Gaming

According to Birk and Mandryk (2016), Deci and Ryan (2010), Gagné and Deci (2005), Hoffman and Nadelson (2010), Przybylski et al. (2010), and Wang and Hsu (2017), gaming motivation comprises attributes that meet the player's needs (such as

gratification, socialization, enjoyment, and self-esteem) on a consistent basis. Satisfaction and gratification has been combined in the research of Przybylski et al. (2010) into a psychological need that is met through gameplay by providing challenges for the player; when games meet this need, they also influence short-term wellness (e.g., by increasing self-esteem). Researchers have long assumed that gaming is a negative form of entertainment for both adolescents and adults. For example, Bargeron and Hormes (2017) warned that video gameplay might lead to symptoms of depression, isolation, and impairments in psychological functioning. However, others argue that gaming can lead to a productive lifestyle, where gaming motivation aligns with real-world motivations. Hoffman and Nadelson (2010) and Przybylski et al. (2010) noted that engagement in gameplay relieved feelings of depression and anxiety. Several researchers have recently suggested that motivation from gaming stems from several fundamental and psychological dynamics addressed in the theory (Ryan et al., 2006). Beard and Wickham (2016), Wang and Hsu (2016), and Yang, Asaad, and Dwivedi (2017) discussed gaming motivation focusing on various forms of socialization, rewards, and achievements.

Gratification

A number of scholars have already suggested that the broad appeal of gameplay is based on the need for satisfaction that play can provide; while motivational processes are found to be robust predictors, along with differences in player demographics, and they apply across game genres and content (Blacker et al., 2014; Dalisay, Kushin, Yamamoto, Liu, & Skalski, 2015; Przybylski et al., 2010; Wang & Hsu, 2016). Some researchers define motivation as a combination of gratification, motivation, and enjoyment (Dalisay

et al., 2015; Wang & Hsu, 2016). Others define gaming motivation as being concentrated in a social realm (Blacker et al., 2014; Przybylski et al., 2010). Webster's Webber (1999) dictionary defines "motivation as the reason one has for acting or behaving in a particular way."

There are many reasons why an individual chooses to engage or partake in gameplay. Przybylski et al. (2010) suggested that gaming motivation is based on the psychological need of satisfaction. Satisfaction is experienced through gameplay by successfully completing challenges, enhancing short-term wellness (Przybylski et al., 2010). Wang and Hsu (2016) agreed that gaming motivation stems from several different psychological factors, concluding that a pleasant and enjoyable experience motivates the gamer to continue playing. Wang and Hsu (2016) described this concept as intrinsic motivation or enjoyment concentration. Although Wang and Hsu's findings indicated that experienced gamers had a greater awareness of their gaming motivation, findings also suggested that new players could recognize these motivational concepts once they had surpassed the novice stage.

Some researchers argue that gameplay has promoted significant negative behaviors, whereas others find that gaming motivation positively impacts the psychosocial and overall well-being of the players, even in the real world. Dalisay et al. (2015), for example, associated gaming motivation with civic engagement, and found that gaming motivation was positively correlated with self-esteem, socialization, achievement, and enjoyment of gameplay. Although Dalisay et al.'s (2015) findings suggested that achievement motivation was not related to political participation, it was

noted that individuals who partake in video gameplay seek to achieve and satisfy a humanistic need.

The motivation to engage in gameplay has been studied and evaluated over the past decade: initial researchers indicated that players engage in gameplay to escape real world problems, thereby leading to social anxiety and isolation (Bargeron & Hormes, 2017; Lee & Leeson, 2015; Liu & Peng, 2009; Rosenberg, Schooler, & Schoenbach, 1989). However, Blacker et al. (2014), Dalisay et al. (2015), and Przybylski et al. (2010) emphasize that gaming motivation is a conglomeration of several psychological factors.

Satisfaction

Many people assume that gameplay is simply a form of personal entertainment and serves no purpose for the gamers. One would assume that gamers are simply wasting time playing a game for a few hours a week. I do not believe this to be case; most gamers today are satisfying a need for satisfaction, gratification, or accomplishment. Over the past decade, researchers have found several different reasons why players are motivated to play games. Przybylski et al. (2010) endorsed the notion that by fulfilling their needs for satisfaction, players felt greater autonomy to pursue game goals. Sweetser and Wyeth (2005) found that gaming motivation consists of a combination of elements that provide a sense of enjoyment. Beard and Wickham (2016) agree that players continue to play and return to gameplay due to intrinsic satisfaction and self-worth; however, players with lower self-esteem interact differently with games and may be more likely to engage in problematic play, leading to maladaptive cognition related to online interaction.

However, Beard and Wickham (2016) did not provide clinical explanations regarding the nature of potential cognitive distortion related to gameplay.

Yang et al.'s (2017) research on gamification is interesting to the present study; gamification is the practice of applying game design elements to a particular real-world system. Although this study explored gamification in a marketing context, the main objectives of the research further investigated the player's behavioral intentions to engage in gameplay, addressing the broader attitude towards gaming motivation. Like Beard and Wickham (2016) and Przybylski, et al. (2010), Yang et al. (2017) endorsed the notion that satisfaction may shape the individual's attitudes, particularly with regards to ease of technology use. The researcher concurs with Yang et al. (2017): ease of technology use motivates choices about engaging with particular platforms; for instance, playing the Nintendo Switch vs. the Sony PlayStation vs. the Microsoft Xbox. Gamers chose consoles based on ease of use and enjoyment of gameplay.

Game enjoyment is a relatively new form of gaming motivation, although some would consider it a natural form of motivation. Limperos, Schmierbach, Kegerise, and Dardis (2011) considered enjoyment to be a primary factor of gaming motivation. Lee and Leeson (2015) and Przybylski et al. (2010) also agreed that enjoyment of play is a significant contributing factor. Consequently, enjoyment of play is a combination of several different factors. For example, the researcher classifies ease of use as a combination of the following: a simple yet functional user interface, easy-to-use controllers that are comfortable to hold, and ease of gameplay. Game preferences can also play a role in one's perception of ease of use: a player who prefers adventure or

roleplaying games may find those genres easier to use than a gamer who mostly chooses first-person shooters. In short, players have different ideas regarding ease of use.

Limperos et al. (2011) showed that enjoyment of gameplay was a primary motivating factor for players (as compared to challenge, control, time, transformation, and feelings of concentration). They listed their findings in a series of ANCOVAs where $F(1, 23) = 5.73$, $p < 0.05$, among individuals who engaged in gameplay (Limperos et al., 2011). According to Birk and Mandryk (2016), Beard and Wickham (2016), Lee and Leeson (2015), and Limperos et al. (2011), digital games foster task engagement and intrinsic motivation. Individuals choose to take part in gameplay during their leisure time, and they spend a significant amount of time playing games. Hussain, Williams, and Griffiths (2015) discussed the addictive properties of gameplay over the past decade; research demonstrates the positive consequences of gameplay while also acknowledging certain deficits and challenges presented to physicians. For example, while Birk and Mandryk (2016) found that enjoyment was the primary motivating factor for players to engage in gameplay, they remain cautious of potential addictive behaviors from those who game excessively.

Individuals' Gaming in Relation to Workplace Behaviors

Gameplay in the workplace is a new area for researchers. Media and gaming technologies have evolved quickly over the past decade, and mobile devices continue to evolve at an even faster rate (Collins & Cox, 2014; Lee, Lee, & Hwang, 2015; Rigby & Ryan, 2011). Organizations and employers strive to reduce stress, increase workloads, and decrease employee errors to cut costs (Petridis et al., 2015). Gameplay during work

hours has shown some promising potential for improvement in each of these areas, yet little is known about how gameplay affects workplace self-esteem. Cost-effective training tools have evolved over the past decade (Beard & Wickham, 2016; Chiappe et al., 2013; Lee et al., 2015; Rigby & Ryan, 2011). These tools are related to workplace motivation, workplace stress reduction, and the performance of multiple tasks at work, allowing employees to increase their overall performance (Conger, Liao, Caldwell, & Vu, 2013; Lee et al., 2015; Rigby & Ryan, 2011). Chiappe et al. (2013) reported that employees who played action video games for five hours a week for 10 weeks showed fewer errors despite their increased workload. Findings indicated that gameplay could help individuals improve reactions to work-related requests when experiencing high workloads (Chiappe et al., 2013). Evidence also suggested that gameplay enhances the process of perceiving peripheral information such as task relevance and information comprehension (Chiappe et al., 2013). According to Chiappe et al. (2013), training programs that incorporate action gameplay will likely yield improvement in employees' frequencies of operational errors and maintenance of situational awareness when faced with multiple tasks.

According to Collins and Cox (2014) and Reinecke (2009), participants who engaged in gameplay while training or on breaks at work were found to be more relaxed and recovered energy quicker, thereby decreasing mental disengagement from work-related issues. Chiappe et al. (2013) confirmed that engaging in video gameplay increases individuals' attentional capacity, thereby allowing them to successfully take on additional tasks at work. Although gaming has been found to provide a positive impact on employees, Chiappe et al. (2013), Mastrangelo, Everton, and Jolton (2006), and Reinecke

(2011) agreed that playing video games while on the job equates to the absence of productivity.

Reinecke (2009) reported that (N = 388) participants (out of N = 1212) engaged in gameplay during work hours. Reinecke (2009) noted a high correlation between recovery experience and gameplay. Additionally, there was also a significant relationship between work-related fatigue and recovery experience associated with gameplay (β = 0.28, $p < .01$). According to Reinecke (2009), these findings suggested that individuals engaged in gameplay more often when the recovery experience was higher, and when a there was a lack of social support for the individual.

Collins and Cox (2014) evaluated psychological detachment from work due to time spent gaming. Collins and Cox (2014) discovered a significant correlation between time spent gaming and recovery. Collins and Cox (2014) noted that the largest difference between their findings and the findings of Reinecke (2009) was the negative correlation between gameplay and social support. Between 2009 and 2013, gaming advanced in its capacity to foster social interactions (Beard & Wickham, 2016; Collins & Cox 2014; Hussain et al., 2015). Although Reinecke (2009) provided accurate findings for the time, Collins and Cox (2014) provided more contemporary findings related to gameplay and social support.

Until recently, research has focused on the negative consequences of personal computer use in the workplace (König & Caner de la Guardia 2014; Mastrangelo et al., 2006). This has resulted in employers and organizations restricting employees' Internet access, thereby preventing the use of social media and allowing only work-related

content to be accessible while at work (König & Caner de la Guardia, 2014). Sublette and Mullan (2012) linked gameplay to harmful psychological effects and addictive behaviors; however, Birk et al. (2015) and Granic et al. (2014) disproved many of these claims. Granic et al. (2014) found that gaming led to increased self-esteem, socialization, physiological enhancements (such as eye-hand coordination) and increased visual spatial skill—each of which represents an important job skill.

Gaming has become part of everyday life for many age groups; Granic et al. (2014) indicated that 10 million adults participate in gameplay daily on computers, consoles, and mobile devices. Gaming has recently provided some improvements to workplace environments, enhancing training, decision support, and consumer outreach (Petridis et al., 2015). Birk et al. (2015) determined that the player's self-esteem while playing was related to his or her success during gameplay among 125 (SD = 10.23) participants. The correlations between self-esteem and gameplay indicated a sample (M = 21.47, SD = 5.15) that was comparable to the general sample (M = 22.62, SD = 5.80). Birk et al. (2015) conducted a regression analysis and discovered the total effect of self-esteem was ($\beta = .38$, $p < .05$), whereas the direct effect was ($\beta = .20$, $p < .05$). Results indicated that players experienced an increase in self-esteem while gaming and during post-game analysis.

Benefits of Gameplay Among Adults

Games have evolved past single-player gameplay, thereby allowing players the option to pursue multiplayer gameplay. Games can now be played both socially and non-socially (that is, cooperatively or competitively), depending how the player chooses to

engage in gameplay (Granic et al., 2014). The social nature of gaming promotes adult gamers to interact with each other to advance in the game (Ducheneaut & Moore, 2004; Sweetser & Wyeth, 2005). Sublette and Mullan (2012), Wang and Hsu (2016), and Nagygyörgy et al. (2013) confirmed that players felt more connectedness with their online friends and that players found it easier to engage in online vs. offline conversations. Furthermore, game designers have recognized these encounters as essential aspects of virtual worlds (Ducheneaut & Moore, 2012). Nagygyörgy et al. (2013) and Sublette and Mullan (2012) found that prolonged engagement with multiplayer games could reduce isolation, initiate the start of a relationship, and satisfy social needs. In-game socialization was shown to promote real-world prosocial skills among players. Sublette and Mullan (2012) confirmed that individuals were able to make new friendships more easily after playing multiplayer games.

Socialization

The social nature of gameplay has changed over time; games today are far more social than those of 10 to 20 years ago were. Social skills manifest in the form of civic engagement, such as one's ability to organize groups and lead like-minded individuals in social causes. Massive multiplayer online role-playing games (MMORPGs) and online games allow the player to engage with other players as well as the game's environmental elements. Both MMORPGs and online games allow the player to communicate and interact socially. For example, Granic et al. (2014) emphasized that gameplay offers particular benefits in social and prosocial behavior. Researchers conducted a meta-analysis on 12 studies from the past 10 years. Granic et al. (2014) explained that several

studies found that individuals who engaged in MMORPGs were more likely to engage in social civic movement in their everyday lives. Other studies also confirmed the importance of social engagement by elaborating on positive emotions involved in motivating and building social relationships (Granic et al., 2014). Several studies also explored problem solving, which was linked to social support and lower levels of depressive symptoms.

Sublette and Mullan (2012) found similar social benefits of gaming. A systematic review of 12 studies was conducted to review the psychosocial effects contributing to online gameplay and social isolation (Sublette & Mullan, 2012). Coincidentally, Sublette and Mullan (2012) revealed that only gamers who engaged in problematic gameplay experienced significant negative consequences, whereas many other gamers experienced positive effects from gameplay. Nine studies focused on the social impact of online gameplay; three out of the nine proposed that online socialization decreased offline socialization. Sublette and Mullan (2012) explained that players preferred online socialization due to feeling increased connection and global awareness in the virtual environment. Sublette and Mullan (2012) explained that two studies found that players' real-world relationships were improved, and that players were able to make offline friends more easily.

Similar research was conducted by Nagygyörgy et al. (2013) to compare a sample of gamers playing different types of Massive Multiplayer Online Games (MMOGs) among a large sample ($N = 4,374$) in relation to their social-demographic characteristics and gaming characteristics. Nagygyörgy et al. (2013) classified online gameplay into four

groups: MMORPG, Massive Multiplayer Online First-Person shooter, Massive Multiplayer Online Real Time Strategy (MMORTS), and other. Research revealed that 38% of MMORPG players spent more than 28 hours per week (an average of four hours a day) engaging in gameplay, whereas MMORTS players engaged in less than two hours of gameplay per day. Nagygyörgy et al. (2013) further explained that MMORPG players were primarily influenced by the structural characteristics of video games, such as narrative features and gaming rewards. Researchers noted that socialization as armature group play $\chi 2$ (2, N = 4,374) = 8.6, p < .01 (.283), MMORPGs $\chi 2$ (2, N = 4,374) = 31.7, p < .05, and MMOFPS $\chi 2$ (2, N = 4,374) = 31.4, p < .05. These findings are significant due to the amount of socialization and teamwork players experience when engaged in gameplay.

Self-Esteem

Self-esteem is defined as an individual's perception of his or her own self-worth (Rosenberg, 1965). Researchers have noted that self-esteem in relation to gaming correlates with gaming motivation and post-gameplay behaviors (Kaye et al., 2017; Park et al., 2016). Birk et al. (2015) and Kaye et al. (2017) found that players reported different levels of self-esteem during these times. Some players play games out of enjoyment; others play to satisfy a personal need (what that need is is known or unknown to the player). Birk et al. (2014) and Kaye et al. (2017) agreed that online gameplay and independent gameplay promote positive self-esteem. According to Birk et al. (2015), Kay et al. (2017), Park et al. (2016), and Wang and Hsu (2016), gameplay also promotes psychological health by triggering heightened self-esteem. Self-esteem is defined as an

individual's perception of his or her own self-worth (Rosenberg, 1965). Kaye et al. (2017) and Park et al. (2016) agreed that self-esteem is not only a benefit of gameplay but also a motivation that prompts players to continuously engage in gameplay.

