EXPLORING STUDENT ATTITUDES TOWARD

COLLEGE SOCIALIZATION USING AN

EDUTAINMENT COLLEGE-THEMED NOVEL

By

ROLAND NUÑEZ

Bachelor of Science in Applied Meteorology
Embry-Riddle Aeronautical University
Daytona Beach, Florida
2010

Master of Science in Educational Leadership
Oklahoma State University
Stillwater, Oklahoma
2012

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Oklahoma State University
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Dissertation Approved:

Dr. John Foubert

Dissertation Adviser

Dr. Steve Wanger

Dr. Ki Cole

Dr. Carrie Winterowd

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Name: ROLAND NUÑEZ

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Abstract: As technology increases both inside and outside of the classroom, students of all ages are turning to entertainment as a viable way of learning various concepts. Educational entertainment, or edutainment, is a growing field that spans from early childhood to higher education. Prospective college students use edutainment as part of their socialization into college, yet little is known as to the extent that it plays a role into their anticipatory socialization before entering college. This study uses Q methodology to better understand how students conceptualize out-of-class college engagement through edutainment. A group of 14 high school students were asked to read a college-themed mystery novel and then instructed to rank a series of statements relating to college engagement and reference groups relating to the novel's story. Enjoyment of the story was a major factor in the development, retention, and internalization of college engagement strategies for the students. Competing reference groups were also a factor. Students who had family that attended college prioritized their college experiences over the ones they read in the book. Students who had relatives that attended college but did not engage in out-of-class activities appeared to be just as uninformed about college engagement as their "first generation" peers, and less willing to value college engagement activities when presented to them. Recommendations to educators include an intentional focus of both the "educational" and "entertainment" aspects of programs they provide and collecting regular feedback from students to assess the relevance of their programs.

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CHAPTER I

INTRODUCTION

Students who enter higher education for the first time often notice some stark differences

from their primary and secondary education. Some of these differences include increased

independence, difficulty in classes, and financial challenges (Ruberman, 2014; Shaeffer, 2014).

For those living in residential campuses, homesickness and adjusting to roommates are additional

new experiences encountered in the higher education environment (Utter & DeAngelo, 2015).

Another distinction of colleges and universities is the increased opportunities for student

involvement (Astin, 1984; Webber & Krylow, 2013). The multitude of clubs and organizations,

student success workshops, faculty-led activities, and campus employment opportunities provide

students several options for involvement and engagement in the campus outside of the classroom.

Background of the Problem

Research has consistently shown that students who are actively involved in college are

more likely to persist through graduation (Astin, 1984; Cox, Reason, & Gilman, 2016; Rendon,

1994; Roberts & Jr, 2010; Stage, 1989; Webber & Krylow, 2013). This persistence could be the

result of a variety of factors influenced by involvement. Students who become involved in

activities outside the classroom develop better social problem solving skills for day-to-day

activities, which has been found to predict academic performance in the classroom (D'Zurilla &

Sheedy, 1992; Rowan-Kenyon et al., 2017; Savitz-Romer, Rowan-Kenyon, & Fancsali, 2015).

Student involvement has also been associated with stronger critical thinking skills (Gellin, 2003)

and aiding or hindering racial identity development (Felder, 2014; Taylor & Howard-Hamilton, 1995). Gellin (2003) specifically stated that "students involved in a variety of activities acquire multiple points of view and perspectives that may encourage them to reevaluate their prior opinions of the world" (p. 754). Alternatively, students have been known to drop classes in their first year of college for reasons external to academics, such as peer influence and personal problems (Garza & Landeck, 2004). Tinto (1994) found the inverse to be true. He found that involvement in the classroom could encourage students to become involved outside the classroom, and recommended educators to focus more on academic involvement as a way to increase overall student involvement (Tinto, 1998). Later studies further supported the importance of academic preparation to encourage student involvement in college (Nieto, 2015; Priest, Saucier, & Eiselein; 2016; Wright, Jenkins-Guarnieri, & Murdock; 2013).

Several theories used by researchers have attempted to understand student engagement from the student's perspective. Psychological contract theory presumes that students will enter college with rooted beliefs about the appropriate nature of relationships with peers, faculty, and staff (Montes, Rousseau, & Tomprou; 2015; Rousseau; 1995). Input/output theory suggests that colleges attempt to provide resources for students (inputs) that will lead to defined student outcomes (outputs) (Astin, 1973). However, the student inputs and outputs are affected by environmental factors that students bring with them into college and that they continue to develop while in college.

Both theories suggest that student attitudes in college are likely to influence how they behave in college, how they form relationships, what programs they will attend, what clubs they will join, and what resources they will utilize. In other words, student attitudes dictate how strongly they become engaged and where they get involved. The formation and evolution of a college student's attitudes and behaviors can be attributed to the socialization of the college student (Weidman, DeAngelo, & Bethea, 2014). Socialization is defined as "learning the appropriate modes of social behavior and/or role enactment within the groups in which membership is desired" (Weidman, 1989,

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p. 294). Socialization occurs throughout the entire experience of a college student's career, from the days leading up to college, to the years in college, to life after college.

