RELATIONSHIPS BETWEEN COGNITIVE DISTORTIONS AND PSYCHOLOGICAL RESILIENCE ON CYBER DELINQUENT BEHAVIOUR AMONG SAUDI ARABIA ADOLESCENT

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by

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LIST OF ABBREVIATIONS

ASW	Assuming the Worst
AVE	Average Variance Extracted
BCT	Beck's Cognitive Theory
BMO	Blame Others
CMB	Common Method Bias
CR	Composite Reliability
CYB	Cyberbullying
CYD	Cyber Delinquent
CYH	Cyber Sexual Harassment
f^2	Effect Sizes
GCI	Global cybersecurity Index
GOF	Goodness of Fit
HAR	Hardiness
HTMT	Heterotrait Monotrait Ratio
ICT	Information and Communication Technologies
IMPI	Impersonation
ITD	Interactional Theory of Delinquency
LCT	Locus of Control Theory
M	Mean
MGA	Multi-Group Analysis
MICOM	Measurement Invariance
MIN	Minimizing
MM	Mixed Method
OPM	Optimism

PCA	Principal Component Analysis
PLS-SEM	Partial Least Squares-Structural Equation Modeling
Q^2	Predictive Relevance
R^2	Coefficient of Determination
RES	Resourcefulness
SCF	Self-centeredness
SD	Standard Deviation
SPSS	Statistical Package for Social Science
SRMR	Standardized Root Mean Square Residual
USA	United States of America
VIF	Variance Inflation Factor

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HUBUNGAN ANTARA HEROTAN KOGNITIF DAN RESILIENSI PSIKOLOGI DENGAN TINGKAH LAKU DELINKUEN SIBER REMAJA DI ARAB SAUDI

ABSTRAK

Kajian ini dijalankan untuk mengkaji pengaruh herotan kognitif dan ketahanan psikologi terhadap tingkah laku delinkuen siber dalam kalangan remaja di Arab Saudi. Kajian ini juga bertujuan untuk mengkaji kesan penyederhanaan jantina antara semua hubungan. Dengan menggunakan reka bentuk kaedah campuran, kajian tinjauan terhadap 386 pelajar dijalankan dan data ditafsirkan berdasarkan pemodelan persamaan struktur (SEM). Kemudian, lapan informan utama ditemu bual dan data dianalisis menggunakan pendekatan deduktif dan induktif. Dua dapatan utama muncul daripada analisis tersebut. Pertama, menyalahkan orang lain, mementingkan diri sendiri, dan menganggap yang paling teruk dipengaruhi secara positif oleh tingkah laku penindasan siber yang dipengaruhi secara positif oleh tingkah laku penindasan siber. Hasil kajian juga menunjukkan bahawa optimisme, kekerasan, kecerdikan akal secara signifikan dipengaruhi secara negatif oleh tingkah laku delinkuen siber. Kedua, jantina menyederhanakan hubungan antara kecerdikan akal dan tingkah laku delinkuen siber. Hubungan seperti ini lebih kuat bagi remaja perempuan berbanding lelaki. Penyelidikan ini menyumbang kepada pemahaman sejauh mana perbezaan jantina membawa kepada tingkah laku delinkuen siber dengan menunjukkan bahawa perempuan ialah dominan dalam perkaitan antara kecerdikan akal dan tingkah laku delinkuen siber. Atas implikasi teori, kajian ini juga memberikan beberapa dasar dan implikasi praktikal. Kerajaan Arab Saudi mesti bekerjasama dengan pentadbir

sekolah untuk menghalang pelajar remaja daripada terlibat dalam delinkuen siber melalui kempen sekolah tinggi, program bimbingan belia, dan penerapan norma aktiviti dalam talian. Usaha-usaha ini boleh difokuskan untuk meningkatkan ketahanan remaja dari segi optimisme, kesungguhan, dan kecerdikan akal sambil mengurangkan sifat menyalahkan orang, mementingkan diri, dan menjangkakan yang terburuk. Sementara itu, sekolah menengah tinggi mesti menghalang pelajar remaja mereka daripada terlibat dalam tingkah laku delinkuen siber, yang boleh dicapai melalui aktiviti ekstrakurikulum, penyesuaian dan pelaksanaan program pencegahan pendidikan, dan sokongan dan pembangunan ketahanan psikologi dalam kalangan pelajar. Akhir sekali, sebagai tema baharu daripada data kualitatif, sekolah juga perlu mendidik pelajar tentang penggunaan Internet yang betul dan norma dan peraturan dalam ruang dalam talian, panduan undang-undang untuk tingkah laku delinkuen siber, serta akibatnya. Dari segi batasan kajian, data diperoleh daripada pelajar remaja di sekolah menengah di bandar Hafr Al-Batin, yang mengehadkan generalisasi dapatan di seluruh Arab Saudi. Untuk menetapkan kesahan luaran, penyelidikan akan datang boleh menduplikasi kajian ini di kawasan geografi yang berbeza di dalam atau di luar Arab Saudi. Selain itu, kajian ini hanya menumpukan pada remaja di sekolah menengah dalam gred 12. Oleh itu, kajian akan datang harus mengulangi kajian semasa dengan sumber data tambahan, seperti guru dan rakan sebaya, untuk mengesahkan persepsi siber terhadap tingkah laku delinkuen remaja.