Park et al. (2016) found that self-esteem was improved for gamers who had played real-time strategy games, endorsing the notion that high self-esteem from gameplay can lower anxiety and serve as an effective component of decision-making and judgment. Park et al. (2016) had inclusion criteria that was like previous studies: players had to have a Young Internet Addiction Scale (YIAS) score greater than 50 (which represents impaired behavioral and sleep patterns, school truancy, or job loss related to gameplay). Park et al. (2016) indicated a significant correlation between gameplay and game-related problems. Park et al. (2016) concluded that social anxiety appeared to be associated with gaming-related problems; however, Park et al. (2016) did not specifically indicate what problems the participants experienced during gameplay. The results of this study are significant for employed individuals.

Self-esteem was found to increase during and post-gameplay among players who found the game easy (Birk et al., 2015). Researchers studied gamers' self-esteem and how it increase***s*** during and after gameplay. Birk et al. (2015) investigated ($N = 125$) players post-gameplay and found that players with different levels of self-esteem experience games differently. Further analysis showed that players who reported higher self-esteem prior to gameplay enjoyed the game more than those who reported lower self-esteem did; these results correlated with different satisfaction needs, which could also motivate players to return to the game. As mentioned previously, motivation to return to

gameplay is believed to fill a need for satisfaction, which increases autonomy. In addition, Kay et al. (2017) found that identifying as an online gamer plays a large role in one's self-esteem.

Kay et al. (2017) explored cross-sectional associations between online gameplay and psychosocial outcomes, such as self-esteem, loneliness, and social competence. Games were found to positively promote a variety of psychosocial outcomes among self-identified "gamers," predominantly self-esteem and social competence (Kay et al., 2017). Gamers ($N = 708$) indicated significant correlation across a variety of psychosocial outcomes, predominantly self-esteem ($\beta = .018$, $p < 0.001$) and social competence ($\beta = 0.11$, $p < 0.001$; Kay et al., 2017). Results revealed a positive relationship between Massive Multiplayer Online (MMO) engagement, gamer identity, and online social capital. These results signify the importance of gaming research and the impact that gameplay has on individuals, communities, and organizations, as well as illustrating the various psychological concepts that are associated with gameplay.

Wang and Hsu (2016) added to the current research by exploring the concept of mobile gaming in relation to game enjoyment and rewards. According to Wang and Hsu (2016), gameplay had an indirect effect on self-esteem. Wang and Hsu (2016) noted that both enjoyment and intrinsic motivation affect an individual's behavior during technology use. Additionally, researchers discovered that the relationship between game rewards and game enjoyment suggest that extrinsic rewards may be important in triggering feelings of intrinsic reward. Smart devices are intuitive; the player does not need a large amount of time and commitment to acquire the skills necessary to play.

Therefore, Wang and Hsu (2016) postulated that players become familiar with devices and game apps quicker than those playing console games or computer games.

Birk et al. (2015), Kay, et al. (2017), Park et al. (2016), and Wang and Hsu (2016) provided empirical evidence to suggest that gameplay may not only trigger a sense of heightened self-esteem but may also be considered an essential mechanism connecting sustaining gaming performance with psychological health. These conclusions could have significant implications for gamers as well as for employers and organizations. Although these sources have suggested that hours spent gaming may increase the gamers' self-esteem, some recent studies have countered these findings. Beard and Wickham (2016) and Liu and Peng (2009) hypothesized that gameplay correlates with negative outcomes, such as low self-esteem or psychological dependency on gameplay. Researchers noted that negative effects could come from certain types of gameplay in addition to too much time engaging in gameplay.

Negative Factors Associated With Gameplay Among Adults

Over the past decade, much of the research has highlighted the negative life consequences associated with video gameplay and problematic Internet use. Bargeron and Hormes (2017), Liu and Peng (2009), and Rosenberg et al. (1989) found that participants exhibited symptoms of depression, anxiety, and stress leading to maladaptive behaviors and cognitions. Bargeron and Hormes (2017) researched Internet Gaming Disorder (IGD). IGD relates to a player's self-esteem, which is derived from the gaming environment and is considered problematic in relation to the disorder. According to Liu and Peng (2009), there are cognitive predictors of the negative results associated with

playing massively multiplayer online games (MMOGs). Liu and Peng (2009) revealed that psychological dependency on MMOG-playing ($\beta = .40–44$, $p < .01$) and deficient self-regulation of MMOG ($\beta = .27–40$, $p < .01$) are strong predictors of intensive play. Liu and Peng (2009) concluded that individuals who perceive a virtual world as more attractive than real life are much more likely to experience psychological dependence on MMORGs.

To further evaluate self-worth and IGD, Bargeron and Hormes (2017) evaluated ($N = 257$) participants. After completing the Penn Alcohol Craving Scale (PACE) to assess overall craving for alcohol and Internet gaming disorder, ($N = 21$) participants met the criteria for IGD. Combined scores of the IGD questionnaire ($F(3, 209) = 4.95$, Wilk's l. 0.93, $p. < 0.002$) revealed that 8.7% of participants experienced problems related to video gameplay. Additional analysis revealed a significant correlation between gaming and contingent self-worth. According to Bargeron and Hormes (2017), cluster symptoms associated with depression ($F(1, 211) = 12.32$, $p. < 0.001$ anxiety $F(1, 211) = 11.14$, $p < 0.001$, and stress $F(1, 211) = 7.65$, $p < 0.01$) were correlated with IGD. Bargeron and Hormes (2017) recommended that further research be conducted on IGD and how it affects everyday life. Additionally, researchers recommended preventive strategies for individuals with increased levels of impulsivity, as these individuals may be at risk for developmental problems related to excessive video gameplay.

Lee and Leeson (2015) hypothesized that a smaller number of face-to-face relationships would correlate with a higher score on the Generalized Problematic Internet Use Scale (GPIUS). Researchers sought to better understand how time spent gaming

affected anxiety. Lee and Leeson (2015) utilized a cross-sectional design, employing the Liebowitz Social Anxiety Scale (LSAS-SR) to measure anxiety among players. Although the results were not what Lee and Leeson (2015) expected to find, larger amounts of time spent gaming did correlate with in-game support, and so it was not indicative of GPIUS.

There is a focus in the literature on the negative aspects of gameplay among adults; Bargeron and Hormes (2017) and Caplan (2002) believed that it should be placed in the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.) due to gamers exhibiting symptoms of addiction and impulsivity. Caplan (2002) defined healthy Internet use as "using the Internet for a direct purpose for a reasonable amount of time without cognitive or behavioral discomfort". According to Bargeron and Hormes (2017) and Caplan (2002), the Internet should be used as a tool rather than as a source of identity. Caplan (2002) added that further exploration is needed to identify how online environments shape a player's behaviors, feelings, and self-esteem.

Positive and Negative Consequences of Workplace Self-Esteem Associated With Counterproductive Workplace Behaviors

Kim and Beehr (2017), Kumar (2017), Yang et al. (2018), and Huang et al. (2017) asserted that employees with higher levels of workplace self-esteem also exhibited positive work behaviors, such as increased productivity, positive thinking, goal- and task-oriented thinking, and improved employee and customer relations. Research has shown that self-esteem impacts behaviors both at work and at home. Huang et al. (2017) concluded that workplace self-esteem carries over into other domains, correlating with the individual's overall life and well-being.

Whelpley and McDaniel (2014) conducted a combined analysis of 21 published articles that encompassed (N = 5,135) individuals, reporting a clear correlation between self-esteem and CWB. Kuster et al. (2013) evaluated job satisfaction and self-perception, which have been utilized as predictors and outcomes of CWB. CWB has been shown to affect the employee's workplace productivity, mood, socialization, actions, and interaction with others (Whelpley & McDaniel, 2016). Just as CWB influences the workplace, research has also indicated that individuals who engage in CWB often have disruptions in their home life and personal relationships. Workplace self-esteem was found to be a significant predictor of an individual's personal relationships. Furthermore, individuals who engaged in CWB were found to have significantly lower self-esteem than those who did not engage in CWB.

Over the past decade, CWB has become an area of concern among employers and organizations; these behaviors harm the organization, and violate company mandates (Kim & Beehr, 2017; Yang et al., 2018). By testing and screening for CWB, organizations are less likely to employ individuals that may display such behaviors. Further analysis suggested that employees do not always remain rigid in their current state of beliefs or sense of citizenship to the organization. Historically, CWB have been associated with positive and negative outcomes within the workplace. Whelpley and McDaniel (2016) indicated that CWB are associated with both positive and negative performances within the workplace.

Positive Consequences of Increased Workplace Self-Esteem

Choi et al. (2015) aimed to examine psychological problems—such as stress, low self-esteem, and employee commitment to an organization—to identify an efficient and practical worker support system. Researchers found that self-esteem was positively correlated with organizational commitment (β = -0.401, $r(715) = 8.532$, $p < .01$). High self-esteem alleviated negative workplace behaviors and promoted positive outcomes while improving the employees' mental health. Findings noted that workers who displayed lower workplace self-esteem were less productive at work and experienced greater stress and fatigue while at home.

Judge and Bono (2001) examined the relationships between four core self-evaluation traits, job satisfaction, and job performance and discovered that individuals with higher self-efficacy deal more effectively with challenging jobs. Furthermore, individuals with higher self-esteem viewed challenging jobs as a deserved opportunity that could be mastered, whereas an individual with lower self-esteem would more likely view a challenging job as undesired or an opportunity to fail (Judge & Bono, 2001). Judge and Bono (2001) also confirmed a correlation between job performance and self-esteem. This conclusion emerged from the combined effort of 274 studies conducted over the past 40 years. Judge and Bono (2001) noted the following correlations with job performance:.26 for self-esteem, .23 for generalized self-efficacy, .22 for internal locus of control, and .19 for emotional stability.

Huang et al. (2017) sought to discover the relationship between professional efficacy and job performance among (N = 1219) Chinese workers using the Rosenberg's

Self-esteem Scale (RSES) and the Maslach Burnout Inventory-General Survey (MBI-GS). Researchers noted that self-esteem is a vital inner resource when dealing with stress. Findings of the intermediary function test indicated that (95%, $p = < .01$) self-esteem directly correlated with on-the-job performance or burnout. According to Huang et al. (2017), self-esteem was associated with professional efficacy and could explain 22.8% of the variance. Individuals with lower self-esteem were confirmed to have few coping skills, which made them vulnerable to emotional exhaustion.

Positive Attitude Towards Coworkers and the Organization

Locke, Shaw, Saari, & Latham (1981) were some of the first researchers to discover correlations between self-esteem, goals, and workplace performance, performing a summary and meta-analysis of studies related to goal setting and the factors that influence performance. Locke et al. (1981) noted that goal-setting would improve task performance and provide a measure of progress in relation to the goal. Goal instrumentality, defined by Locke et al. (1981) as "the extent to which desirable outcome (e.g., job security, pay or promotion)," was found to correlate with job performance. Self-esteem and goal instrumentality interacted but did not necessarily affect performance. For example, Locke et al. (1981) reported that when goal instrumentality was low or had no perceived goal or reward outcomes, individuals with high self-esteem showed greater performance than individuals with low self-esteem did. Secondly, when self-esteem was low but the individual perceived high goal instrumentality, they showed greater performance than those with low goal instrumentality and high self-esteem. Locke et al. (1981) noted that by allowing an individual free choice to set their own goals, individuals

with higher self-esteem are more likely to accept challenging goals, whereas individuals with lower self-esteem are likely to accept fewer challenging goals. It was not clear whether self-esteem would show an effect as a more task-specific measure of perceived competence. Researchers over the past decade have focused on the positive aspects of CWB and how self-esteem affects one's workplace performance and behaviors. Kanfer, Frese, and Johnson (2017) agreed that workplace self-esteem and motivation is a crucial component to the success of the organization and the well-being of the employee.

The primary focus of Kanfer et al. (2017) was to cluster findings from the current literature as it related to motivation, features of the job, work goals, and processes involved in choice. After reviewing the literature, they noted that motivation should not be considered an "on-off" phenomenon, but rather a goal-directed resource that can relate to certain variables over time. Goal orientation and self-management training were found by Kanfer et al. (2017) to be highly influential factors relating to job performance. Kanfer et al. (2017) reported that, by encouraging self-management and goal orientation, organizations could observe upward growth, and consequently build a stronger foundation for future training.

An employee's positive attitude has practical implications that might benefit the organization's overall growth and sustainability (Kanfer et al., 2017; Kuster et al., 2013; Ma, 2016). Elevated workplace self-esteem may also lead to higher levels of productivity. Ma (2016) asserted that self-worth is directly related to self-perceptions. Additionally, Ma (2016) noted that individuals that desire to be viewed positively by others seek to positively portray themselves rather than verify negative self-perceptions.

Ma (2016) concluded that individuals should try to sustain high levels of job performance regardless of their self-esteem level, thereby increasing self-enhancement. In other words, Ma (2016) confirmed that self-esteem correlates with both positive perceptions of oneself and job performance.

According to Choi et al. (2015), employees in South Korea face considerable stress that is likely to have negative effects on their individual traits and their ability to fulfill their responsibilities at work. Researchers postulated that the employees' psychosocial problems—such as family stress and issues with well-being and self-esteem—could affect organizational commitment. Higher levels of productivity impact everyone in the organization: the employees benefit in the form of higher wages, and employers benefit by having more profits to show (Choi et al., 2015). Participants of this study consisted of (N = 715) Korean workers; 93.8% were male, and 83.1% were married and working full-time. Self-esteem was found to have a positive effect on organizational commitment *(*M = 0.401, SD = .047, t(715) = 8.532; Choi et al., 2015). Additionally, family problems (β = .313, SD = .072, t(715) = .4.367) also had a significant negative impact on health, stress, self-esteem, and organizational commitment (Choi et al., 2015).

Choi et al. (2015), Kanfer et al. (2017), Kuster et al. (2013), Ma (2016), and Whelpley and McDaniel (2014) each discovered correlations between self-esteem and positive attitude, job performance, and goal orientation. Additionally, the researchers' findings suggested that CWB are significantly correlated with lower self-esteem, also suggesting that future research should focus on ways to improve workplace self-esteem to propose effective interventions for organizations.

Negative Consequences of Decreased Workplace Self-Esteem

Bauer and Spector (2015), Galić and Ružojčić (2017), Spector et al., (2005), and Spector and Zhou (2014) discovered significant correlations between implicit aggression, discrete emotions, and dispositional self-control, which contributed to interpersonal behaviors and predicted CWB. According to Spector et al. (2010) and Spector and Zhou (2014), organizational CWB and anger were discovered to be the primary contributor to CWB. Although anger plays a large role in CWB, Bauer and Spector (2015) and Whelpley and McDaniel (2014) noted that personality traits, emotions, and self-control also contribute to CWB. Deviance in the workplace was classified into two separate categories by Spector and Zhou (2014): CWB directed towards the organization (e.g., sabotaging work or theft) and deviance against people (e.g., physical assault or verbal abuse). Spector and Zhou (2014) described CWB directed towards individuals as physical aggression (such as hitting or pushing a coworker) or nonphysical behaviors (such as emotional abuse or insulting a coworker). Bauer and Spector (2015) concurred that discrete emotional abuse—such as social undermining, withdrawal, horseplay, and production deviance—can result in abuse against others.

Bauer and Spector (2015) hypothesized that discrete emotional abuse significantly correlates with CWB; they confirmed that discrete emotions (such as feelings of boredom, sadness, anxiety, shame, and jealousy) were more likely to be directed towards individuals than the organization. They noted that abusive behavior against others takes the form of passive behaviors, which invariably cause harm to the organization. Boredom was discovered to lead to a more active form of CWB. Bauer and Spector (2015) noted

that boredom was associated with abusive behaviors against others; consequently, these behaviors took various forms of passive CWB, such as social undermining ($r(240) =. 29$, $p < .05$) or horseplay ($r(240) = .31$, $p <$,05). Likewise, sadness was strongly associated with active abuse against others ($r(240) = .39$, $p <. 05$). Bauer and Spector (2015) also explained that organizations should be aware of the types of emotions that contribute to CWB and strive to create policies and cultures oriented towards lessening these negative emotions.