Research on student attitudes and behaviors suggests that student expectations of college prior to entering college shape their behavior, which then affects their academic performance and social adjustment to college life (Howard, 2005; Kuh, 1999; Pleitz et al., 2015). These expectations, once formed, are difficult to change. They are often formed with input from reference groups in the process of anticipatory socialization, a precursor to formal socialization of an individual. Although reference groups for anticipatory socialization can be attained from college visits, college fairs, family members, and brochures and literature, research has found strong links between consumption of college-themed media and student socialization into college (Cranmer & Myers, 2016; Hylmö, 2006; Jahn & Myers, 2015; Tobolowsky, 2001; Wasylkiw & Currie, 2012). Repeated exposure to fictional media as a source of entertainment served as a powerful educational tool for students, which can be difficult to counter with educational programs in college (Cann, 2015; Reynolds, 2014; Tisdell, 2008; Wells & Serman, 1998).

To account for the increased influence of media on student learning, educators have increasingly begun to use media as a teaching tool both in and out of the classroom. Teachers in elementary education have been using video games and television shows for years to teach children important low-level concepts in school such as math drills and typing proficiency (Becker, Ravitz, & Wong, 1999; Duque, Fung, Mallet, Posei, & Fleiszer, 2008; Jarvin, 2015; Jensen, Martins, Weaver, & Ratcliff, 2016; Marinelli & Pausch, 2004; Rice, 2007). Recently, educational entertainment, colloquially called *edutainment* in the literature, has seen increased interest in higher education. Educators have used media and other forms of edutainment to supplement key concepts in and out of the classroom (Cirigliano, 2012; Newcomb & Riddlesperger, 2007; Souto-Manning, 2011; Tisdell, 2008).

However, there is little evidence to suggest that edutainment is being intentionally used as an aid to help students socialize into college. Traditional socialization programs, such as new student

orientation or first year experience programs, may contain elements of edutainment programs such as invited speakers, comedians, ice breakers, and other activities. However, there are two issues with these programs. First, there is little empirical data in the literature measuring the effects of specific edutainment programs such as speakers and comedians toward reaching desired learning outcomes and measuring whether students find any educational value in these programs over traditional lecture. Colleges may include informal surveys at the end of such programs but there has been difficulty in finding studies with the primary purpose of measuring the efficacy of these programs. Second, these programs are provided to students who have already started college. The timing of the application of these programs suggest that they work under the assumptions that the student socialization experience begins during new student orientation or when a student first steps onto the college campus. It does not account for any anticipatory socialization that a student may have experienced prior to attending college. College socialization programs that start before college may have the potential to reverse any inaccurate or negative college expectations that students may have developed through reference groups during anticipatory socialization. One way to do this is to design reference groups with which students can associate to aid in their anticipatory college socialization.

<div align="center">**Statement of the Problem**</div>

This study aims to provide empirical data regarding edutainment's pedagogical value as an anticipatory socialization tool for college. A fictional, college-themed novel designed and created by the author was used as the edutainment source to introduce students to a variety of reference groups that consist of characters and settings in the novel. The target population for this study is high school students who may be prospective first generation college students. The reason for using high school students is due to their limited direct exposure to higher education. Any information they may have about college would likely have been obtained through reference groups as part of their anticipatory socialization into college. Using the novel aims to provide an additional reference group which students can use to form their college expectations prior to entering college themselves.

Prospective first generation college students were used due to their unique characteristics that influence their anticipatory socialization differently than their peers. First generation students are "more likely to come from low-income families, to be Hispanic, to have weaker cognitive skills, to have lower degree aspirations, and to have been less involved with peers and teachers in high school" (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996, p.16). They are also less likely to be academically prepared for college (Atherton, 2014). These traits may put the students on higher academic risk in college, while at the same time the students are less likely to find helpful reference groups to aid in forming their college expectations. Parents who have not attended college would be unable to provide sound advice, and the students' unwillingness to be involved with peers and teachers may limit discussions on college life. Any understanding of college, if any, would likely come from other secondary sources such as television shows, movies, and other forms of media.