RELATIONSHIPS BETWEEN COGNITIVE DISTORTIONS AND PSYCHOLOGICAL RESILIENCE ON CYBER DELINQUENT BEHAVIOUR AMONG SAUDI ARABIA ADOLESCENT

ABSTRACT

This study was conducted to examine the influence of cognitive distortions and psychological resilience on cyber delinquent behaviour among adolescents in Saudi Arabia. This study also aimed to examine the moderation effect of gender between all relationships. Employing a mixed-method design, a survey study of 386 students was first conducted and data were interpreted based on structural equation modeling (SEM). Then, eight key informants were interviewed and data were analyzed using deductive and inductive approaches. Two key findings emerged from the analyses. First, blame others, self-centered, and assuming the worst was significantly positively influenced cyber delinquent behavior were significantly positive influenced cyber delinquent behavior. The results also showed that optimism, hardiness, resourcefulness were significantly negatively influenced cyber delinquent behavior. Second, gender moderated the relationship between resourcefulness and cyber delinquent behaviour such relationship was stronger for female adolescents than for males. This research contributes to the understanding of how gender differences lead to cyber delinquent behavior by demonstrating that females are dominant in the association between resourcefulness and cyber delinquent behavior. Upon theoretical implications, this study also offered several policies and practical implications. The Saudi government must collaborate with school administrators to discourage adolescent students from engaging in cyber delinquency through high school

campaigns, youth mentorship programmes, and the establishment of online activity norms. These efforts could be focused on improving adolescents' resilience in terms of optimism, earnestness, and resourcefulness while reducing blame, self-centeredness, and anticipating the worst. Meanwhile, high secondary schools must discourage their students' adolescents from engaging in cyber delinquent behaviour, which can be accomplished through extracurricular activities, the adaptation and implementation of educational prevention programmes, and the support and development of psychological resilience among students. Finally, derived as a new theme from the qualitative data, schools also need to educate students about the proper use of the Internet and the norms and rules in the online space, legal guidance for cyber delinquent behaviour, and its consequences. In terms of the study's limitations, the data were obtained from adolescent students in secondary schools in Hafr Al-Batin city, limiting the generalizability of the findings across Saudi Arabia. To establish external validity, future research may duplicate this study in different geographic areas inside or outside of Saudi Arabia. Furthermore, the study only looked at adolescents in secondary schools in the 12th grade. As a result, future studies should repeat the current study with additional data sources, such as teachers and peers, to confirm cyber perceptions of adolescent delinquent behaviour.

CHAPTER 1

INTRODUCTION

1.1 Introduction

This chapter is written in a way that addresses the main goals of the current study. The chapter starts with a brief introduction and a list of research background, which details the conditions and contexts that led to the study. Following that, the chapter gives an overview of the prevalence of cyber delinquent behavior among adolescents. Several theories and factors that are assumed to influence or explain adolescent cyber delinquent behaviour are presented. The chapter defines a problem statement for the current study, describing certain concerns and issues linked to cyber delinquent behaviour among adolescents in the Kingdom of Saudi Arabia (KSA), as well as existing theoretical gaps. The relevant two important sections of research objectives and research questions are also covered in this chapter. The chapter then moves on to the study's significance, which is separated into two parts: theoretical and practical significance. In the way the current research is arranged, the chapter ends with a section that includes the scope of the study and operational definitions of the variables that will be studied in the current study.

1.2 Research Background

Today, adolescents have evolved from real-world dialogues to being the most active users of information and communication technology (ICT) in the world (Abajaoude et al., 2015; Waytz & Gray, 2018; Pereira & Matos, 2016). ICT deployment and accessibility can address a variety of needs in the development of teenagers by allowing them to discover their identity, develop cognitive skills, and

improve social and emotional abilities(e.g., Borca et al., 2015; Lenhart et al., 2015; Pereira & Matos, 2016). ICT also helps adolescents with aspects of their educational and psychological development, such as quick access to information, social support, task completion, learning performance, quick communication, and perspective-taking (Arslan et al., 2012; Caravita et al., 2016; Eroğlu et al., 2017). ICT applications like Facebook, YouTube, Twitter, mobile phones, email, etc., have grown enormously and become an integral part of the social space in which adolescents manage their social lives (Kim, 2019; Steinfield et al., 2012). However, the growth of ICT applications and social media has increased cyberbullying, cybercrime, victims of harassment, or perpetrators of online worlds, i.e. cyber delinquents among adolescents (Arslan et al., 2012; Pereira & Matos, 2015; Vale et al., 2018).

Cyber delinquent behavior is a prevalent and risky phenomenon for adolescents (Kim, 2019). Studies have shown that cyber delinquent not only illegal behaviours, but they have negative and psychological consequences for adolescents as well (Álvarez-garcía et al., 2018; Bae, 2017; Kabadayi & Sari, 2018). For example, Marret and Choo, (2017) reported that abuse in the form of harassment was attributed to about 5.5% to 72% of Malaysian young people. A recent study by Pereira, Sptizberg, and Matos (2016) also estimated that 61.9% of Portugal adolescents were victims of cyber stalking and 60.8% of cyber harassment. Cyber delinquent among students was also found to be negatively related to both academic achievement and adolescent personal relationships (Alotaibi, 2019; Bae, 2017; Kabadayi & Sari, 2018).