Robins, Tracy, Trzesniewski, Potter, and Gosling (2001) discovered a significant correlation between self-esteem and personality traits. A meta-analysis of participants (N = 326,641) found that self-esteem correlated with personality traits at a range of .91 to .99 (Robins et al., 2001). Higher self-esteem correlated with prosocial behavior, such as self-control and adaptability. Furthermore, they noted that self-esteem and personality play a large role in positive self-work and emotional stability. However, Robins et al. (2001) could not determine whether self-esteem could contribute to cognitive behaviors or certain factors associated with the Big Five. Nonetheless, they noted that the Big Five plays a role in other constructs related to self-esteem, such as social comparison, depression, relationship behaviors, and achievement. In sum, self-esteem correlates with several domains of an individual's behavior, including those related to CWB.

Galić and Ružojčić (2017) also reported an association between CWB and self-esteem. According to Galić and Ružojčić (2017), low self-esteem is a contributing factor to implicit aggression, both in the individual's private life and in their work environment. Galić and Ružojčić (2017) also sought to add to the growing body of CWB research by

exploring aggressive behaviors of individuals in different life domains. According to Galić and Ružojčić (2017), implicit aggression (measured by the Conditional Reasoning Test for Aggression or CWT-A) was a significant predictor of CWB and self-control. Researchers concluded that implicit aggression significantly changed work behaviors among individuals with low dispositional self-control (DSC; $N = 293$, $M = 3.22$, $SD = .57$, $p < .005$). Although it is not clear what individuals in the workplace can do to prevent implicit aggression, Galić and Ružojčić (2017) suggested that they avoid proactive situations, so they do not feel tempted to react aggressively. Galić and Ružojčić (2017) suggested that further research be conducted to explore the prospective relationships between self-control, self-esteem, and CWB.

Various concepts, such as job-satisfaction and self-perception, have been utilized to correlate predictors and outcomes of CWB. However, few studies have explored the correlation between the positive workplace self-esteem and CWB. Choi et al. (2015), Kuster et al. (2013), Pierce and Gardner (2004), and Whelpley and McDaniel (2014) explained that CWB results in aggressive behavior, theft, and lack of productivity among employees. Additionally, several organizations reported that CWB has burdened organizations with lost revenue, high turnover rates, and confrontations among employees. These organizations have found it difficult to retain employees exhibiting these behaviors. Destructive behaviors influence organizational concepts, such as organizational policies, procedures, operations, and employee relationships (Bauer & Spector, 2015; Kuster et al., 2013; Pierce & Gardner, 2004; Shoss et al., 2016). Theft and production sabotage are considered forms of negative behaviors affecting the

organization, while abuse against others represents a greater harm to individuals than organizations (Spector et al., 2005). Although historical research on CWB has been rooted in human aggression, researchers describe negative emotions as responses to environmental conditions in the workplace, personality traits, and behaviors (Bauer & Spector, 2015; Hochstein, Lilly, & Stanley, 2017; Spector et al., 2005; Shoss et al., 2016). According to Shoss et al. (2016), employees may be motivated to engage in CWB because they feel a need to respond to negative workplace events. Bauer and Spector (2015) and Penny and Spector (2005) agreed that individual personality traits and workplace satisfaction play a key role in the occurrence of CWB.

Bauer and Spector (2015) sought to discover the roles of discrete emotions in the workplace. After surveying 240 employed students, Bauer and Spector (2015) confirmed that anxiety, frustration, anger, sadness, hostility, envy, and guilt significantly correlated with CWB. Descriptive analysis revealed that jealousy and boredom ($r(240) = .17$, $p < .05$) were less strongly related to CWB ($t(240) = -4.24$, $p < .001$) than shame and envy ($r(240) = .49$, $p < .05$). There was also a similar trend in the facets of CWB; for example, horseplay and production deviance ($r(240) = .24$, $p < .05$) were less strongly related ($t(240) = -6.98$, $p < .01$) than abuse toward others and social undermining ($r(240) = .68$, $p < .05$; Bauer & Spector, 2015). Anger was found to have a more significant association with CWB, strongly related to abuse against others ($r(240) = .53$, $p < .05$) and production deviance ($r(240) = .25$, $p < .05$). Additionally, a regression analysis revealed that boredom was no longer a significant variance in sabotage ($\beta = .16$). Jealousy no longer

explained the variance in abusive behaviors against others, as it decreased from .12 to .11 (Bauer & Spector, 2015).

According to Shoss et al. (2016), CWB are costly to organizations and their employees. Employees are motivated to engage in CWB because they think that those behaviors will make them feel better in reaction to negative workplace events (Shoss et al., 2016). Although previous research has suggested that situational and individual factors shape employees' views of CWB, Shoss et al. (2016) suggested that CWB are coping strategies, affecting employees' decision-making processes. CWB's coping instrumentalities provide a motivational linkage between traits and situational perceptions. Researchers sought to add to the growing body of research by addressing the personal and situational factors that led employees to believe that CWB are an instrumental response to workplace stressors (Shoos et al., 2016). Analysis of the mixed linear model revealed a total variance between 47.37% and 67.98% of variables within persona, which was consistent with the perceptions of CWB as a viable coping strategy. Although this differed across situations and between individuals ($N = 400$), intercorrelations indicated product deviance instrumentality ($M = 2.44$, $SD = 1.41$, $p < .01$), theft instrumentality ($M = 1.61$, $SD = 1.07$, $p < .01$), and rude instrumentality ($M = 2.02$, $SD = 1.33$, $p < .01$). Although Shoss et al. (2016) determined that workers were pursuing certain coping strategies because they expected them to improve their well-being and situation, they called for further research to evaluate the employees' internal and external loci of control.

Workplace Self-Esteem and Counterproductive Workplace Behaviors

Self-esteem has been viewed as a multidimensional construct in the literature, divided into two parts: global self-esteem and contingent self-esteem (Whelpley & McDaniel, 2006). In recent discussions of CWB, a controversial issue has been whether employees with increased workplace self-esteem display a decreased amount of CWB. On the one hand, some argue that workplace self-esteem is prudent only for the productivity of the employee. On the other hand, others have argued that workplace self-esteem affects all areas of the employee's work life and behavior, including productivity. Choi et al. (2015) and Kuster et al. (2013) proposed a correlation between self-esteem, work conditions, and work outcomes. According to Whelpley and McDaniel (2016) and McIntyre et al. (2014), CWB in employees with lower self-esteem is costly across various domains and leads to lower effectiveness within the organization. For example, Choi et al. (2015) examined how psychological problems, such as stress and self-esteem, impact the employee's commitment to the organization, agreeing that self-esteem positively correlates with organizational commitment. Choi et al. (2015) found that high self-esteem alleviated negative behaviors and promoted positive outcomes while improving the employees' overall mental health and recommended that future studies investigate alternative methods of promoting positive self-esteem among employees.

According to Whelpley and McDaniel (2016), self-esteem is an important aspect of human study, due to evolutionary adaptations of social standing within a group. Although self-esteem was found not to be the strongest predictor of job performance or life happiness, Whelpley and McDaniel (2016) noted that it has many important

outcomes associated with it. Whelpley and McDaniel (2016) found a clear correlation between self-esteem and CWB and suggested that organizations take measures to increase the self-esteem of its employees just reduce CWB. In fact, Whelpley and McDaniel (2016) reported that self-esteem has been linked to justice and fairness, perceived autonomy, and the perceived significance of tasks. Furthermore, employees with high self-esteem show respect for leadership and respect towards other employees. As a result, Whelpley and McDaniel (2016) urged managers to place more emphasis on employee relationships by demonstrating equality of judgment and emphasizing the function of responsibilities within organizations.

Kuster et al. (2013) researched the relationship between self-esteem, work conditions, and work outcomes, discovering that higher self-esteem among employees was a predictor of work outcomes; the ($N = 663$) participants' self-esteem stability coefficients ranged from .83 to .94, which indicated consistency between high self-esteem and work outcomes. Positive self-esteem among employees enhances performance on the job and reduces CWB (Whelpley & McDaniel, 2016). Sublette and Mullan (2012) and Birk et al. (2015) postulated that gaming creates several positive effects that may transfer into the players' real-world environment.

Summary

The major themes in the literature were that gameplay has the potential to increase self-esteem and promote socialization and gratification (Birk & Mandryk, 2016; Deci & Ryan, 2010; Gagné & Deci, 2005; Hoffman & Nadelson, 2010; Przybylski et al., 2010; Wang & Hsu, 2017). Gaming has promoted better health and reduced stress in the

workplace (Beard & Wickham, 2016; Collins & Cox, 2014; Hussain et al., 2015). SDT offers a logical explanation for why individuals are motivated to participate in daily gameplay. Gagné and Deci (2005), Hoffman and Nadelson (2010), Przybylski et al. (2010), and Wang and Hsu (2017) agreed that time spent gaming satisfied the needs of competency, autonomy, and relatedness on a regular basis for players. CWB are a continuing threat in the workplace, causing detrimental effects to employees and organizations due to abusive behaviors and the undermining of organizational policies (Bauer & Spector, 2015; Galić and Ružojčić, 2017; Spector et al., 2010; Shoss et al., 2016).

There is a need to explore how time spent gaming correlates with CWB in the workplace. SDT was also tested and further evaluated using the WEIMS to measure motivation in the context of gaming and workplace behaviors, and how they relate to CWB. Beard and Wickham (2016), Collins and Cox (2014), and Hussain et al. (2015) noted that gaming in the workplace prompted better health and overall well-being of employees, adding that future researchers should investigate how other performance is affected by gameplay. The present study aims to fill this gap and extends knowledge in the discipline regarding factors that predict time spent gaming, workplace self-esteem, positive behaviors, and CWB. In Chapter 3, the researcher presents the methodology for the proposed study, including the research design, data analysis, instruments, and ethical procedures.

Chapter 3: Research Method

The purpose of this quantitative nonexperimental study was to examine the relationship of time spent playing games and workplace self-esteem on motivation and the propensity to engage in CWB. Historically, researchers have correlated gameplay with negative behaviors, such as social isolation, social anxiety, aggression, and depression (Aydm & San, 2011; Lee & Leeson, 2015; Liu & Peng, 2009). In this study I explored whether time spent gaming predicts the player's workplace self-esteem and whether workplace self-esteem correlates with the employee's propensity to engage in CWB. In other words, this study is an examination of gaming motivation and co-occurrence with positive and negative workplace behaviors.

In this chapter, I provide a brief overview of specific methodological procedures, including an explanation of sampling procedures, instrumentation, data collection and analysis, and ethical considerations. The chapter begins with a presentation of the rationale for using a quantitative nonexperimental design to collect and analyze the data. Finally, this chapter presents the chosen instruments used in the study: (a) RSES (Rosenberg et al., 1995), (b) the CWB-C (Spector et al., 2005), (c) the WEIMS, and (d) the Behind the Screen Measure (Carrier et al., 2015a). I this final section I also discusses the validity, reliability, and norming data for each of the instruments.

Research Design and Rationale

The purpose of this quantitative study was to investigate the relationship between video gameplay, CWB, workplace self-esteem, and positive and negative workplace behaviors using SDT (Tremblay et al., 2009). I obtained data from four separate measures

combined into one continuous online survey. The predictor variable was the frequency of video gameplay as measured by Behind the Screen, which identifies the participant's estimation of the average number of hours spent gaming per day. The outcome variables were workplace self-esteem as measured by RSES; CWB as measured by the CWB-C; and motivation in the context of gaming, which predicts positive and negative workplace behaviors, as measured by the WEIMS. I used a cross-sectional quantitative survey design to answer the research questions.

Creswell (2008) explained that a cross-sectional research design is ideal when determining a relationship between two variables. Creswell (2008) and Levin (2006) recommended the use of questionnaires for collecting data in cross-sectional quantitative research designs, because they (a) take very little time to conduct, (b) are relatively inexpensive to conduct, and (c) provide a snapshot of the current trends and capture the attitudes of the participants. I used a quantitative nonexperimental online survey design to predict workplace self-esteem, the occurrence of CWB, and motivation in the context of gaming, which then predicted the participants' positive and negative workplace behaviors. The rationale for a quantitative cross-sectional survey design was to provide plausible statistical answers to the research questions, which were designed to assess relationships between the predictor variables and the criterion variables. A quantitative nonexperimental research design represented the most appropriate approach for this study, as it observes the relationships between variables without manipulating them (Thompson & Panacek, 2007). Thus, a quantitative design was best suited to address the

research questions provided below. The research design allowed me to draw conclusions from the analyzed data gathered from online surveys (Creswell, 2009).

Surveys represent an expeditious and economical approach to gathering data; they save time and allow researchers to recruit willing participants in a cost-efficient manner (Creswell, 2009). Pedersen and Nielsen (2016) stated that online data collection is one of the best means of disseminating the instrument, other than face-to-face interviews. Pedersen and Nielsen (2016) have proven that online data collection is more cost-efficient, whether the participant is invited using e-mail or recruited to a web-based survey. An advantage of using a quantitative survey model is that it appears to be more stringent and objective to the participants; in addition, this study involved pre-established surveys that have already been validated (see Mertler & Reinhart, 2016).

Research Questions and Hypotheses

RQ1: Do hours spent engaging in video gameplay predict CWB?

$H_0$1: Hours spent engaging in video gameplay do not predict CWB.

H_a1: Hours spent engaging in video gameplay predict CWB.

RQ2: Does the gamer's workplace self-esteem predict CWB?

$H_0$2: The gamer's workplace self-esteem does not predict CWB.

H_a2: The gamer's workplace self-esteem predicts CWB.

RQ3: Does the gamer's gaming motivation predict work-related behaviors addressed in the WEIMS?

$H_0$3: The gamer's workplace motivation does not predict work-related behaviors addressed in the WEIMS.

H_a3: The gamer's workplace motivation predicts work-related behaviors addressed in the WEIMS.

Methodology

Population

The population of interest for this study consisted of employed U.S. citizens between the ages of 18 and 64 who partake in video gameplay. Individuals who were employed could refer to those employed part-time, full-time, or on a temporary basis. Video gameplay could take the form of console gaming, gaming on a personal computer, or handheld gaming. The population of the United States is 325,782,820, as reported by the U.S. Census Bureau (2017), and the gaming population was estimated to be 155,000,000 in May, 2017 (Lee & Leeson, 2015).

Setting and Sample Procedures

The sampling frame consisted of self-selected individuals who (a) were currently employed, (b) partook in gameplay, and, (c) resided in the United States. Self-selection is a nonprobabilistic sampling method in which the participant volunteers to participate in the study and the researcher collects data from individuals with common characteristics (Mertler & Reinhart, 2016). A prescreening questionnaire asked prospective participants three questions to ensure they were eligible for the study. A copy of the prescreener can be found in Appendix A. This method is practical, given the population size as well as the temporal and financial constraints of this study.

To ensure that the sample had an adequate number of participants to ensure sufficient statistical power, I used G*Power software (Faul, Erdfelder, Buchner, & Lang, 2013). I

conducted a power analysis to estimate the probability of correctly rejecting the null hypothesis. I conducted a linear regression analysis with a power level of .80 using G*Power software. The power analysis was conducted with an alpha level set at .05 and the beta level at .80. Mertler and Reinhart (2016) suggested that with one independent variable and three dependent variables, a sample of 270 will yield a medium effect (a power of about 0.8) when testing the hypotheses and accurately correlating the analysis. The determined sample size of 270 participants was sufficient in testing each of the hypotheses with a power of .80.

Procedures for Recruitment

In this study, online participants were recruited from Amazon's MTurk platform. MTurk is an online platform for researchers to deploy surveys. Lowry et al. (2016) and Miller, Crowe, Weiss, Maples-Keller, and Lynam (2017) indicated that MTurk offers a broad participant base for researchers. In addition, scientists have the capability to set limitations on the MTurk sampling, sorting out any individuals who lack the characteristics needed for the study at hand (Miller et al., 2017). Further, MTurk allows the researcher to screen participants based on their level of expertise and number of previous surveys completed (Miller et al., 2017). Researchers who utilize MTurk typically offer a nominal incentive to participants ranging from 10 cents to 50 cents for 10- to 30-minute surveys. Therefore, participants in this study were offered a nominal incentive of 25 cents to complete the survey; Buhrmester, Kwang, and Gosling (2011) offered participants this amount for a survey that took an average of 15 minutes to complete. To determine of the estimated time to complete the survey, a dry run was

conducted on seven volunteers. The estimated time to complete the four instruments was 15 minutes.

Data Collection

The survey instrument was developed with SurveyMonkey and then deployed via MTurk. The survey included the individual instruments discussed above. MTurk keeps a record of participant demographics and e-mail addresses; MTurk uses this information to match qualified individuals to studies, but I is not able to access this information. I provided a consent form and information to participants upon beginning the survey while also informing them that they can exit the study at any point without penalty. The informed consent appeared on the first page of the survey.

Once the respondent accepted the informed consent, a link directed them to MTurk, where they received survey instructions, contact information for the researcher, and a statement reiterating that participation in the survey was voluntary. If the respondent did not consent, then the respondent was unable to proceed to the survey. There was no need for a debriefing as the participants' contact information was not provided to me. After the survey was completed, a message box appeared to explain the nature of the survey and how the results of the research would be utilized. Additionally, participants also received contact information for me at the completion of the survey so they could contact me with any questions.

Once the survey was completed electronically through MTurk, the data was stored on SurveyMonkey as relevant to their standard procedures. I retrieved the data and stored

it on a password-protected and encrypted external hard drive. I then converted the data collected into SPSS to be analyzed.

Instrumentation

The survey consisted of a combination of four instruments: Behind the Screen, the RSES, the CWB-C, and the WEIMS, as one continuous survey. For this research study, Behind the Screen measured time spent participating in gameplay. The RSES measured the participant's self-esteem after participating in gameplay. The CWB-C measured the participant's counterproductive behaviors while in their work environment. Finally, the WEIMS measured motivation in the context of gaming, thereby predicting the participant's positive and negative workplace behaviors. The RSES is located in the public domain and can be used for noncommercial and educational use without written permission. However, written permission was obtained through e-mail correspondence for the Behind the screen measure, CWBC, and the WEIMS. Participants were able to review the prospective research study and then decide whether they wanted to proceed to the characteristic screening process. Participants who chose to proceed through the screening process then started the survey questionnaire.

The Behind the Screen Measure

The Behind the Screen Measure (Carrier et al., 2015a) is a 15-item, nine-point scale that asks individuals how many hours they participated in various activities, such as playing video games, watching TV, or texting. Respondents rate each item using a nine-point scale, with response options ranging from "*Not at all*," to "*more than ten hours per day*." Sample item five, "Play video games on a computer by yourself," asks how often

the participants partake in gameplay (Carrier et al., 2015a). This item is in Appendix B for review. Carrier et al. (2015a) reported a Cronbach's alpha reliability for the Behind the Screen Measure ranging from .81 to .91. Carrier et al. (2008) and Carrier et al. (2015b) found the Behind the Screen Measure to be an effective instrument in capturing time spent engaging in different forms of technology usage regardless of platform, therefore eliminating age-related differences among participants (Carrier et al, 2015b). After conducting a meta-analysis of N = 1319, Rosen et al. (2014) and Carrier et al. (2015b) indicated that The Behind the Screen Measure was normed among multiple age groups between six and sixty-seven years old. Furthermore, Rosen et al. (2014) and Cheever, Rosen, Carrier, and Chavez (2014) found that the Behind the Screen Measure effectively measured hours spent playing video games on a computer and hours spent gaming on mobile devices.

Rosenberg Self-Esteem Scale

The RSES (Marchand & Blanc, 2011; Rosenberg et al., 1995) explained that global self-esteem is strongly related to other markers of psychological well-being, such as life satisfaction, happiness, and negative affective states. The association between specific self-esteem and psychological well-being is due to the influence of explicit or specific self-esteem on global self-esteem, and of global self-esteem on psychological well-being (Rosenberg et al., 1995). The RSES consists of 10 items; respondents rate each item using a four-point scale ranging from "strongly agree" to "strongly disagree" (Rosenberg, 1965). The RSES is in Appendix C for review. Sample item six, "I take a positive attitude toward myself," (Rosenberg, 1965) assisted in addressing workplace

self-esteem. Higher scores represent high self-esteem, whereas low scores are indicative of low self-esteem (Rosenberg, 1965; Thompson & Gomez, 2014).

Robins et al. (2001) tested content validity and alpha reliability of the total RSES ranging from .88 to .90 across six assessments; additional studies reported an alpha coefficient ranging from .72 to .88 (Schwalbe, Gecas, & Baxter, 1986). Additionally, Greenberger, Chen, Dmitrieva, and Farruggia (2003) determined that the RSES has high construct validity, and that this did not differ when related to gender, age, or ethnicity. Robins et al. (2001) confirmed the test-retest reliability of the RSES, with an effectiveness of .88.

Whelpley and McDaniel (2016) indicated that there is a high negative correlation between ($r = -.39$) self-esteem and CWB. Furthermore, Whelpley and McDaniel (2016) and Kuster et al. (2013) found that global self-esteem had a stronger relationship to workplace self-esteem than organization-based self-esteem. Jahar, Shah, and Zainudin (2012), Makikangas, Kinnunem and Feldt (2004), and Riaz, Riaz, and Batool (2014) successfully used the RSES to measure self-esteem among employee samples. RSES was used to assess workplace self-esteem in the present study. Whelpley and McDaniel (2016) used psychometric meta-analysis to study 21 samples ($N = 5135$); they confirmed reliability with a coefficient of .85 and confirmed validity of other self-esteem measures with coefficients ranging from .89 to .98. Whelpley and McDaniel (2016) also indicated an empirical validity of consistency between self-esteem and CWB.

Counterproductive Workplace Checklist

In this study, CWB was measured by the CWB-C (Spector et al., 2005). The CWB-C is a 10-item checklist, which asks individuals how often he or she has engaged in certain behaviors while at their present job (Spector et al., 2005; see Appendix D). Respondents rate each item using a five-point scale ranging from "*one (never)"* to "*five (every day)*," with higher scores indicating that the respondent engages in more CWB (Penney & Spector, 2005; Penny & Spector, 2006). For example, sample item one, "Purposely wasted your employer's materials/supplies" (Spector & Fox, 2001) exposed the participant's engagement in CWB.

Hochstein et al. (2017) evaluated convergent validity to determine discriminate validity. The established discriminate validity average variance was then compared to multi-item scale correlations; these were found to be greater than the shared variance of each contract, ranging from .73 to .92 (Hochstein et al., 2017). One indication of this scale's predictive validity is its high correlation with interpersonal conflict, scored on the Big Five Scale (Bolton, Becker, & Barber, 2010). Those with higher scores were expected to conform to a pattern of behavior related to negative emotions, such as starting arguments with coworkers (Fox, Spector, Goh, & Bruursema, 2007; Spector et al., 2006). Fox et al. (2007) reported a Cronbach's alpha reliability of the CWB-C ranging from .88 to .96, which is consistent for self-reported data (Penny & Spector 2006; Spector et al., 2005).

Work Extrinsic and Intrinsic Motivation Scale

The WEIMS is an 18-item measure of reasons that employees are involved in their work (Tremblay et al., 2009; see Appendix E). The WEIMS measures work motivation, which is theoretically grounded in SDT. Respondents rate each item using a five-point scale with response options ranging from "*does not correspond*" to "*corresponds exactly*." Sample item eight, "For the satisfaction I experience from taking on interesting challenges" assisted in determining the participants' gaming motivation and present behaviors of CWB. SDT supports the scale's ability to predict positive and negative behaviors in the workplace.

Chen et al. (2015) and Tremblay et al. (2009) also provided evidence that WEIMS is reliable and valid as well as versatile, effectively capturing data in different environments. Tremblay et al. (2009) reported a Cronbach's alpha reliability of the WEIMS ranging from 0.64 to 0.83 across each category and each sub-category. Chen et al. (2015) determined that the WEIMS did not differ due to gender, age, or ethnicity, and sustained a reliability testing of all subscales. Cronbach's alphas varied between 0.619 and 0.860. Tremblay et al. (2009) examined the criterion-related validity of the WEIMS for predicting various organizational criteria and self-determined types of motivation (r ranging between .40 and .46 for satisfaction, $p = .01$, and .32 to .41 for commitment). In addition, intercorrelation and reliability were conducted via a multisampling analysis by the modeling of a structural equation (Tremblay et al., 2009).

Data Analysis

Once the survey was completed electronically through MTurk, the data was available to the researcher on SurveyMonkey, and then downloaded to an external hard drive. I then converted the data to the Mac version of SPSS statistical software to perform the analysis. A bivariate regression was used to test the hypotheses for each research question. A series of linear regressions evaluated the relationships between the independent variable and each of the dependent variables. The independent variables were entered into SPSS in a sequence of blocks for analysis, and the software was used to induce regression diagnostics. Regression diagnostics included tests for normality, linearity, independence, and multicollinearity. A linear regression was conducted to address the research questions and test the hypotheses outlined below.

Research Questions and Hypothesis

RQ1: Do hours spent engaging in video gameplay predict CWB?

$H_0$1: Hours spent engaging in video gameplay do not predict CWB.

H_a1: Hours spent engaging in video gameplay predict CWB.

RQ2: Does the gamer's workplace self-esteem predict CWB?

$H_0$2: The gamer's workplace self-esteem does not predict CWB.

H_a2: The gamer's workplace self-esteem predicts CWB.

RQ3: Does the gamer's gaming motivation predict work-related behaviors addressed in the WEIMS?

$H_0$3: The gamer's workplace motivation does not predict work related behaviors addressed in the WEIMS.

H_a3: The gamer's workplace motivation predicts work related behaviors addressed in the WEIMS.

Threats to Validity

Some aspects of the research design may threaten the validity of this research. A threat to the internal validity is the lack of control associated with the non-experimental design, as none of the variables was manipulated. As Onwuegbuzie (2000) explained, the lack of manipulation associated with a non-experimental research design may threaten both internal and external validity. Additionally, researchers who make use of a non-experimental design often interpret relationships between variables when there are none to be found (Onwuegbuzie, 2000). To mitigate this threat to validity, the researcher strove to pay close attention to interpreting findings that stem from the collected data.

The threat to the external validity is the lack of generalizability of this study's results to other populations. The results of this study may be difficult to generalize to other groups due to the specificity of the variables and population. However, it may be possible to generalize the results to other groups and other employment types—such as individuals who are seasonally-employed or employed on a temporary basis—if these employees partake in video gameplay on a regular basis.

Ethical Procedures

This study was conducted according to the ethical standards of the American Psychological Association (APA; 2017) and the standards of the Walden University Instructional Review Board (IRB). Walden University's approval number for this study is 10-04-18-0154674; it expires on October 3, 2019.

Participants were presented with information related to the nature of the research regarding their involvement in the study, so they could provide informed consent to participate before beginning the questionnaire. Participants were not deceived or coerced into participating.

There was minimal risk of emotional distress that could have hindered the completion of the survey. In the case of an adverse outcome, the participant was informed of a website (www.betterhelp.com) that allows respondents to communicate with therapists instantly via chat or phone call. Participants were also provided with the researcher's contact information, to report any concerns or ask questions about the research as it progresses.

Data was collected from the SurveyMonkey server once the participant had completed the survey. Data was then uploaded to an external hard drive, which is password-protected and encrypted. At this time, the data was deleted from the researcher's SurveyMonkey account. The data will be kept for five years on this external hard drive, where it is password-protected and encrypted. After five years, the data will be destroyed. Anonymity will be ensured, as there is no personally identifiable information collected in the survey itself, and MTurk keeps demographic data anonymous from researchers. The researcher also strove to mitigate bias that could influence the interpretation of the data.

Summary

In this chapter, the researcher presented the methodology for the study, a discussion of the research design and rationale, sampling procedures, procedures for

recruitment, and data collection, the instrument used in the study, and the data analysis procedures. In addition, this chapter presented potential threats to validly, and discussed ethical concerns with this research. In Chapter 4, the researcher presents the results of the study as they relate to the research questions and hypotheses.

Chapter 4: Results

Introduction

The purpose of this quantitative study was to investigate the relationship between video gameplay, CWB, workplace self-esteem, and positive and negative workplace behaviors using SDT as a framework (see Tremblay et al., 2009). Survey data were gathered from 202 respondents, comprising a sample of employed individuals who engaged in videogame play and lived in the United States. Surveys where given using an online format (Amazon Mechanical Turk) to ensure anonymity. I analyzed relationships between variables using regression techniques to quantify the nature of significant relationships.

Data Cleaning and Assumptions

After exporting the data from SurveyMonkey, I performed a preliminary data cleaning for missing values. Participants with a significant part of missing values were excluded from all analyses. A total of 353 people began this online survey and had between zero and 48 missing answers. Those with a four or fewer missing responses were kept ($N = 281$) and their missing answers were estimated using the mean for the sample. To identify univariate outliers, four rounds of box plots identified 76 univariate outliers, which reduced the sample to $N = 205$. I calculated the Mahalanobis distance statistic for each respondent to assess the presence of multivariate outliers. The nine scale scores were used as predictors. Based on a chi-square threshold value of 27.877 (nine degrees of freedom and $p = .001$), three respondents were identified as having multivariate outliers and were removed from the sample. This left a final sample of $N = 202$.

Independence of errors was not deemed to be a problem due to the design of the study (each person only completed one survey), and the Durbin-Watson statistic was within normal limits. Multicollinearity was not found based on VIF and tolerance statistics and the use of stepwise multiple regression. The normal probability P-P plot of the regression standardized residuals found most of the residuals to cluster near the plot line. The frequency histogram of the standardized residuals approximated a normal curve with none of the standardized residuals having a *z* score of ± 3.00. The assumption of homoscedasticity was addressed with the scatterplot of the standardized residuals with the standardized predicted values. In addition, both Spearman and Pearson correlations were calculated for statistical verification purposes.

Description of the Sample

Table 1 contains the psychometric characteristics for the nine summated scale scores used in the study: the work extrinsic and intrinsic motivation subscales (intrinsic motivation, integrated regulation, identified regulation, introjected regulation, external regulation, and amotivation), the RSES, the CWB scale, and hours in video play. The Cronbach α reliability coefficients ranged from α = .41 to α = .88, with a median alpha of α = .80. This suggested that most scales had adequate levels of internal reliability. The small reliability coefficient for hours of video play (α = .41) was anticipated because the six individual items in the scale were discrete behaviors that might not necessarily be related to each other. A small coefficient alpha for external regulation (α = .67) was not surprising, because there were only three items in the scale, and it is common for scales

with only a few items to have low internal reliability (Mertler & Reinhart, 2016); see Table 1).

Table 1

Psychometric Characteristics for Summated Scale Scores

Score	Items	*M*	*SD*	Min	Max	α
Intrinsic motivation	3	3.59	1.02	1.33	5.00	.86
Integrated regulation	3	3.53	1.01	1.00	5.00	.84
Identified regulation	3	3.52	1.00	1.00	5.00	.77
Introjected regulation	3	3.36	0.99	1.00	5.00	.74
External regulation	3	4.13	0.72	2.33	5.00	.67
Amotivation	3	2.02	1.05	1.00	5.00	.80
Rosenberg self-esteem	10	3.14	0.54	1.60	4.00	.88
Counterproductive work behavior	45	1.35	0.23	1.00	1.98	.87
Hours in video play	6	4.05	2.77	0.00	12.00	.41

Note. ($N = 202$).

Answering the Research Questions

RQ1: Do hours spent engaging in video gameplay predict counterproductive workplace behavior?

The related null hypothesis predicted:

$H_0$1: Hours spent engaging in video gameplay do not predict CWB.

Table 2 has the bivariate Pearson and Spearman correlations for hours in video play variables with CWB. Both Pearson and Spearman correlations were included for statistical verification purposes. Overall, similar-sized coefficients were found using the two correlational methods. Of the seven Pearson correlations, three were significant at the $p < .05$ level. Specifically, CWB was related to more hours in video play ($r = .20$, $p = .005$), more time spent engaging in video games on a computer with other people in the same room ($r = .20$, $p = .004$), and more time spent engaging in video games on a console

with other people in the same room (r = .14, p = .04). Of the seven Spearman correlations, three were significant at the $p < .05$ level. Specifically, CWB was related to more hours in video play (r_s = .23, p = .001), more time spent engaging in video games on a computer with other people in the same room (r_s = .24, p = .001), and more time spent engaging in video games on a console with other people in the same room (r_s = .23, p = .001). These findings provided support to reject the null hypothesis for RQ1 (Table 2).