Regarding the negative consequences of cyber delinquent behaviors to adolescents, research indicates that cyber delinquents forms, such as cyberbullying and bullying were found to the negative social climate of the classroom (Veiga Simão Costa Ferreira et al., 2017), harm peers (Waasdorp & Bradshaw 2015), decreased

school participation and attendance (Ortega-Barón et al., 2016), lower school self-satisfaction and school commitment (Arslan et al., 2012), poor grades, school phobias, and work at school to the point of dropping out (Patchin & Hinduja, 2012; Schultze-Krumbholz et al., 2012). Moreover, research findings have shown that cyber delinquency causes sadness, anger, frustration, embarrassment, loneliness, fear, even depression, suicidal thoughts, and drug abuse problems (Eroğlu et al., 2014; Marret & Choo, 2017).

Recently, in the Saudi Arabia context, cases of cyber delinquents behaviors among students, including cybercrime (Alotaibi, 2019), aggressiveness (Al-Salami, 2019), and cyberbullying (Alzahrani, 2015) have been reported in previous studies. According to a survey conducted by Qudah et al. (2019), there was an increase in the frequency of cyberbullying among Saudi university students in Saudi Arabia. Additionally, the findings of the survey of Al-Salami (2019) revealed that the cyber delinquent behaviors among students in Saudi public schools such as aggressiveness (50%), attachment (29%), and concern 10% have been reported. In terms of trend, the cybercrimes also increased among Saudi people from 398 in 2016 to 463 in 2018 (Centre of Rehabilitation, 2018; Ministry of Justice, 2018). Moreover, it is estimated to be more than 3.6 million people in Saudi Arabia fell victim to cybercrime in past years, which constitutes an average of $ 195 (730 riyals) of direct financial losses (Alotaibi, 2019). Prior research has demonstrated that cyber delinquent behaviours such as cyberbullying and cyber harassment may cause low levels of students' academic performance and lack of self-confidence (Alotaibi, 2019; Al-Salami, 2019).

Furthermore, to narrow it down to the Saudi Arabia schools, cyber delinquent behaviors such as Internet addiction, cyberbullying, cyber harassment, and penetration have been frequently reported among students by official offices (According to

Student Guidance Center of the Ministry of Education in the KSA, 2018). Specifically, using survey data the prevalence of cyber delinquent behaviours in boys' schools was more than twice the traditional delinquent behaviour (Al-Qarni & Khader, 2018). Alotaibi (2019) reported that 74.5% of Saudi high school students (N=395, 9th-12th grade) surveyed were victims of repeated cyberbullying. Cyber harassment and cyberbullying are likely to escalate among students in Saudi Arabia with the advancement and development of ICT if they do not end them (Alotaibi, 2019).

Similarly, a recent report of the Ministry of Justice (2018) lends further support to the prevalence of cyber delinquent behaviours among school students in Saudi Arabia. For example, the prevalence of cyberbullying among children explored around 18% (Reuters, 2012), and 27% among college students aged 20-23 (Alzahrani, 2015). It was also reported that 43% of parents strongly agreed that cyberbullying was more harmful than bullying in the schoolyard. Parents also reported that video games were the most common social platform for cyberbullying (Alfakeh et al., 2021). Thus, given the negative outcome of cyber delinquent behaviours at school, more studies are needed to understand the underlying causes of these behaviours.

To date, some of the protective, social, and physiological personal factors that have been studied about cyber delinquent behaviors include perceived stress, self-esteem, anger, involvement, perceived stress, self-esteem, and gender (Bae, 2017; Eraslan-Çapan & Bakioğlu, 2020; Gini & Pozzoli, 2013; Kabadayi & Sari, 2018; Kim, 2019; Sabanci & Çekiç, 2017). Despite the numerous empirical research on the importance of protective and social factors in shaping adolescent cyber delinquent conduct, the literature reveals that few studies have examined the effects of cognitive distortions, psychological resilience, and gender on cyber delinquent behaviour.

In this way, cognitive distortions can encourage aggression and provide explanations for aggressive behaviour, as well as contribute to consistency (Koolen et al., 2012; Wallinius Johansson et al., 2011). Several cognitive distortion factors have been linked to anti-social and delinquent behaviours, including blaming others, self-centered, minimizing/mislabeling, and assuming the worst (Esposito et al., 2020; Helmond et al., 2014; Koolen et al., 2012; Nasir et al., 2010). In particular, self-centered and blame to others were negatively related to delinquent behaviour (Koolen et al., 2012; Owens et al., 2014). The investigations, however, were limited to looking at specific cognitive distortions like blaming others and being self-centered in relation to cyber delinquent behaviour. As a result, in order to better understand how adolescents participate in cyber delinquent activities, this research will examine the impact of four different forms of cognitive distortions (such as blaming others, self-centered, assuming the worst, & minimizing) on the broader construct of deviant cyber delinquent (e.g., cyber sexual harassment, cyberbullying, & impersonation) rather than the specific types such as cyberbullying.

It has been argued that psychological resilience is the positive adjustment to adversity such as cyber delinquent behaviour. Previous research has provided some evidence for a link between psychological resilience and delinquent behavior (Mansouri et al., 2015), antisocial behavior (Glowacz & Born, 2014), and cyberbullying (Asmelash, 2019; Hinduja & Patchin, 2017; Kabadayi & Sari, 2018). Meanwhile, psychological resilience has a dual effect on cyber delinquent behaviour: on the one hand, it assists adolescents in refraining from engaging in delinquent behaviour (Papatraianou et al., 2014), and on the other hand, it effectively overcomes difficulties encountered in various aspects of one's life with perseverance (Papatraianou et al., 2014; Sisto et al., 2019).

Furthermore, various researchers generally agreed that psychological resilience such as hardiness, resourcefulness, and optimism are more protective factors against involvement in aggression and anti-social and delinquency behaviour (Connor & Davidson, 2003; Manzano-García & Calvo, 2013; Snyman & Loh, 2015). However, as mentioned earlier, only limited empirical research has investigated the effects of hardiness, resourcefulness, and optimism on cyber delinquent behaviours. Hence, further investigation of the effects of hardiness, resourcefulness, and optimism on cyber delinquent behaviours is needed.

Gender has been recognized as a potential facilitator and important moderator in understanding and predicting cyber delinquent behaviour (Al-Zahrani, 2015; Arslan et al., 2012; Bae, 2017; Owens et al., 2014). Thus, the relationship between cyber delinquent behaviour and its determinants can be positive or negative, depending on gender. Moreover, gender is a well-established factor that exerts a significant influence on cyber delinquent behaviours among adolescents (Bae, 2017; Holt et al., 2019). Prior literature argued that the gender differences in determinants for cyber delinquent behavior, although there existed some works on the differences of cyberbullying, problematic internet, abuse, online harassment, and piracy (Al-Zahrani, 2015; Arslan et al., 2012; Ha & Hwang, 2014; Holt, Navarro, & Clevenger 2019; Marret & Choo, 2017).

Even though the topic of gender's influence on cyber delinquent behaviour has received a lot of attention, the existing literature fails to adequately document the difference between males and females that determines the effect of cognitive distortions and psychological resilience on cyber delinquent behaviour. The majority of earlier works of literature that focused on the analysis of crucial factors in online

bullying demanded that males and females be investigated in terms of online bullying. (Espinoza & Wright, 2018; Kowalski et al., 2014).

Several researchers also indicate that the effect of self-control on computer hacking behaviour (Holt et al., 2019), and depression on cyberbullying (Kowalski et al., 2014) is moderated by gender, this effect is assumed to be stronger for males than females. Therefore, researchers cannot determine the actual effect of individual and psychological factors on forms of cyber delinquent behaviour without assessing gender differences. Furthermore, few studies look at gender differences in the relationships between blame others, self-centeredness, assuming the worst, minimizing/mislabeling, optimism, hardiness, resourcefulness, and cyber delinquency. According to Qudah et al. (2019) and Abdelrazek and Eltantawy (2020), male Saudi students engage in greater cyberbullying than females. The fact that males are more likely than females to engage in cyberbullying activities underscores the necessity to explore the differences between males and females in terms of cyber delinquency so that schools and policymakers may develop distinct strategies for each of these two groups.

1.3 Problem Statement

Several incidents of cyber delinquent behaviour, including verbal extortion, sexual harassment, data theft, forgery, and impersonation, have recently been documented in Saudi Arabia, making this setting particularly relevant for the current study (Ministry of Justice, 2018; Rehabilitation Center, 2018). According to the Ministry of Justice's 2018 report, there were 463 cybercriminals in the Eastern area alone (Table 1.1). Recent research has also proven the prevalence of cyber delinquent behaviour in Saudi public schools, such as cyberbullying, cyber harassing

aggressiveness, and attachment disorders (Alotaibi, 2019; Al-Salami, 2019; Al-Qarni & Khader, 2018). In addition, the Saudi National Transformation Program has placed a major emphasis on the establishment of strong, efficient, and successful public sector institutions, such as schools. This agenda, based on Saudi Vision 2030, proposes to transform the Saudi economy to meet the needs of Saudi citizens in the future by building a market-driven education system (Saudi Vision 2030). Without effective administration, accountability, and transparency, Saudi Arabia's Transformation Agenda and Vision 2003 goals would be difficult to achieve. Cyber delinquent behaviour has a significant detrimental impact on schools, according to Alotaib (2019), hence the fundamental causes of these behaviours should be investigated.