Table 2

Pearson and Spearman Correlations for Hours in Video Play Variables With Counterproductive Work Behavior

Variable	Pearson		Spearman	
Hours in video play	.20	***	.23	****
How much time do you spend engaging in video games on a computer with other people IN DIFFERENT LOCATIONS?	.11		.12	
How much time do you spend engaging in video games on a console with other people IN DIFFERENT LOCATIONS?	.05		-.02	
How much time do you spend engaging in video games on a computer with other people IN THE SAME ROOM?	.20	***	.24	****
How much time do you spend engaging in video games on a console with other people IN THE SAME ROOM?	.14	*	.23	****
How much time do you spend engaging in video games on a computer BY YOURSELF?	.11		.12	
How much time do you spend engaging in video games on a console BY YOURSELF?	.06		.06	

Note. (N = 202), * $p < .05$, ** $p < .01$, *** $p < .005$, **** $p < .001$.

RQ2: Does the gamer's workplace self-esteem predict CWB?

The related null hypothesis predicted:

$H_0$2: "The gamer's workplace self-esteem does not predict CWB."

Table 3 has the bivariate Pearson and Spearman correlations for the RSES with CWB. Overall, similar-sized coefficients were found using the two correlational methods.

The Pearson correlation showed that counterproductive workplace behavior was significantly related to lower self-esteem (r = -.30, p < .001), as did the Spearman correlation (r_s = -.29, p < .001). These findings provided evidence to reject the null hypothesis for RQ2 (see Table 3).

Table 3

Pearson and Spearman Correlations for Rosenberg Self-Esteem Score With Counterproductive Work Behavior

Variable	Pearson		Spearman	
Rosenberg self-esteem	-.30	****	-.29	****

Note. (N = 202) * p < .05, ** p < .01, *** p < .005, **** p < .001.

RQ3 Does the gamer's workplace motivation predict work-related behaviors addressed in the work extrinsic and intrinsic motivation scale?

The related null hypothesis predicted:

$H_0$3: "The gamer's workplace motivation does not predict work-related behaviors addressed in the work extrinsic and intrinsic motivation scale.

Table 4 and Table 5 have the Pearson and Spearman intercorrelations among the work extrinsic and intrinsic motivation subscales. Overall, similar-sized coefficients were found using the two correlational methods. The Pearson correlations showed that amotivation was not significantly related to either identified regulation (r = -.11, p = .11) or external regulation (r = -.09, p = .20). Similarly, the Spearman correlations showed that amotivation was not significantly related to either identified regulation (r_s = -.11, p = .11) or external regulation (r_s = -.09, p = .20). These findings did not provide significant support to reject the null hypothesis for RQ3 (see Tables 4 and 5).

Table 4

Pearson Intercorrelations Among the Work Extrinsic and Intrinsic Motivation Subscales

Score		1		2		3		4	5	6
1. Intrinsic Motivation	1.00									
2. Integrated Regulation	.73	****	1.00							
3. Identified Regulation	.64	****	.67	****	1.00					
4. Introjected Regulation	.62	****	.62	****	.64	****	1.00			
5. External Regulation	.18	**	.23	****	.42	****	.41	****		
6. Amotivation	-.11		-.14	*	-.11		.00		-.09	1.00

Note. (N = 202), * p < .05, ** p < .01, *** p < .005, **** p < .001.

Table 5

Spearman Intercorrelations Among the Work Extrinsic and Intrinsic Motivation Subscales

Score		1		2		3		4	5	6
1. Intrinsic motivation	1.00									
2. Integrated regulation	.72	****	1.00							
3. Identified regulation	.65	****	.64	****	1.00					
4. Introjected regulation	.62	****	.59	****	.63	****	1.00			
5. External regulation	.23	****	.26	****	.45	****	.43	****	1.00	
6. Amotivation	-.14	*	-.17	**	-.11		.00		-.09	1.00

Note. (N = 202), * p < .05, ** p < .01, *** p < .005, **** p < .001.

Additional Findings

Table 6 has the bivariate Pearson and Spearman correlations for the work extrinsic and intrinsic motivation subscales with CWB. Overall, similar-sized coefficients were found using the two correlational methods. Of the six Pearson correlations, five were significant at the p < .05 level. Specifically, CWB was related to lower intrinsic motivation (r = -.23, p = .001), lower integrated regulation (r = -.19, p = .005), lower identified regulation (r = -.23, p = .001), lower introjected regulation (r = -.21, p = .003), and lower external regulation (r = -.15, p = .04). Of the six Spearman correlations, four were significant at the p < .05 level. Specifically, CWB was related to lower intrinsic

motivation (r_s = -.22, p = .002), lower integrated regulation (r_s = -.15, p = .03), lower identified regulation (r_s = -.19, p = .008), and lower introjected regulation (r_s = -.18, p = .01) (Table 6).

Table 6

Pearson and Spearman Correlations for Work Extrinsic and Intrinsic Motivation Subscales With Counterproductive Work Behavior

Variable	Pearson		Spearman	
Intrinsic Motivation	-.23	****	-.22	***
Integrated Regulation	-.19	***	-.15	*
Identified Regulation	-.23	****	-.19	**
Introjected Regulation	-.21	***	-.18	**
External Regulation	-.15	*	-.12	
Amotivation	.13		.13	

Note. (N = 202), * p < .05, ** p < .01, *** p < .005, **** p < .001.

Table 7 has the results of the stepwise regression model that predicted CWB based on eight candidate variables. The final three-variable model was statistically significant (p = .001) and accounted for 13.3% of the variance in CWB. Specifically, CWB was higher with lower RSES (β = -.25, p = .001), more hours in video play (β = .15, p = .02), and lower introjected regulation (β = -.15, p = .03; see Table 7).

Table 7

Prediction of Counterproductive Work Behavior Based on Selected Variables. Stepwise Regression

Variable	*B*	SE	β	*p*
Intercept	1.75	0.10		.001
Rosenberg Self-Esteem	-0.11	0.03	-.25	.001
Hours in Video Play	0.01	0.01	-.15	.020
Introjected Regulation	-0.03	0.02	-.15	.030

Note. (N = 202). *Final Model: F* (3, 198) = 10.16, p = .001. R^2 = .133. Candidate variables = 8. Durbin-Watson = 1.98.

Conclusion

In summary, this study used data from 202 respondents to investigate the relationship between video gameplay, CWB, workplace self-esteem, and positive and negative workplace behaviors using SDT as a framework. RQ1 (hours of video play predict CWB) was supported (Table 2). RQ2 (workplace self-esteem predicts CWB) was supported (Table 3). RQ3 (workplace motivation predicts identified or external regulation) was not supported (Tables 4 and 5). In the final chapter, these findings are compared to the literature, conclusions and implications are drawn, and a series of recommendations is given.

Chapter 5: Discussion

Introduction

The purpose of this quantitative study was to investigate the relationship between video gameplay, CWB, workplace self-esteem, and positive and negative workplace behaviors using SDT as a framework (see Tremblay et al., 2009). This discussion explains the significance of these results and an interpretation of the findings in the context of previous literature and the theoretical framework. I also discuss study limitations. The conclusion addresses the implication of these results, evidence-based recommendations, and suggestions for future areas of research. The research questions and hypotheses for the study were:

RQ1: Do hours spent engaging in video gameplay predict CWB?

$H_0$1: Hours spent engaging in video gameplay do not predict CWB.

H_a1: Hours spent engaging in video gameplay predict CWB.

RQ2: Does the gamer's workplace self-esteem predict CWB?

$H_0$2: The gamer's workplace self-esteem does not predict CWB.

*H*a2: The gamer's workplace self-esteem predicts CWB.

RQ3: Does the gamer's gaming motivation predict work-related behaviors addressed in the WEIMS?

$H_0$3: The gamer's workplace motivation does not predict work-related behaviors addressed in the WEIMS.

H_a3: The gamer's workplace motivation does predict work-related behaviors addressed in the WEIMS.

Summary of Findings

The main data for the study were derived from an online survey conducted among 353 individuals who: (a) engaged in gameplay, (b) were employees, and (c) who currently lived in the United Sates. Among the 353 participants, only 281 participants answered all 48 questions. After identifying univariate outliers through four rounds of box plots, I identified 76 univariate outliers, which reduced the sample to $N = 205$. Results indicated that overall, only 13.6% of workers engage in CWB due to time spent in video gameplay.

The data revealed important findings for the first research question, which asked if hours spent engaging in video gameplay could predict CWB. Table 2 listed the Pearson and Spearman correlations for hours engaging in video game play with CWB. Of the seven Pearson correlations, three where significant. Specifically, CWB was related to more hours spent engaging in gameplay, which predicated an increase in CWB. RQ2 asked if the gamers' workplace self-esteem could be predicted by CWB. A Pearson and Spearman correlation showed that workplace self-esteem was negatively correlated with CWB. In other words, CWB was significantly related to lower workplace self-esteem. The more hours spent engaged in video gameplay, the lower the gamers' workplace self-esteem.

RQ3 asked if the gamers' workplace motivation predicts work-related behaviors addressed in the WEIMS. The Pearson correlation showed that motivation was not significantly related to either identified regulation or external regulation. Additionally, the Spearman correlation showed that motivation was not significantly related to

identified regulation or external regulations. These findings do not support the null hypotheses, but additional findings indicated that CWB was related to lower intrinsic motivation, lower integrated regulation, and lower external regulation.

Implications of the Findings

In this study, I found statistically-significant relationships between the hours spent engaging in gameplay, workplace self-esteem, and CWB. Results for RQ1 revealed that the more time an individual engages in gameplay, the more likely the individual is to engage in CWBs. For this study, time spent engaged in gameplay, as measured by the Behind the Screen measure, predicted CWBs. This finding confirms prior research suggesting a link between time spent engaged in video gameplay and negative behaviors (Bargeron & Hormes, 2017; Lee & Leeson, 2015; Liu & Peng, 2009; Rosenberg, Schooler, & Schoenbach, 1989). In the present study, more than half of the study participants reported engaging in gameplay more than two and a half hours daily.

The findings of this study align with and build upon the previous research in that the time spent engaged in gameplay (particularly, excessive gaming engagement) correlates with negative outcomes (Bargeron & Hormes, 2017; Lee & Leeson, 2015; Liu & Peng, 2009; Rosenberg, et al., 1989). However, Bargeron and Hormes (2017) did not indicate the number of hours a gamer must partake in before negative behavior is likely to arise. The current findings suggest that gamers who engage in gameplay for more than 2.5 hours daily are more likely to engage in CWBs while at work. Bargeron and Hormes (2017) found the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.) criteria for total of hours spent gaming ($M = 1.92$) ($SD = 1.77$) as problematic internet use

associated with symptoms of depression and lack of self-worth. Similarly, Lee and Leeson (2015) sampled 626 participants and found that 21 to 30 hours of gameplay per week predicted social anxiety (37.2% of the participants engaged in this amount). These findings give credence to accepting the alternative hypotheses that time spent engaged in gameplay does predict CWB.

Several researchers (e.g., Birk et al., 2015; Kaye et al., 2017; Wang & Hsu, 2016) found relationships between the variables of gaming and self-esteem. For instance, Birk et al. (2015) found that players with different levels of self-esteem experience games differently, and that players with different levels of comfort with gameplay reported lower self-esteem and higher gratification. However, further exploration of this relationship showed that self-esteem was a predictor of game enjoyment and partially mediated negative affects encountered within the game.

One reason the current study might have produced results that both support and conflict with previous findings could be rooted in the nature of the sample drawn for this study. This study applied a convenience sample that may not represent the larger body of gamers. Participants of the current study were over the age of 18 and under the age of 65; currently employed; and currently living in the United States, whereas Bargeron and Hormes's (2017) participants were all over 18 years of age and attending a large University. The current study was not able to account for this due to the nature of the convenience sample.

RQ2 inquired about the possible relationship between the players' workplace self-esteem and CWB. A significant negative relationship was found between workplace self-

esteem (measured by the CWB-C) and CWB (measured by the RSES) as it related to time spent engaged in video gameplay. Previous scholars examined the relationship between workplace self-esteem and CWB with actual work among employees and found similar negative effects (Whelpley & McDaniel, 2016; Judge & Bono, 2001). However, neither study—by Whelpley and McDaniel (2016) or Judge and Bono (2001)—investigated how time spent gaming could predict workplace self-esteem or workplace behaviors. Huang et al. (2017) found that individuals who engage in CWB often have disrupted home lives and relationships; these individuals were also found to have significantly lower self-esteem. Whelpley and McDaniel's (2016) analysis of 21 published studies showed a correlation between self-esteem and CWB. Additionally, Kim & Beehr (2017), Kumar (2017), Huang et al. (2017), and Johar et al (2012) also reported that self-esteem impacts behaviors both at work and at home. Subsequently, current findings offer supporting evidence that time spent engaged in gameplay increases negative workplace behaviors and lowers workplace self-esteem.

There is a gap in the literature regarding empirical relationship between time spent gaming, workplace self-esteem, and CWB. Researchers reported that gameplay has the potential to increase self-esteem (Birk et al. 2015; Kaye et al. 2017; Wang & Hsu. 2016). Birk et al. (2015) found that players with different degrees of self-esteem experience games differently, and that players with different levels of comfort with gameplay reported lower self-esteem and higher gratification. However, further exploration of this analysis showed that self-esteem was a predictor of game enjoyment and partially mediated negative effects encountered within the game. Additionally,

although Blacker et al. (2014), Birk et al. (2015), Dalisay et al. (2015), and Przybylski et al. (2010) also reported that players report high self-esteem before and after gameplay, only a specific type of game was played by participants during the time of data collection.

One reason the current study might have produced conflicting results with these past findings may be rooted in the nature in which the sample was drawn for this study. I used a convenience sample for this study that may have represented a larger body of employees who engaged in different types of gaming behaviors or who played games in different genres. The current study was not able to account for this due to the nature of the convenience sample. As such, there were other population factors such as employment; Birk et al. (2015) did not capture participants as being employed.

Therefore, the current study does fill in a gap in the literature and offers insight into why some people may partake in CWBs more than others. This finding also provides an additional component of time spent engaged in video gameplay. The added variable of time spent gaming would be of value to employers and organizations during new hire processes. Employers and organizations now know what the impact of gaming over 2.5 hours a day can have on the employee's self-esteem and possibly CWB. Therefore, the employer could offer a form of social support for the employee who partakes in gaming more than 2.5 hours a day.

RQ3 asked if the gamers' gaming motivation predicted work-related behaviors addressed in the WEIMS. The gamers' motivation did not predict work-related behaviors; data revealed that players who engaged in more time gaming showed an increase in negative work-related behaviors. The existing literature suggests a possible correlation

between time spent gaming and motivation. Przybylski et al. (2010) and Sweetser and Wyeth (2005) agreed that players are intrinsically satisfied when playing video games.

Przybylski et al. (2010) and Sweetser and Wyeth (2005) believe that players are intrinsically satisfied when playing video games which meet certain psychological needs (i.e. competence, autonomy, and relatedness). This is one reason players return to gaming as a primary form of entertainment. When players feel greater autonomy to pursue in-game goals and sufficiently competent to carry out tasks, this fulfills the player's needs for satisfaction and enhances their in-game abilities (Sweetser & Wyeth, 2005). The combination of these elements causes a sense of deep enjoyment; this feeling is rewarding. Therefore, players are intrinsically motivated to return to the game, expending a great deal of energy on the game because their needs are met (Przybylski et al. 2010).

Spearman correlations showed that amotivation was not significantly related to either identified regulation (r = -.11, p = .11) or external regulation (r = -.09, p = .20). These findings did not provide significant support to reject the null hypothesis for the RQ3 (see Tables 4 and 5). Previous scholars defined identified regulation as partaking in an activity because the individual identifies with the value or meaning and accepts it as their own (Tremblay et al., 2009), whereas external regulation is partaking in an activity only to obtain reward (Tremblay et al., 2009). Gagne´ and Deci (2005), Przybylski et al. (2010) and Tremblay et al. (2009) agreed that autonomy and relatedness affects employees' intrinsic motivation and organizational behaviors.

One reason the current study might have produced conflicting results from the past findings may be rooted in the nature of the sample. A convenience sample was used

for this study that may have represented different gaming genres rather than one specific type of genres. There may be certain types of gaming genres that meet the psychological needs and support the player's well-being to return to the game. Przybylski et al. (2010), Sweetser and Wyeth (2005), and Brown and Leary (2016) analyzed game-related behaviors, while the current study incorporates workplace behaviors. The current study was not able to account for this due to the nature of the convince sample.