Cognitive distortions have been proposed as major predictors of delinquent behaviour (Goodie et al., 2019; Koolen et al., 2012; Rokven et al., 2018). Some of the cognitive distortions associated with delinquent behaviour include blaming others, being self-centered, assuming the worst, and minimizing/mislabeling (Bacchini et al., 2015; D'Urso et al., 2019; Koolen et al., 2012; Owen et al., 2017). Several limitations remain, and several cognitive distortions that are critical for cyber delinquent behaviour, such as the role of blaming others, being self-centered, anticipating the worst, and minimizing/mislabeling, are not addressed. Due to their apparent importance for delinquent behaviour, previous research has demonstrated that various linkages between cognitive distortions and cyber delinquent behaviour should be examined (Bacchini et al., 2015; Owen et al., 2017; Rokven et al., 2018). Although some studies have suggested a link between self-control and cyber delinquent behaviour (Rokven et al., 2018), there is a gap when it comes to other cognitive distortions and cyber delinquent behaviour. As a result, blaming others,

minimizing/mislabeling, and assuming the worst must all be integrated with cyber delinquent behaviour?

In addition, many researchers also agree that psychological resilience, such as hardiness, resourcefulness, and optimism, is more effective in reducing antisocial behaviours such as cyberbullying, juvenile delinquency, and depression (Betts Metwally &. Gardner, 2019; Guo et al., 2019; Mousavi-Nasab & Lori, 2015; Snyman & Loh, 2015). Only a few research, however, have looked into the effects of hardiness, resourcefulness, and optimism on cyber delinquent behaviour. Unfortunately, most studies focused on the impact of psychological resilience on cyber delinquent behaviour in general (Kabadayi & Sar, 2018; Hinduja & Patchin, 2017).

Furthermore, despite some claims that optimism protects adults from cyberbullying, no research has experimentally studied the combined influence of hardiness, resourcefulness, and optimism on cyber delinquent behaviours to date (Betts et al., 2019). As a result, using only a few theoretical views to describe psychological resilience and cyber delinquent behaviour is insufficient. Additional research into the influence of resilience characteristics on cyber delinquent behaviour is needed to gain a better understanding of cyber delinquent behaviour (e.g., Graber et al., 2015; Hinduja & Patchin, 2017).

Existing empirical investigations have been able to develop different models to explain the underlying factors involved in cyber delinquent behaviour by taking into consideration a variety of physiological and individual aspects in general (Alvarez-Garca et al., 2018; Joo et al., 2013). Furthermore, while these theories help understand the underlying causes of cyber delinquency, studies using locus of control theory (LCT, Rotter, 1989) to explain cyber delinquent behaviour tend to be few. Even though

some studies (e.g., Kim, 2019; Mansouri et al., 2015; Wallinius et al., 2011) looked at several variables that influence delinquent behaviour without taking into account the interaction of other factors, other studies suggest that moderators could influence the relationships between the antecedent factors and online delinquent behaviour (e.g., Chen et al., 2016; Holt et al., 2019; Kowalski et al., 2014).

Over the last decade, studies comparing different genders of antecedents that influence participation in cyber delinquent behaviours have become increasingly common (Bae, 2017; Gündüz et al., 2020; Kashy-Rosenbaum & Aizenkot, 2020). There have been various research on the importance of gender variations in cyberbullying victimization (Zsila et al., 2019), computer hacking (Holt et al., 2019), cyber-aggression (Smith et al., 2019), and cyber harassment (Wick et al., 2017). Meanwhile, gender has been found to moderate the relationships between individual factors and computer hacking (Holt et al., 2019), anxiety, depression, and cyber victimization (Musharraf & Anis-ul-Haque, 2018), and depression and cyber-victimization (Almenayes, 2017). As a result, this study included the moderating effect of gender in the relationship between cognitive distortions, psychological resilience, and cyber delinquent behaviours from the perspective of adolescents, which has never been investigated by researchers. Thus, the impact of gender on self-contained, anticipating the worst, blaming others, minimizing/mislabeling, optimism, hardiness, and resourcefulness on cyber delinquent behaviour is critical.

Furthermore, earlier Saudi research ignored the gender gap in the context of cyber delinquent behaviour in this study (Abdelrazek & Eltantawy, 2020). Among the few, Qudah et al. (2019) discovered that males suffer from cyberbullying more than females. So, to cover a research gap that hasn't been addressed in Saudi Arabia, this

study looked into the role of gender in the moderating effect of cognitive distortions, psychological resilience, and cyber delinquent behaviour linkages.

1.4 Research Objectives

The main aim of this study is to explore the moderating role of gender on the influence of cognitive distortions and psychological resilience on cyber delinquent behaviour among Saudi Arabian adolescents.

1. To investigate the influence of cognitive distortions (blame others, self-centered, assuming the worst, & minimizing/mislabelling) on cyber delinquent behaviour among adolescents.
2. To investigate the influence of psychological resilience (optimism, hardiness, & resourcefulness) on cyber delinquent behavior among adolescents.
3. To examine the moderating effect of gender on the relationship between cognitive distortions (blame others, self-centered, assuming the worst, & minimizing/mislabeling), psychological resilience (optimism, hardiness, & resourcefulness), and cyber delinquent behaviour among adolescents.
4. To evaluate and confirm the influence of cognitive distortions (blame others, self-centred, assuming the worst, & minimizing/ mislabelling) and psychological resilience (optimism, hardiness, & resourcefulness) on cyber delinquent behaviour?

1.5 Research Questions

Based on the above discussion, the present study seeks to address the following research questions:

1. Is there any significant influence of cognitive distortions (blame others, self-centred, assuming the worst, & minimizing/mislabelling) on cyber delinquent behavior among adolescents?
2. Is there any significant influence of psychological resilience (optimism, hardiness, & resourcefulness) on cyber delinquent behavior among adolescents?
3. Does gender moderate the relationship between cognitive distortions (blame others, self-centered, assuming the worst, & minimizing/ mislabeling), psychological resilience (optimism, hardiness, & resourcefulness), and cyber delinquent behaviour among adolescents?
4. To what extent whether cognitive distortions (blame others, self-centred, assuming the worst, & minimizing/mislabelling) and psychological resilience (optimism, hardiness, & resourcefulness) influence cyber delinquent behaviour?

1.6 Research Hypotheses

The following hypotheses were developed based on the research questions.

H1: Blame others are positively related to cyber delinquent behaviour among adolescents.

H2: Self-centered is positively related to cyber delinquent behavior among adolescents.

H3: Assuming the worst is positively related to cyber delinquent behavior among adolescents

H4: Minimizing/mislabeling is positively related to cyber delinquent behavior among adolescents.

H5: Optimism is negatively related to cyber delinquent behavior among adolescents.

H6: Hardiness is negatively related to cyber delinquent behavior among adolescents.

H7: Resourcefulness is negatively related to cyber delinquent behavior among adolescents.

H8: There is a significant difference in the effect of the blame others on cyber delinquent behavior between male and female students.

H9: There is a significant difference in the effect of self-centeredness on cyber delinquent behavior between male and female students.

H10: There is a significant difference in the effects of assuming the worst on cyber delinquent behavior between male and female students.

H11: There is a significant difference in the effects of minimizing/ mislabelling on cyber delinquent behavior between male and female students.

H12: There is a significant difference in the effects of optimism on cyber delinquent behavior between male and female students.

H13: There is a significant difference in the effects of the hardiness on cyber delinquent behavior between male and female students.

H14: There is a significant difference in the effects of resourcefulness on cyber delinquent behavior between male and female students.

1.7 Significance of the Study

The present study is significant in two ways; theory and practice.

1.7.1 Theoretical Significance

This study makes contributions to the existing body of knowledge theoretically, methodologically, and practically. The study derives its theoretical significance from the fact that it offers empirical evidence on the influence of cognitive distortions and psychological resilience on cyber delinquent behavior among adolescents. Although extant empirical studies have investigated various factors determining cyber delinquent behavior, most of these studies centered on such variables as strain, social control, perceived pressure, empathy, and psychological traits. This study makes a good contribution by investigating the influence of blame others, self-centered, assuming the worst, optimism, hardiness, resourcefulness on cyber delinquent behaviour among adolescents within Saudi Arabia. From the LCT perspective, these variables are likely to contribute significantly to research on cyber delinquent behavior in Saudi Arabia. Therefore, the current findings validated and extended LCT by demonstrating that cyber delinquent behavior is determined by perception regarding the cognitive distortions (i.e., blame others, self-centered, assuming the worst), and perception regarding psychological resilience (i.e., optimism, hardiness, resourcefulness).

Methodologically, the present study also contributes to the existing body of knowledge by offering empirical support on the role of gender in the relationship between cognitive distortions and psychological resilience on cyber delinquent

behavior. By incorporating gender as a moderator on the relationship between cognitive distortions and psychological resilience, this study will help the management of Saudi Schools in identifying those students' adolescents that are more likely to engage in cyber delinquent behaviour. The present study validated the previous theories such as LCT and interactional theory by portraying the moderating role of gender in the relationship between cognitive distortions and psychological resilience on cyber delinquency.

Specifically, the study introduced the Partial Least Squares Structural Equation Modeling (PLS-SEM) and multiple group analysis (MGA) technique for group analysis in cyber delinquency studies in comparing males and females concerning cyber delinquency and clarifying that resourcefulness is more effective in predicting cyber delinquent behavior according to the type of gender. Consequently, this is one of the first empirical studies to employ the MGA approach to testing the moderating of gender in cyber delinquency studies. This in itself marks an important methodological contribution to the cyber delinquent research literature.

1.7.2 Practical Significance

The study derives its practical significance from the fact that it contributed to the quest for reducing the cyber delinquency problem among Saudi adolescent students which is currently a source of concern to the government of Saudi Arabia. The Saudi government has taken the issue of cybercrime seriously and developed cybercrime legislation to protect its citizens from these crimes, so any study that may aid in the resolution of this problem is required. The results demonstrated that cognitive distortions and psychological resilience are associated with cyber delinquent, meaning

that the Saudi government needs to focus on these factors as it could help them to navigate their efforts to reduce cybercrime successfully.

Besides, the study contributes to the efforts that are being made by the Saudi Ministry of Justice drawing their attention to the blame others, self-centred, assuming the worst, optimism, hardiness, and resourcefulness are the most influential factors that influence the cyber delinquent and thus to combat cyber delinquent as there are few empirical intervention strategies to date focused on cyber delinquent in Saudi Arabia. The study generates some useful recommendations that can be taken into consideration by the Saudi Ministry of Education to respond to the range of motivations and conditions that young students bring to their online behaviors and discover them, at least to bring youth together in any educational initiatives. On the other hand, by creating a fair controlled environment through policies and strategies by the Ministry of Education (rewarding those students who have good behavior vs. punishing delinquent behaviors), the management of public schools can minimize students' tendency to engage in cyber delinquent behavior.