Additional Findings

This study builds on the results of previous research in work related to SDT concepts, although there was a gap in the literature regarding empirical relationships between gameplay, workplace self-esteem, CWB, and motivation in the context of gaming (Conger, Liao, Caldwell, & Vu, 2013; Lee et al., 2015; Rigby & Ryan, 2011). Researchers indicated that there is relatively little previous work related to SDT concepts and negative workplace behaviors. Initial findings showed that amotivation was not significantly related to either identified regulation (r = -.11, p = .11) or external regulation (r = -.09, p = .20).

However additional finding specifically, CWB was related to lower intrinsic motivation (r = -.23, p = .001), lower integrated regulation (r = -.19, p = .005), lower identified regulation (r = -.23, p = .001), lower introjected regulation (r = -.21, p = .003), and lower external regulation (r = -.15, p = .04). Tremblay et al. (2009) defined introjected regulations as one's behavior related to a sense of self-worth and contingencies; integrated regulations refers to an individual performing an activity because he/she accepts the activity's value or meaning as their own. Both introjected

regulations and integrated regulation are forms of extrinsic motivation, fulfilled internally and autonomously (Trembley et al., 2009). Combining the initial analysis with the additional findings accesses a multidimensional aspect of motivation. The current study examined the association between time spent gaming and the type of motivation and work-related behaviors. This finding showed negative correlation with internal and external motivation. Tremblay et al. (2009) explained this overall negative effect to be correlated with work strain; a positive result would have correlated with organizational support.

Although there is a small body of research on each of these elements in isolation (Conger, Liao, Caldwell, & Vu, 2013; Lee et al., 2015; Rigby & Ryan, 2011). This study combines them with empirical evidence that supports the hypothesis that hours spent engaged in gameplay can predict workplace self-esteem, and that workplace self-esteem can predict CWBs. Study findings show that over two- and one-half hours of game play has the potential to lower workplace self-esteem and increase CWBs. Moreover, additional findings showed increased negative workplace behaviors among those who currently work in a non-supportive and stressful environment. According to Whelpley and McDaniel (2016) and McIntyre, Mattingly, Lewandowski, and Simpson (2014), CWB in employees with lower self-esteem is costly across various domains and leads to lower effectiveness within the organization.

Social psychologists agree with Granic et al. (2014), Ryan et al. (2006), and Birk et al. (2015) who suggested that gaming is a rapidly-growing industry and that gameplay has the potential to enhance mental health and well-being. Technology continues to

evolve at a rapid rate. In light of the findings, with the right combination of reward systems, gaming satisfaction, and motivation, organizations could implement a training module which trains and teach employee new skills through video games. Game developers now have a better understanding of how hours spent gaming impacts the gamers' work-life (Beard & Wickham, 2016; Chiappe et al., 2013; Lee et al., 2015; Rigby & Ryan, 2011). This knowledge allows them to better understand why and how gaming for extended periods of time may decrease workplace self-esteem and increase CWB (Birk et al., 2015; Ducheneaut & Moore, 2004; Nagygyörgy et al., 2013). The implications of these findings can also empower game developers to contemplate workplace applications for their products. The beneficial application of specifically-designed productivity games could decrease CWBs and increase workplace self-esteem, thus providing positive social change in many different industries.

Implications for Social Change

The results of this study found statistically-significant relationships between the hours spent engaging in gameplay, workplace self-esteem, and CWB. These findings aligned with previous research indications that time spent engaged in gameplay can lead to negative workplace behaviors. Findings from this study also expounded on CWB and motivation in the context of gameplay by providing supportive evidence of a negative correlation between internal and external motivation.

Social psychologists agree with Granic et al. (2014), Ryan et al. (2006), and Birk et al. (2015) who suggested that gaming is a rapidly-growing industry. According to Granic, Lobel, and Engels (2014), 10 million adults participate in daily gameplay on

computers, consoles, and mobile devices. Over the past 30 years, the video game industry has evolved from an entertainment industry to a multi-billion-dollar industry (Jin & Li, 2017). The Entertainment Software Association reported in April of 2015 reported that 150 million Americans participant in gameplay and the average gamer is 35 years old.

Gamers can set a timer prior to engaging in gameplay this will keep them self-aware of the time they spend engaged in gameplay and address lower workplace self-esteem and negative workplace behaviors. Gamers can take thirty-minute breaks during gameplay, such as taking a short walk or running an errand. This approach may help the gamer become more aware of the total amount of time he/she spends engaged in gameplay. Subsequently, non-gamers such as friends and family can have a better understanding of how gaming more than two and one half hours a time can affect the gamers' workplace self-esteem and negative workplace behaviors.

According to Whelpley and Mcdaniel, (2016) and Mclntyre, Mattingly, Lewandowski, and Simpson (2014), CWB in employees with lower self-esteem is costly across various domains and leads to lower effectiveness within the organization. Although gaming is now part of many industries—such as education, automation, industrialization, and surgery—the findings of the study highlight the important impacts of engaging in gameplay. The implications of these findings can also empower game developers to contemplate workplace applications for their products. The beneficial application of specifically-designed productivity games could decrease CWBs and increase workplace self-esteem, thus providing positive social change in many different industries. Employers and organizations can inform employees of the negative outcomes

that gaming over two- and one-half hours at a time has on their workplace self- esteem and workplace behaviors. The first step to reducing CWB and increasing workplace self-esteem would be for employers and organizations to inform the employees of the potential negative effects of gaming more than two- and one-half hours at a time on workplace self-esteem. This process could consist of an organization setting up a form of communication with their employees offing social support within the workplace. This could offset the negative workplace behaviors and inform employees of their current behaviors.

Game developers now have a better understanding of how hours spent gaming affects the gamers' work place self-esteem and work place behaviors. Gaming producers, developers and game design teams can implement in-game timers to better facilitate informing the gamer of their time spent gaming, prompting the player to take a break. This would help the player transition into break time and offset possible elements of stopping the game. The services could also be discussed at the beginning of a game to inform the player of the break during gameplay and the overall benefits of pausing the game.

Limitations

There are several limitations to the study. The first limitation encountered in the creation of the study was the need for a convenience sample, taken from a larger population using SurveyMonkey and Amazon Mechanical Turk or Mturk. The study was designed around employed individuals currently living in the United States, ages 18 to 65, who engaged in gameplay. The sample may not appropriately reflect the larger

population and therefore limit the generalizability of the study findings. Findings among populations with other characteristics may be influenced by factors not presented in the larger populations.

The second limitation of the study was the nature of the self-report questionnaire. Researchers have suggested that self-report questions—even when validated—are subject to the participant's bias and incomplete memories of an event (Thompson & Panacek, 2007). However, self-report questionnaires have been largely accepted as a means of gathering data when data is factually known to the participant (Lowry et al., 2016). Additionally, even though survey responses were anonymous with no personal identifiers, participants were asked potentially unsettling questions regarding their behavior at work. This could have led participants to engage in self-preservation by reporting lower levels of CWB to avoid potential negative employment actions; therefore, this represented a high potential for social desirability bias (a known issue in survey research).

The third limitation of the study was the nature of the WEIMS. The lack of current research regarding the effectiveness of the WEIMS in assessing work motivation in the context of gameplay. Although there is evidence that the WEIMS has been used to measure interrelationships between work outcome variables and predict actual work behaviors in earlier studies (Chen et al., 2015; Lee et al., 2015; Tremblay et al., 2009), outcomes of the predictive variable were not able to measure motivation in the context of gaming. Although data collected by the WEIMS indicated that the predictive variable was negatively correlated with gaming motivation, and what type of motivation games

foster at work, the WEIMS did not fully predict gaming motivation. However, due to the negative correlations, findings did show the lack of motivation of participants.

Recommendations

The current study has added to the existing body of knowledge regarding the impact of time engaged in gameplay, workplace-self-esteem, CWB, and motivation. Although there are several strengths and contributions from this study, some general recommendation for future research can be made. First, this study did not collect data on what genres of games the participants played. In addition, participants did not provide other details about their employment; therefore, it is difficult to decide what type of industry would be impacted the most by these results.

Given the limitation associated with the current sample, findings may differ due to the sample selection. Follow up research may better probe how game genre, industrial specifications, and workplace behaviors impact CWB. Future researchers might also choose to explore the issue using a qualitative method to understand the experiences of participants and gain a broader understanding of the phenomenon. A longitudinal collection of data on time spent gaming could have provided a more robust input of behaviors, increasing confidence in data analysis and making inferences to real-world events.

This study included subjects in the U.S. workforce who engaged in video gameplay on personal computers or consoles, online or off line. Future researchers can expand this work, performing similar studies on a global workforce and possibly provide greater depth to the findings. While there is a large population of employees in the United

States who engage in gameplay, many organizations comprise employees residing in many countries around the globe. International engagement in time spent gaming may be different outside of the United States due to cultural differences. The current sample may only capture a partial look at the larger population without fully reflecting the entirety, thereby limiting the ability to generalize the current findings.

Conclusion

Although employers and organizations understand CWB, researchers continue to discover new techniques to reduce this behavior. Currently, only 13.3% of the employed population engages in CWBs due to time spent gaming; managers and organizations will continue to search for new ways to reduce CWB. Individuals who engage in over two and a half hours of video game play are prone to CWB, and so it is possible that less time spent engaged in gameplay may lower one's propensity to engage in CWB.

Previous research has shown that by engaging a particular type of game, the participant's self-worth and self-esteem increased (Birk et al., 2015; Wang & Hsu, 2017). It is possible that a specific type of game (such as an adventure game, MMORPG, or action game) could offer substantial benefits to workplace behaviors. Further, there is the potential that time spent gaming does contribute to the reduction of CWB when using a specific type of game.

While these variables were independently studied in the literature, this research makes a potentially-useful contribution to employers and organizations. CWB has cost companies millions of dollars in lost revenue, employee productivity, and performance over the past decade. This research can now be used to build upon what has been learned

to further the body of knowledge in this area, consequently leading to lowering CWB and increasing workplace self-esteem. Findings further suggest that organizations, and gamers can acknowledge the implications of gaming for more than two-and one-half hours at a time. Organizations can acknowledge that gaming for more than two- and one-half hours promotes negative work behavior. The gamer, their friends, and their family also benefit from the knowledge that over two and a half hours of gaming could have negative effects on their self-esteem and work behaviors. Therefore, these findings promote an increase of awareness to gamers and organizations which offers support and long-term positive social change among two different populations.

References

Aydm, B., & San, S. V. (2011). Internet addiction among adolescents: The role of self-esteem. *Procedia - Social and Behavioral Sciences*, *15*, 3500–3505. doi:10.1016/j.sbspro.2011.04.325

Bargeron, A. H., & Hormes, J. M. (2017). Psychosocial correlates of Internet gaming disorder: Psychopathology, life satisfaction, and impulsivity. *Computers in Human Behavior*, *68*, 388–394. doi:10.1016/j.chb.2016.11.029

Bauer, J. A., & Spector, P. E. (2015). Discrete negative emotions and counterproductive work behavior. *Human Performance*, *28*(4), 307–331. doi:10.1080/08959285.2015.1021040

Beard, C. L., & Wickham, R. E. (2016). Gaming-contingent self-worth, gaming motivation, and Internet Gaming Disorder. *Computers in Human Behavior*, *61*, 507–515. doi:10.1016/j.chb.2016.03.046

Bejjanki, V. R., Zhang, R., Li, R., Pouget, A., Green, C. S., Lu, Z.-L., & Bavelier, D. (2014). Action video gameplay facilitates the development of better perceptual templates. *Proceedings of the National Academy of Sciences*, *111*(47), 16961–16966. doi:10.1073/pnas.1417056111

Birk, M. V., & Mandryk, R. L. (2016, May). The benefits of digital games for the assessment and treatment of mental health. In *CHI 2016 Workshop Computing in Mental Health*.

Birk, M. V., Mandryk, R. L., Miller, M. K., & Gerling, K. M. (2015). How self-esteem shapes our interactions with play technologies. In *Proceedings of the 2015 Annual*

Symposium on Computer-Human Interaction in Play, 3(7) 35-45. doi:10.1145/2793107.2793111

Blacker, K. J., Curby, K. M., Klobusicky, E., & Chein, J. M. (2014). Effects of action video game training on visual working memory. *Journal of Experimental Psychology: Human Perception and Performance*, *40*(5), 1992–2004. doi:10.1037/a0037556

Breaugh, J. A. (2008). Important considerations in using statistical procedures to control for nuisance variables in non-experimental studies. *Human Resource Management Review*, *18*(4), 282-293. doi:10.1016/j.hrmr.2008.03.001

Brown, K. W., & Leary, M. R. (2016). *The Oxford handbook of hypo-egoic phenomena*. Oxford, United Kingdom: Oxford University Press.

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science*, *6*(1), 3–5. doi:10.1177/1745691610393980

Caplan, S. E. (2002). Problematic Internet use and psychosocial well-being: Development of a theory-based cognitive–behavioral measurement instrument. *Computers in Human Behavior*, *18*(5), 553–575. doi:10.1016/S0747-5632(02)00004-3

Carrier, L. M., Spradlin, A., Bunce, J. P., & Rosen, L. D. (2015a). *Behind the screen measure retrieved from PsycTESTS*.

Carrier, L. M., Spradlin, A., Bunce, J. P., & Rosen, L. D. (2015b). Virtual empathy: Positive and negative impacts of going online upon empathy in young adults. *Computers in Human Behavior*, *52*, 39-48. doi:10.1016/j.chb.2015.05.026

Cheever, N. A., Rosen, L. D., Carrier, L. M., & Chavez, A. (2014). Out of sight is not out of mind: The impact of restricting wireless mobile device use on anxiety levels among low, moderate and high users. *Computers in Human Behavior*, *37*(Supplement C), 290–297. doi:10.1016/j.chb.2014.05.002

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., . . . Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, *39*(2), 216–236. doi:10.1007/s11031-014-9450-1

Chiappe, D., Conger, M., Liao, J., Caldwell, J. L., & Vu, K.-P. L. (2013). Improving multi-tasking ability through action videogames. *Applied Ergonomics*, *44*(2), 278–284. doi:10.1016/j.apergo.2012.08.002

Choi, S., Lee, J., & Park, H. (2015). The effects of psychosocial problems on employees' stress, self-esteem, and organizational commitment: The case of South Korean workplaces. *Journal of Workplace Behavioral Health*, *30*(1-2), 179-190. doi:10.1080/15555240.2015.1000165

Collins, E., & Cox, A. L. (2014). Switch on to games: Can digital games aid post-work recovery? *International Journal of Human-Computer Studies*, *72*(8–9), 654–662. doi:10.1016/j.ijhcs.2013.12.006

Dalisay, F., Kushin, M. J., Yamamoto, M., Liu, Y.-I., & Skalski, P. (2015). Motivations for gameplay and the social capital and civic potential of video games. *New Media & Society*, *17*(9), 1399–1417. doi:10.1177/1461444814525753

Deci, E. L., & Cascio, W. F. (1972). *Changes in intrinsic motivation as a function of negative feedback and threats.* Retrieved from https://eric.ed.gov/?id=ED063558

Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. *Psychological Bulletin*, *125*(6), 627–668. doi:10.1037/0033-2909.125.6.627

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-Determination Theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior*, *4*(1), 19–43. doi:10.1146/annurev-orgpsych-032516-113108

Deci, E. L., & Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, *19*(2), 109–134. doi:10.1016/0092-6566(85)90023-6

Deci, E. L., & Ryan, R. M. (Eds.). (2002). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.

Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychology Canadienne*, *49*(3), 182-185. doi:10.1037/a0012801

Deci, E. L., & Ryan R. M., (2011). Self-determination theory. In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 416-433). Rochester, NY: University of Rochester Press.

Deci, E. L., & Ryan, R. M. (2008). Self-Determination Theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychology Canadienne*, *49*(3), 182-185. doi:10.1037/a0012801

Di Domenico, S. I., & Ryan, R. M. (2017). The emerging neuroscience of intrinsic motivation: A new frontier in self-determination research. *Frontiers in Human Neuroscience*, *11*(145). doi:10.3389/fnhum.2017.00145

Ducheneaut, N., & Moore, R. J. (2004). The social side of gaming: A study of interaction patterns in a massively multiplayer online game. In *Proceedings of the 2004 ACM Conference on Computer Supported Cooperative Work* (pp. 360–369). New York, NY: Association for Computing Machinery. doi:10.1145/1031607.1031667

Entertainment Software Association. (2015, April 14). *More than 150 million Americans play video games.* Retrieved from https://www.prnewswire.com/news-releases/more-than-150-million-americans-play-video-games-300065168.html

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. doi:10.3758/BRM.41.4.1149

Felicia, P. (2014). *Game-based learning: Challenges and opportunities.* Newcastle upon Tyne, United Kingdom: Cambridge Scholars Publishing.