Moreover, the gender differences noted in the analysis suggest a need to highlight the negative consequences of resourcefulness for cyber delinquent behavior among females to help minimize adolescents' tendencies to engage in cyber delinquent behaviors. Thus, management of the public schools could use gender as a selection criterion to select those students (females) who show high resourcefulness compared to those who show low resourcefulness. It could minimize the likelihood of females engaging in cyber delinquent behavior by improving conditions that enhance psychological resilience in a group context.

1.8 Scope of the Study

The study used a mixed-method (MM) approach, in which the research questions were answered using a combination of quantitative and qualitative methodologies. This method allows for a better understanding of the issues of cyber delinquent behviour among adolescents in Saudi Arabia. The population of the study only consists of adolescent students in grade 12 (last adolescence) from both genders in secondary public schools in Hafr Al-Batin city. Young people have increased access to computers, the Internet, and mobile devices, according to Holt et al. (2019); adolescents may be more inclined to participate in numerous cybercrime forums. Thus, cyber delinquent behaviors peaks in adolescents and juvenile populations, making this group particularly important for the current investigation. Adolescents are responsible for three social and emotional tasks: forming identities, establishing personal connections, and finding their sexual lives (Valkenburg & Pietrowski, 2007).

Furthermore, the current study was conducted in Saudi Arabian secondary public schools. The following are the reasons for limiting this research to secondary public schools. Cyber delinquent behaviours such as cyber sexual harassment, cyber impersonation, and cyberbullying are frequent in Saudi public schools. At the same time, schools made little attempt to control such cyber delinquent behaviour (Alotaibi, 2019; Al-Qarni, 2018; Al-Salami, 2019). In addition, the study focused on the city of Hafer Albatin in the Eastern province. The province of Eastern has the highest rate of cybercrime in the country (Ministry of Justice, 2018). As a result, cyberbullying is prevalent in Hafer Albatin city, which is located in the Eastern province.

1.9 Definitions of Terms

The conceptual and operational definitions of the terminology used in this investigation are provided below to avoid any potential confusion in the interpretation of the ideas utilized in this study.

1.9.1 Cyber Delinquent Behavior

Cyber delinquent behaviour refers to the delinquent behaviours committed through electronic or digital media. It appeared as a new term by classifying it into a new category instead of classifying it to include it in light of the current traditional deviation (Kim, 2019). In this study, cyber delinquent behaviour was defined as all sorts of delinquent acts or crimes performed by adolescents in cyberspace, and it may also be considered to cover numerous problematic behaviours and acts of deviance in addition to cyber-crime that is illegal. Three dimensions were used to evaluate cyber delinquent behavior: namely, cyberbullying, cyber harassment, and cyber impersonation. A 12-item cyber-aggression (CYBA) questionnaire was used to assess cyber delinquency behavior (Alvarez-Garcia et al., 2016).

1.9.2 Cognitive Distortions

Cognitive distortions refer to a set of cognitive errors that pertain to the individual's ways of thinking, represented in overgeneralizing information, processing it incorrectly, and passing biased and personal judgments (Covino, 2013). In this study, cognitive distortions were defined as a set of four distinct distortions, including self-centered, blame others, minimizing/mislabeling, and assuming the worst. The four cognitive distortions were assessed using a total of 20 items based on the How I Think (HIT) questionnaire (Barriga et al., 2001).

1.9.3 Blame Others

Blame others refers to cognitive schemas of misattributing the blame for one's behavior to sources outside the individual (Wallinius et al., 2011). In this study, blame others was defined as the adolescent blames his anti-social behavior on external sources, especially another person or group.

1.9.4 Self-centered

Self-centered refers to situations in which an individual focuses on his opinions, expectations, and needs to the point that others' opinions or needs are seldom considered or respected (Wallinius et al., 2011). In this study, self-centered was defined as the adolescent's belief that his views, needs, and rights are important to the degree that he does not consider others' views or ignore them.

1.9.5 Assuming the Worst

Assuming the worst refers to the individual ascribing hostile intentions to others, or the worst-case scenario is inevitable or finds his / her behavior cannot be improved upon (Wallinius et al., 2011). In this study, assuming the worst was defined as the adolescent ascribing hostile intentions to others and expecting worst-case scenarios or finds that his anti-social behaviour cannot be improved upon.

1.9.6 Minimizing/Mislabeling

Minimizing/mislabeling refers to distortions where antisocial behavior is seen as an acceptable and possibly necessary way to achieve certain goals (Wallinius et al., 2011). In this study, minimizing/mislabeling was defined as the adolescent's belief that his anti-social behavior does not cause harm.

1.9.7 Psychological Resilience

Psychological resilience refers to a person's ability to cope with life's challenges while remaining calm in stressful situations or health crises or professional or economic troubles and thrive after trauma (Kabadayi & Sari, 2018). In this study, psychological resilience was defined as a set of three distinct traits: hardiness, optimism, and resourcefulness. The three characteristics were assessed using 19 items based on Connor-Davidson Resilience Scale (Connor & Davidson, 2003).

1.9.8 Optimism

Optimism refers to individuals' ability to maintain a positive attitude in difficult circumstances, situations where the result is unexpected and unknown, and the ability of the individual to make mistakes and use them as an opportunity for learning and self-improvement (Ayala & Manzano, 2014). In this study, optimism was defined as an adolescent's ability to keep a good attitude in the face of adversity and actively deal with a variety of unexpected results.

1.9.9 Hardiness

Hardiness refers to having the ability to influence oneself, which results in an individual who is bold and courageous, is not easily frustrated when facing difficult situations, and fights to achieve his goals (Ayala & Manzano, 2014). In this study, hardiness was defined as the adolescent's ability to influence oneself, which results in him being bold and courageous, and he is not easily frustrated when facing difficult situations and fights to achieve his goals.

1.9.10 Resourcefulness

Resourcefulness refers to the capabilities of individuals in addition to their experience that they must be able to reasonably influence and overcome the difficult circumstances they will face, which means that individuals have self-belief when it comes to influencing events and controlling the effects associated with certain circumstances (Ayala & Manzano, 2014). In this study, resourcefulness was defined as adolescents' capabilities and experiences, which they must be able to influence and overcome the difficult circumstances they will face reasonably.

1.9.11 Adolescence

Adolescence refers to the transition from childhood to adulthood and maturity and progression towards physical, mental, and emotional maturity. It extends to the second decade of the individual's life (Arnett, 2014). In this study, the adolescent was defined as anyone in late adolescence who is 18 years or above. Adolescents in this study were third-year secondary school students (12^{th} grade) in public schools of both genders.

1.9.12 Gender

Gender is a term used to describe the socially produced characteristics of women and men. This covers the values, behaviours, and roles that come with being a female, male, girl, or boy, as well as interpersonal interactions.

1.10 Organization of Study

This study is organized into five chapters. The first chapter introduces the study's background, the research problem, objectives of the study, significance of the

study, scope, definition of terms, and organization of the study. Chapter two reviewed existing literature on cyber delinquent behavior. The review is organized around the variables such as cognitive distortions, psychological resilience, and cyber delinquent behavior that were investigated in the study. The theories that explain cyber delinquent behavior were also discussed in this chapter. This chapter also includes the conceptual framework and hypotheses derived from the literature review. Chapter three discussed the research methodology and methods employed in the study. The research design and justifications were presented in this chapter. The chapter also included detailed data collection methods and analyses.

Chapter four presents the results of data analyses of the data collected. This chapter explained the measurement model and the structural model that was assessed using PLS-SEM. Finally, chapter five discussed the findings in the context of findings from previous studies, implications, limitations of the study, and suggestions for further research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The current research identified a critical review of the literature and relevant theories related to study constructs, including cyber delinquent behaviour, cognitive distortion, and psychological resilience. Specifically, this chapter begins with an overview of adolescence and expands the use of technology and online activity among adolescents. Likewise, the concept, classification, and factors affecting cyber delinquent behaviour, representing the dependent variable in the present study, are presented and discussed. The following sections present a literature review on cognitive distortion and psychological resilience as the main determinants of cyber delinquent behaviour. After that, the relationships between gender and cyber delinquent behaviour, in addition to the empirical studies of the moderation role of gender on the relationship between prediction and criterion variables, were reviewed. Finally, the underline theories were emphasized towards the development of the research model and hypotheses.

2.2 Adolescence: An overview

Adolescence is an exceptional transitional phase accompanied by drastic changes in emotional, physical, social, and cognitive levels (Fayombo, 2010; Yasin & Iqbal, 2013). However, adolescents often have difficulty adjusting to these changes and face many challenges. These challenges include asserting their maturity and independence, developing positive relationships with their peers, friends, and family members, building their problem-solving skills and thinking about the future, and

educational and career prospects (Mansouri et al., 2015; Nourian et al., 2016). At adolescence stage, adolescents often face stressful and difficult life events that include the loss of a loved one, parental divorce, abuse, poverty, moving to a new school or city, and even a natural disaster, leading to a search for ways to cope with life's difficulties (Bulut et al., 2013). Furthermore, adolescents continue to display egocentric actions and attitudes, which promote socially and emotionally during this time, as well as identity exploration, which leads to the quest for independence (Aiken Davidson & Amann, 2016). Adolescents think in terms of what might be true, rather than just what they see is real, deal with abstractions, test hypotheses, and see infinite possibilities.

As a result of this, Allen and Waterman (2019) proposed that adolescence is divided into multiple stages (early adolescence, middle adolescence, & late adolescence) each with its unique set of characteristics, as illustrated in Table 2.1. Adolescence, particularly late adolescence in secondary schools, is a significant age stage, and it is accompanied by changes in personal, psychological, and emotional qualities. Adolescents, more than any other age group, have become more accustomed to and in danger as a result of this revolution in technology and its widespread application. As a result, the focus of this research was on adolescent delinquent behaviours in cyber, as well as the impact of psychological resilience and cognitive distortions in these behaviours.