Fida, R., Paciello, M., Tramontano, C., Fontaine, R. G., Barbaranelli, C., & Farnese, M. L. (2015). An integrative approach to understanding counterproductive work behavior: The roles of stressors, negative emotions, and moral disengagement. *Journal of Business Ethics*, *130*(1), 131–144. doi:10.1007/s10551-014-2209-5

Gabbiadini, A., & Greitemeyer, T. (2017). Uncovering the association between strategy video games and self-regulation: A correlational study. *Personality and Individual Differences*, *104*, 129–136. doi:10.1016/j.paid.2016.07.041

Gagné, M., & Deci, E. L. (2005). Self-Determination Theory and work motivation. *Journal of Organizational Behavior*, *26*(4), 331-362. doi:10.1002/job.322

Galić, Z., & Ružojčić, M. (2017). Interaction between implicit aggression and dispositional self-control in explaining counterproductive work behaviors. *Personality and Individual Differences*, *104*, 111–117. doi:10.1016/j.paid.2016.07.046

Granic, I., Lobel, A., & Rutger, C. M. E. (2014). The benefits of playing video games. *American Psychologist, 69*(1), 75-78. doi:10.1037/a0034857

Greco, L. M., O'Boyle, E. H., & Walter, S. L. (2015). Absence of malice: A meta-analysis of nonresponse bias in counterproductive work behavior research. *Journal of Applied Psychology*, *100*(1), 75–97. doi:10.1037/a0037495

Greenberger, E., Chen, C., Dmitrieva, J., & Farruggia, S. P. (2003). Item-wording and the dimensionality of the Rosenberg Self-Esteem Scale: Do they matter? *Personality and Individual Differences*, *35*(6), 1241-1254. doi:10.1016/S0191-8869(02)00331-8

Harlow, H. F. (1953). Mice, monkeys, men, and motives. *Psychological Review*, *60*(1), 23–32. doi:10.1037/h0056040

Hochstein, B. W., Lilly, B., & Stanley, S. M. (2017). Incorporating a counterproductive work behavior perspective into the salesperson deviance literature: Intentionally

harmful acts and motivations for sales deviance. *Journal of Marketing Theory & Practice*, *25*(1), 86–103. doi:10.1080/10696679.2016.1236663

Hoffman, B., & Nadelson, L. (2010). Motivational engagement and video gaming: A mixed methods study. *Educational Technology, Research, and Development, 58*(3), 245–270.

Huang, R.-T., Sun, H.-S., Hsiao, C.-H., & Wang, C.-W. (2017). Minimizing counterproductive work behaviors: The roles of self-determined motivation and perceived job insecurity in organizational change. *Journal of Organizational Change Management, 30*(1), 15–26.

Huangfu, G., Lv, F., Sheng, C., & Shi, X. (2017). Effect of workplace environment cleanliness on judgment of counterproductive work behavior. *Social Behavior & Personality: An International Journal*, *45*(4), 599–604. doi:10.2224/sbp.6083

Hussain, Z., Williams, G. A., & Griffiths, M. D. (2015). An exploratory study of the association between online gaming addiction and enjoyment motivations for playing massively multiplayer online role-playing games. *Computers in Human Behavior*, *50*(Supplement C), 221–230. doi:10.1016/j.chb.2015.03.075

Huysse-Gaytandjieva, A., Groot, W., & Pavlova, M. (2013). A new perspective on job lock. *Social Indicators Research*, *112*(3), 587–610. doi:10.1007/s11205-012-0072-2

Jin, Y., & Li, J. (2017). When newbies and veterans play together: The effect of video game content, context and experience on cooperation. *Computers in Human Behavior*, *68*, 556–563. doi:10.1016/j.chb.2016.11.059

Johar, S. H., Shah, I. M., & Bakar, Z. A. (2012). The impact of emotional intelligence towards relationship of personality and self-esteem at workplace. *Procedia - Social and Behavioral Sciences*, *65*, 150-155. doi:10.1016/j.sbspro.2012.11.104

Judge, T. A., & Bono, J. E. (2001). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. *Journal of Applied Psychology*, *86*(1), 80–92. doi:10.1037/0021-9010.86.1.80

Kanfer, R., Frese, M., & Johnson, R. E. (2017). Motivation related to work: A century of progress. *Journal of Applied Psychology*, *102*(3), 338–355. doi:10.1037/apl0000133

Kaye, L. K., Kowert, R., & Quinn S. (2017). The role of social identity and online social capital on psychosocial outcomes in MMO players. *Computers in Human Behavior*, *74*, 215–223. doi:10.1016/j.chb.2017.04.030

Kim, M., & Beehr, T. A. (2017, June). *Is organization-based self-esteem a mediator between the stressor of job insecurity and employees' well-being?* Poster presented at the 12th International Conference of Occupational Stress and Health, "Work, Strees, and Health, 2017: Contemporary Challenges and Opportunities," Minneapolis, MN. Retrieved from https://www.researchgate.net/publication/325069211_Is_Organization-Based_Self-Esteem_a_Mediator_between_the_Stressor_of_Job_Insecurity_and_Employees'_Well-Being

König, C. J., & Caner de la Guardia, M. E. (2014). Exploring the positive side of personal Internet use at work: Does it help in managing the border between work and nonwork? *Computers in Human Behavior*, *30*, 355–360. doi:10.1016/j.chb.2013.09.021

Kumar, N. (2017). Self-esteem and its impact on performance. *Indian Journal of Positive Psychology*, *8*(2), 142–147.

Kuster, F., Orth, U., & Meier, L. L. (2013). High self-esteem prospectively predicts better work conditions and outcomes. *Social Psychological and Personality Science*, *4*(6), 668-675. doi:10.1177/1948550613479806

Lafrenière, M-A. K., Verner-Filion, J., & Vallerand, R. J. (2012). Development and validation of the Gaming Motivation Scale (GAMS). *Personality and Individual Differences*, *53*(7), 827–831. doi:10.1016/j.paid.2012.06.013

Lee, B. W., & Leeson, P. R. C. (2015). Online gaming in the context of social anxiety. *Psychology of Addictive Behaviors*, *29*(2), 473–482. doi:10.1037/adb0000070

Lee, Y., Lee, J., & Hwang, Y. (2015). Research report: Relating motivation to information and communication technology acceptance: Self-determination theory perspective. *Computers in Human Behavior*, *51*(Part A), 418–428. doi:10.1016/j.chb.2015.05.021

Limperos, A. M., Schmierbach, M. G., Kegerise, A. D., & Dardis, F. E. (2011). Gaming across different consoles: Exploring the influence of control scheme on game-player enjoyment. *Cyberpsychology, Behavior and Social Networking*, *14*(6), 345–350. doi:10.1089/cyber.2010.0146

Liu, M., & Peng, W. (2009). Cognitive and psychological predictors of the negative outcomes associated with playing MMOGs (massively multiplayer online games). *Computers in Human Behavior*, *25*(6), 1306–1311. doi:10.1016/j.chb.2009.06.002

Locke, E. A., Shaw, K. N., Saari, L. M., & Latham, G. P. (1981). Goal setting and task performance: 1969–1980. *Psychological Bulletin*, *90*(1), 125–152. doi:10.1037/0033-2909.90.1.125

Lowry, P. B., D'Arcy, J., Hammer, B., & Moody, G. D. (2016). "Cargo Cult" science in traditional organization and information systems survey research: A case for using nontraditional methods of data collection, including Mechanical Turk and online panels. *Journal of Strategic Information Systems*, *25*(3), 232–240. doi:10.1016/j.jsis.2016.06.002

Ma, C. (2016). The role of approach and avoidance motivation in employee voice: The moderating effect of ostracism and contingent self-esteem. *International Journal of Productivity and Performance Management*, *65*(6), 744–759. doi:10.1108/IJPPM-01-2016-0002

Marchand, A., & Blanc, M.-È. (2011). Occupation, work organization conditions and the development of chronic psychological distress. *Work*, *40*(4), 425–435.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*(4), 370–396. doi:10.1037/h0054346

McIntyre, K. P., Mattingly, B. A., Lewandowski, G. W., & Simpson, A. (2014). Workplace self-expansion: Implications for job satisfaction, commitment, self-

concept clarity, and self-esteem among the employed and unemployed. *Basic & Applied Social Psychology*, *36*(1), 59–69. doi:10.1080/01973533.2013.856788

Mastrangelo, P. M., Everton, W., & Jolton, J. A. (2006). Personal use of work computers: Distraction versus destruction. *CyberPsychology & Behavior*, *9*(6), 730–741. doi:10.1089/cpb.2006.9.730

Mertler, C. A., & Reinhart, R. V. (2016). *Advanced and multivariate statistical methods: Practical application and interpretation*. Routledge.

Miller, J. D., Crowe, M., Weiss, B., Maples-Keller, J. L., & Lynam, D. R. (2017). Using online, crowdsourcing platforms for data collection in personality disorder research: The example of Amazon's Mechanical Turk. *Personality Disorders: Theory, Research, and Treatment*, *8*(1), 26–34. https://doi.org/10.1037/per0000191

Nagygyörgy, K., Urbán, R., Farkas, J., Griffiths, M. D., Zilahy, D., Kökönyei, G., . . . Demetrovics, Z. (2013). Typology and sociodemographic characteristics of massively multiplayer online gameplayers. *International Journal of Human–Computer Interaction*, *29*(3), 192–200. doi:10.1080/10447318.2012.702636

Niemiec, C. P., & Ryan, R. M. (2009). Autonomy, competence, and relatedness in the classroom: Applying Self-Determination Theory to educational practice. *School Field*, *7*(2), 133–144. doi:10.1177/1477878509104318

Olafsen, A. H., Niemiec, C. P., Halvari, H., Deci, E. L., & Williams, G. C. (2017). On the dark side of work: A longitudinal analysis using Self-Determination Theory.

European Journal of Work and Organizational Psychology, *26*(2), 275–285. doi:10.1080/1359432X.2016.1257611

Onwuegbuzie, A. J. (2000). Expanding the Framework of Internal and External Validity in Quantitative Research. Retrieved from https://eric.ed.gov/?id=ED448205

Park, J. H., Han, D. H., Kim, B.-N., Cheong, J. H., & Lee, Y.-S. (2016). Correlations among social anxiety, self-esteem, impulsivity, and game genre in patients with problematic online gameplaying. *Psychiatry Investigation*, *13*(3), 297–304. doi:10.4306/pi.2016.13.3.297

Pedersen, M. J., & Nielsen, C. V. (2016). Improving survey response rates in online panels: Effects of low-cost incentives and cost-free text appeal interventions. *Social Science Computer Review*, *34*(2), 229–243. https://doi.org/10.1177/0894439314563916

Petridis, P., Hadjicosta, K., Guang Shi, V., Dunwell, I., Baines, T., Bigdeli, A., & Uren, V. (2015). State of the art in business games. *International Journal of Serious Games*, *2*(1), 55-69. doi:10.17083/IJSG

Penney, L. M., & Spector, P. E. (2005). Job stress, incivility, and counterproductive work behavior (CWB): The moderating role of negative affectivity. *Journal of Organizational Behavior*, *26*(7), 777-796. doi:10.1002/job.336

Pierce, J. L., & Gardner, D. G. (2004). Self-esteem within the work and organizational context: A review of the organization-based self-esteem literature. *Journal of Management, 30*(5), 591–622. doi:10.1016/j.jm.2003.10.001

Przybylski, A. K., Rigby, C. S., & Ryan, R. M. (2010). A motivational model of video game engagement. *Review of General Psychology*, *14*(2), 154–166. doi:10.1037/a0019440

Puerta-Cortés, D. X., Panova, T., Carbonell, X., & Chamarro, A. (2017). How passion and impulsivity influence a player's choice of videogame, intensity of playing and time spent playing. *Computers in Human Behavior*, *66*, 122–128. doi:10.1016/j.chb.2016.09.029

Reinecke, L. (2009). Games at work: The recreational use of computer games during working hours. *CyberPsychology & Behavior*, *12*(4), 461–465. doi:10.1089/cpb.2009.0010

Riaz, M. N., Riaz, M. A., & Batool, N. (2014). Managerial decision making styles as predictors of personal and organizational outcomes of in-service employee. *Journal of Behavioural Sciences*, *24*(2), 100-117.

Robins, R. W., Tracy, J. L., Trzesniewski, K., Potter, J., & Gosling, S. D. (2001). Personality correlates of self-esteem. *Journal of Research in Personality*, *35*(4), 463–482. doi:10.1006/jrpe.2001.2324

Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology*, *91*(1), 93. doi:10.1080/00223980.1975.9915803

Rosenberg, M. (1965). Rosenberg Self-Esteem Scale. *PsycTESTS*. doi:10.1037/t01038-000

Rosenberg, M., Schooler, C., & Schoenbach, C. (1989). Self-esteem and adolescent problems: Modeling reciprocal effects. *American Sociological Review*, *54*(6), 1004–1018. doi:10.2307/2095720

Rosenberg, M., Schooler, C., Schoenbach, C., & Rosenberg, F. (1995). Global self-esteem and specific self-esteem: Different concepts, different outcomes. *American Sociological Review*, *60*(1), 141-156. doi:10.2307/2096350

Rosenthal, R., & Rubin, D. B. (1982). A simple, general purpose display of magnitude of experimental effect. *1982*, *74*(4), doi: 0022-0663/82/7402-0166

Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality & Social Psychology*, *43*(3), 450–461.

Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion*, *30*(4), 344-360. doi:10.1007/s11031-006-9051-8

Schwalbe, M. L., Gecas, V., & Baxter, R. (1986). The effects of occupational conditions and individual characteristics on the importance of self-esteem sources in the workplace. *Basic and Applied Social Psychology*, *7*(1), 63-84. doi:10.1207/s15324834basp0701_5

Shoss, M., Jundt, D., Kobler, A., & Reynolds, C. (2016). Doing bad to feel better? An investigation of within- and between-person perceptions of counterproductive work behavior as a coping tactic. *Journal of Business Ethics*, *137*(3), 571–587. doi:10.1007/s10551-015-2573-9

Spector, P. E., Bauer, J. A., & Fox, S. (2010). Measurement artifacts in the assessment of counterproductive work behavior and organizational citizenship behavior: Do we know what we think we know? *Journal of Applied Psychology*, *95*(4), 781–790. doi:10.1037/a0019477

Spector, P. E., Fox, S., Penney, L. M., Bruursema, K., Goh, A., & Kessler, S. (2005). The dimensionality of counterproductivity: Are all counterproductive behaviors created equal? *Journal of Vocational Behavior*, *68*(3), 446-460. doi:10.1016/j.jvb.2005.10.005

Spector, P. E., & Zhou, Z. E. (2014). The moderating role of gender in relationships of stressors and personality with counterproductive work behavior. *Journal of Business and Psychology*, *29*(4), 669–681. doi:10.1007/s10869-013-9307-8

Sweetser, P., & Wyeth, P. (2005). GameFlow: A model for evaluating player enjoyment in games. *Computers in Entertainment*, *3*(3), 3–3. doi:10.1145/1077246.1077253

Sublette, V. A., & Mullan, B. (2012). Consequences of play: A systematic review of the effects of online gaming. *International Journal of Mental Health and Addiction*, *10*(1), 3-23. doi:10.1007/s11469-010-9304-3

Thompson, J., & Gomez, R. (2014). The role of self-esteem and self-efficacy in moderating the effect of workplace stress on depression, anxiety and stress. *Australasian Journal of Organizational Psychology*, *7*. doi:10.1017/orp.2014.2

Tremblay, M., Blanchard, C., Taylor, S., Pelletier, L., & Villeneuve, M. (2009). Work Extrinsic and Intrinsic Motivation Scale: Its value for organizational psychology

research. *Canadian Journal of Behavioral Science-Revue Canadienne Des Sciences Comportement*, *41*(4), 213–226.

United States Census . *https://www.census.gov/*, United States Government , May 2017, www.census.gov/.

Vallerand, R. J., Pelletier, L. G., & Koestner, R. (2008). Reflections on Self-Determination Theory. *Canadian Psychology/Psychology Canadian*, *49*(3), 257–262. doi:10.1037/a0012804

Wang, S. S., & Hsu, S.-J. (2016). Not so angry birds: Psychological benefits of mobile games. *Pacific Asia Journal of the Association for Information Systems*, *8*(1). Retrieved from http://journal.ecrc.nsysu.edu.tw/index.php/pajais/article/view/337

Webber, E., & Feinsilber, M. (1999). *Merriam-Webster's dictionary of allusions*. Merriam-Webster.

Whelpley, C. E., & McDaniel, M. A. (2016). Self-esteem and counterproductive work behaviors: A systematic review. *Journal of Managerial Psychology*, *31*(4), 850–863. doi:10.1108/JMP-01-2014-0008

Yang, Y., Asaad, Y., & Dwivedi, Y. (2017). Examining the impact of gamification on intention of engagement and brand attitude in the marketing context. *Computers in Human Behavior*, *73*, 459–469. doi:10.1016/j.chb.2017.03.066

Yang, Z., Zhang, H., Kwan, H. K., & Chen, S., (2018). Crossover effects of servant leadership and job social support on employee spouses: The mediating role of employee organization-based self-esteem. *Journal of Business Ethics*, *147*(3), 595–604. doi:10.1007/s10551-015-2943-3

Appendix A: Prescreener

You will have to answer yes to the following questions to meet the criteria to take part in the survey. If you are unable to answer yes to all of the questions, then you not will be able to answer the survey questions. To qualify for the study, you must be able to answer yes to each item below. The information contained will remain confidential.

1. Are you employed?

   Yes ☐

   No ☐

2. Do you partake in videogame play on a device such as a console, personal computer, or mobile device?

   Yes ☐

   No ☐

3. Do you live in the United States?

   Yes ☐

   No ☐

Appendix B: Behind the Screen Measure (Public Domain)

Use the following rating scale to indicate how much time you spend engaging in each activity a day.

Not at all = 0

Less than 1 h/day =1

1 h/day =2

2 h/day =3

3 h/day = 4

4–5 h/day= 5

6–8 h/day =6

9–10 h/day=7

More than 10 h/da7 = 8

1. Play video games on a computer with other people IN DIFFERENT LOCATIONS	0	1	2	3	4	5	6	7	8
2. Play video games on a console with other people IN DIFFERENT LOCATIONS	0	1	2	3	4	5	6	7	8
3. Play video games on a computer with other people IN THE SAME ROOM	0	1	2	3	4	5	6	7	8
4. Play video games on console with other people IN THE SAME ROOM	0	1	2	3	4	5	6	7	8
5. Play video games on a computer BY YOURSELF	0	1	2	3	4	5	6	7	8
6. Play video games on a console BY YOURSELF	0	1	2	3	4	5	6	7	8

7. Spend time in an online virtual world	0	1	2	3	4	5	6	7	8
8. Skype or video chat	0	1	2	3	4	5	6	7	8
9. Attend classes online	0	1	2	3	4	5	6	7	8
10. Shop online	0	1	2	3	4	5	6	7	8
11. Use a computer for purposes other than being online	0	1	2	3	4	5	6	7	8
12. Use email	0	1	2	3	4	5	6	7	8
13. Go online and visit websites	0	1	2	3	4	5	6	7	8
14. Instant message or participate in online chats	0	1	2	3	4	5	6	7	8
15. Go online to social network sites	0	1	2	3	4	5	6	7	8

Appendix C: Rosenberg Self-Esteem Scale

Use the following rating scale to indicate your self-esteem while at work.

1= strongly agree 2= agree 3=disagree 4=strongly disagree

1. I feel that I am a person of worth, at least on an equal basis with others.	1	2	3	4
2. I feel that I have a number of good qualities.	1	2	3	4
3. All in all, I am inclined to feel that I am a failure. *	1	2	3	4
4. I am able to do things as well as most other people.	1	2	3	4
5. I feel I do not have much to be proud of. *	1	2	3	4
6. I take a positive attitude toward myself.	1	2	3	4
7. On the whole, I am satisfied with myself.	1	2	3	4
8. I wish I could have more respect for myself. *	1	2	3	4
9. I certainly feel useless at times. *	1	2	3	4
10. At times I think I am no good at all. *	1	2	3	4

Appendix D: Counterproductive Work Behavior Checklist

Please complete the following scale use the rating scale to select how often you do each of the following things on your present job.

1 = Never

2 = Once or twice

3 = Once or twice per month

4 = Once or twice per week

5 = Every day

How often have you done each of the following things on your present job?	Never	Once or Twice	Once or Twice per month	Once or twice per week	
1. Purposely wasted your employer's materials/supplies	1	2	3	4	5
2. Daydreamed rather than did your work	1	2	3	4	5
3. Complained about insignificant things at work	1	2	3	4	5
4. Told people outside the job what a lousy place you work for	1	2	3	4	5
5. Purposely did your work incorrectly	1	2	3	4	5
6. Came to work late without permission	1	2	3	4	5
7. Stayed home from work and said you were sick when you weren't	1	2	3	4	5
8. Purposely damaged a piece of equipment or property	1	2	3	4	5
9. Purposely dirtied or littered your place of work	1	2	3	4	5
10. Stolen something belonging to your employer	1	2	3	4	5
11. Started or continued a damaging or harmful rumor at work	1	2	3	4	5
12. Been nasty or rude to a client or customer	1	2	3	4	5
13. Purposely worked slowly when things needed to get done	1	2	3	4	5

14. Refused to take on an assignment when asked	1	2	3	4	5
15. Purposely came late to an appointment or meeting	1	2	3	4	5
How often have you done each of the following things on your present job?	Never	Once or Twice	Once or Twice per month	Once or twice per week	
16. Taken a longer break than you were allowed to take	1	2	3	4	5
17. Purposely failed to follow instructions	1	2	3	4	5
18. Left work earlier than you were allowed to	1	2	3	4	5
19. Insulted someone about their job performance	1	2	3	4	5
20. Made fun of someone's personal life	1	2	3	4	5
21. Took supplies or tools home without permission	1	2	3	4	5
22. Tried to look busy while doing nothing	1	2	3	4	5
23. Put in to be paid for more hours than you worked	1	2	3	4	5
24. Took money from your employer without permission	1	2	3	4	5
25. Ignored someone at work	1	2	3	4	5
26. Refused to help someone at work	1	2	3	4	5
27. Withheld needed information from someone at work	1	2	3	4	5
28. Purposely interfered with someone at work doing his/her job	1	2	3	4	5
29. Blamed someone at work for error you made	1	2	3	4	5
30. Started an argument with someone at work	1	2	3	4	5
31. Stole something belonging to someone at work	1	2	3	4	5
32. Verbally abused someone at work	1	2	3	4	5
33. Made an obscene gesture (the finger) to someone at work	1	2	3	4	5
34. Threatened someone at work with violence	1	2	3	4	5
35. Threatened someone at work, but not physically	1	2	3	4	5
36. Said something obscene to someone at work to make them feel bad	1	2	3	4	5
37. Hid something so someone at work couldn't find it	1	2	3	4	5
38. Did something to make someone at work look bad	1	2	3	4	5
39. Played a mean prank to embarrass someone at work	1	2	3	4	5
40. Destroyed property belonging to someone at work	1	2	3	4	5
41. Looked at someone at work's private mail/property without permission	1	2	3	4	5
42. Hit or pushed someone at work	1	2	3	4	5
43. Insulted or made fun of someone at work	1	2	3	4	5
44. Avoided returning a phone call to someone you should at	1	2	3	4	5

work

Appendix E: Workplace Extrinsic Intrinsic Motivation Scale

Please complete the following survey. Use the Likert-type scale to indicate items that correspond to the reasons why you are presently involved in your work.

1= does not correspond at all 5 = corresponds exactly

1. Because this is the type of work I chose to do to attain a certain lifestyle.	1	2	3	4	5	6	7
2. For the income it provides me.	1	2	3	4	5	6	7
3. I ask myself this question, I don't seem to be able to manage the important tasks related to this work.	1	2	3	4	5	6	7
4. Because I derive much pleasure from learning new things.	1	2	3	4	5	6	7
5. Because it has become a fundamental part of who I am.	1	2	3	4	5	6	7
6. Because I want to succeed at this job, if not I would be very ashamed of myself.	1	2	3	4	5	6	7
7. Because I chose this type of work to attain my career goals.	1	2	3	4	5	6	7
8. For the satisfaction I experience from taking on interesting challenges.	1	2	3	4	5	6	7
9. Because it allows me to earn money.	1	2	3	4	5	6	7
10. Because it is part of the way in which I have chosen to live my life.	1	2	3	4	5	6	7
11. Because I want to be very good at this work, otherwise I would be very disappointed.	1	2	3	4	5	6	7
12. I don't know why, we are provided with unrealistic working conditions.	1	2	3	4	5	6	7
13. Because I want to be a "winner" in life.	1	2	3	4	5	6	7
14. Because it is the type of work I have chosen to attain certain important objectives.	1	2	3	4	5	6	7
15. For the satisfaction I experience when I am successful at doing difficult tasks.	1	2	3	4	5	6	7
16. Because this type of work provides me with security.	1	2	3	4	5	6	7
17. I don't know, too much is expected of us.	1	2	3	4	5	6	7
18. Because this job is a part of my life.	1	2	3	4	5	6	7

Appendix F: Permission to Publish The Behind the Screen Measure

Sarah Dyson wrote:
Good afternoon Dr. Carrier,
My name is Sarah Dyson. I am a doctoral student at Walden University. I am emailing you today to request permission to use the Behind the Screen Measurement as part of my survey while completing my dissertation. I would like to survey 270 individuals online using Amazon Mechanical Turk. I would use your survey along with three others to discover if time spent engaging video gameplay can predict workplace self-esteem, and if workplace self-esteem can predict CWB.
Thank you for your time and consideration,
Sarah Dyson

To: Sarah Dyson
Subject: Re: Requesting Permission
Hi Sarah, I'm not sure what measure you are asking about. I don't remember a scale called Behind the Screen.
Mark

From: Sarah Dyson
Date: Saturday, September 8, 2018 at 6:04 PM
To: Louis Mark Carrier
Subject: Re: Requesting Permission
Hi Dr. Carrier,
Thank you for your response. I found your email under the contact information (see below) I have copied. This is the scale I would like to use. I believe it is okay to use for educational purposes. I would like to use this scale to measure time spent engaged in video gameplay.
Thank you for your time and consideration,
Sarah
Behind the Screen Measure
Record Type:
Master Test Record
Louis Mark Carrier

Sun 9/9/2018 9:24 AM
Inbox
To:Sarah Dyson
Test Year:
2015
Test Child Records:
Behind the Screen Measure [Test Development]

Virtual empathy: Positive and negative impacts of going online upon empathy in young adults. (AN: 2015-
37656-006 from PsycINFO) Nov, 2015.
Authors: Carrier, L. Mark; Spradlin, Alexander; Bunce, John P.; Rosen, Larry D.;
Source: Computers in Human Behavior. 52, Elsevier Science, Netherlands.
Age Group: Adulthood (18 yrs & older)
Population: Human; Male; Female; Sample: Young Adults; Location: United States
Keywords: Factor Analysis; Behind the Screen Measure; Test Development; Internal Consistency; Play Video
Games; Computer as Gateway;
Subjects: Computer Attitudes; Computer Games; Computer Usage; Factor Analysis; Human Computer
Interaction; Rating Scales; Test Construction; Test Reliability;
Authors:
Carrier, L. Mark
United States,
Spradlin, Alexander
States
Bunce, John P
United States
Rosen, Larry D
Address:
Carrier, L. Mark,
Source:
PsycTESTS, 2015.
Language:
English
Construct:
Human Computer Interaction
Purpose:

The purpose of the Behind the Screen Measure is to assess the time that participants spend behind a television screen, a computer screen, or a portable phone screen.
Description: The Behind the Screen Measure (Carrier et al., 2015) was developed to assess the time that participants spent behind a television screen, a computer screen, or a portable phone screen. This 15-item measure was designed for a study of virtual empathy in a sample of young adults. Use of the Internet, along with engagement in other technology-based activities, and talking face-to-face was measured using a Daily Media Usage scale that was previously used by Carrier et al. (2009) and Rosen et al. (2010). In addition to the items used in the original studies, the present study included several detailed items related to video gaming. The participants' ratings were provided using a 9-point scale. Responses to the items were combined in order to create a variable

that represented time spent ‘‘behind the screen.’’ Principal components analysis with Varimax rotation identified three factors: Play Video Games, Computer as Gateway, and TV & Text. The inter-item reliabilities (Cronbach’s alpha) for Play Video Games and Computer as Gateway were acceptable, alpha = .91 (10 items) and alpha = .81 (5 items), respectively. The third subscale, TV & Text, showed poor reliability, alpha = .40 (3 items). Further, Cronbach’s alpha could not be raised appreciably by deleting any one of the items from the subscale. Therefore, consideration of the third subscale was discontinued. (PsycTESTS Database Record (c) 2016 APA, all rights reserved)
Format: Participants rate 15 items using a 9-point scale.
Instrument Type:
Rating Scale
PsycTESTS Classification:
Human-Computer Interaction (6400)
Commercial Availability: No
Permissions: May use for Research/Teaching
Fee: No
Test Location: Table 3, Page 43
20160509
Digital Object Identifier:
http://dx.doi.org.ezp.waldenulibrary.org/10.1037/t47495-000
Test File: Full
Accession Number: 9999-47495-000
From: Louis Mark Carrier

Re: Requesting Permission
Oh yes, you can use that. I forgot about that title for it. Do you have a copy of the paper?
Dept. of Psychology

Appendix G: Permission to Publish The Counterproductive Workplace Behavioral Checklist

From: Sarah Dyson
Sent: Friday, September 7, 2018 12:07 PM
To: Spector, Paul
Subject: Requesting Permission

Good afternoon Dr. Spector,

My name is Sarah Dyson. I am a doctoral student at Walden University. I am emailing you today to request permission to use your Counterproductive Work Behavior Checklist (CWB-C) as part of my survey while completing my dissertation. I would like to survey 270 individuals online using Amazon Mechanical Turk. I would use your survey along with three others to discover if video gameplay can predict workplace self-esteem, and if workplace self-esteem can predict CWB.

Thank you for your time and consideration,

Sarah Dyson

RE: Requesting Permission

Dear Sarah:

You have my permission for noncommercial research/teaching use of any of my scales that are on my website, including the CWB-C. You can find copies of the scales in the original English and for some scales other languages, as well as details about the scale's development and norms in the Scales section of my website (link below). I allow free use for noncommercial research and teaching purposes in return for sharing of results. This includes student theses and dissertations, as well as other student research projects. Copies of the scale can be reproduced in a thesis or dissertation as long as the copyright notice is included, "Copyright Paul E. Spector, All rights reserved" with the appropriate year. Results can be shared by providing an e-copy of a published or unpublished research report (e.g., a dissertation). You also have permission to translate the scales into another language under the same conditions in addition to sharing a copy of the translation with me. Be sure to include the copyright statement, as well as credit the person who did the translation with the year.

Thank you for your interest in my scales, and good luck with your research.

Best,

Paul Spector,

Appendix H: Permission to Publish the Work Extrinsic Intrinsic Motivation Scale

Good afternoon Dr. Tremblay,

My name is Sarah Dyson. I am a doctoral student at Walden University. I am emailing you today to request permission to use the Work Extrinsic and Intrinsic Motivation Scale as part of my survey while completing my dissertation.
I would like to survey 270 individuals online using Amazon Mechanical Turk. I would use your survey along with three others to discover if video gameplay can predict workplace self-esteem, and if workplace self-esteem can predict Counterproductive workplace behavior.
Thank you for your time and consideration,

Sarah Dyson

5/7/2019 Mail -
Re: Requesting Permission for use of the WEIMS
Good day, thank you for your interest in our work. You can certainly use the WEIMS as part of your dissertation for research purposes. Simply properly reference it and keep me informed of the obtained results. Wishing you great success.
Best regards,
Maxime
Maxime Tremblay, Ph.D., psychologist