Although researchers have used both quantitative and qualitative approaches in edutainment research, this study used an approach that systematically combines qualitative and quantitative methods, specifically Q methodology, to capture students' attitudes toward using edutainment as a reference group to aid in their anticipatory socialization. Q methodology was chosen because of its ability to statistically and holistically measure and describe subjectivity across a group of participants, while allowing participants to assign meaning to various concepts based on their own beliefs, attitudes, and experiences. Q methodology is beneficial because it allows participants to provide their opinions on topics of which they have little understanding or comprehension. Since the aim of the study is to explore student attitudes toward edutainment as an educational tool toward college socialization through the use of reference groups, students may be unable to provide the breadth of opinions necessary to form a clear picture of their attitudes on the topic since they may have limited knowledge of reference groups and college life. Q methodology allows for the collection of a diversified, representative sample of statements in a given topic and then asks participants to rank order the statements based on how passionately they agree or disagree with the statements. The statements are created from a wide range of conversations and theories surrounding the topic, so

participants can be exposed to the full range of opinions regarding college socialization, edutainment, and reference groups, even if they are not completely aware of these opinions and thoughts. The process allows students to "discard" statements that have no meaning to them while rank ordering the statements that do mean something to them by comparing them to each other. The analysis process of Q methodology allows any shared viewpoints between participants to be interpreted by the researcher to gain a better understanding of the attitudes toward that particular topic.

Significance of the Problem

Current and recent literature on edutainment shows its potential to dramatically change learning institutions by providing an additional method of reaching students (Corwright et al., 2017; Igartua & Vega Casanova, 2016; Obregon & Tufte, 2014). High school and college students who struggle academically may respond better to programs that can hold their interest and entertain them while teaching them various concepts. Edutainment can serve as a valuable resource for high school students that are beginning their transition to college through anticipatory socialization. This is especially valuable for at-risk students such as first generation students who have limited knowledge of college life prior to entering, and any knowledge they may already have may be inaccurate due to media's affinity for emphasizing destructive college behaviors and attitudes (Wasylkiw & Currie, 2012). Edutainment programs may offer an alternative educational tool that supplements traditional college preparation tools to engage first generation students, as well as students from other populations, as they learn about college through works of fiction using characters that can serve role models and reference groups. Educators can use the findings of this study to evaluate current college socialization methods and possibly incorporate more edutainment programs earlier into an incoming college student's transition process.

Research Question

Q methodology studies do not emerge from formed hypotheses. They form research questions that are then investigated through the data collection process. This study aims to answer the following research question: How do high school students who are prospective first generation college students

conceptualize the reference groups depicted in a college-themed mystery novel as part of an edutainment strategy toward assisting with anticipatory socialization? This research question can be further divided into two sub-questions: 1) How do high school students develop their expectations of out-of-class engagement in college after reading a novel depicting various types of involvement in college activities? 2) What reference groups do high school students assign to fictional characters and settings in a college-themed mystery novel?

Limitations of the Study

The study has some limitations that should be addressed. First, the instrument used in this study is a novel authored by the researcher. The methodology section describes the reasons for the novel selection and efforts made to minimize any bias in the study. The study also uses self-reported data, which can lend itself to bias based on the reporting of the participants. The statistical analysis used in the coding of data helps to reduce inaccuracies or bias, but it cannot be eliminated altogether. Lastly, this study is specifically targeting high school students who may be perspective first generation college students. The findings from this study are not intended to be generalized beyond the population being sampled. However, the viewpoints may help to support the literature or provide recommendations for practice.

Definitions of Key Concepts

Anticipatory Socialization- The process of adopting attitudes and beliefs of a reference group before obtaining membership (Merton, 1968).

Edutainment- A term used to mean educational entertainment in the literature.

Concourse- The process of collecting every possible opinion or idea that surrounds a particular topic, used as the first step of developing the Q sample.

P set- The term used for the participants invited to participate in the study.

Peer group- A group of people and other sources experiencing a phenomenon with a student that a student uses to adapt to the new phenomenon while they experience the phenomenon firsthand.

PQMethod- A popular program used by researchers to conduct the analysis portion of a Q methodology study.

Q methodology- A mixed method research approach with the purpose to study subjectivity, which can consist of a person's opinions, beliefs, and attitudes (Van Exel & De Graaf, 2005), and allows the scientific analysis of people's own perspectives and opinions (Previte, Pini, & Haslam-McKenzie, 2007) while retaining the depth of a humanistic approach (Brown, 1980).

Q sample- The set of statements in a Q method study that will be ranked in the Q sort.

Q sort- the process of ranking a number of statements based on a participant's attitudes toward a statement. Participants can rank the statements based on how extremely they agree or disagree with them or are neutral toward them.

Q sort value (Q-SV) or statement score- The score assigned to each statement based on their placement in a Q sort, used for data analysis.

Reference group- A person, group of people, or other source that provides a student with the knowledge to adapt to a phenomenon or environment to which the student has not yet been directly exposed. Reference groups can consist of a normative group, comparison group, or audience group.

Socialization- The process of "learning the appropriate modes of social behavior and/or role enactment within the groups in which membership is desired" (Weidman, 1989, p. 294).

Student engagement- For the purpose of this study, student engagement refers to the beliefs and attitudes students hold regarding college, such as values, sense of belonging, cognitive engagement, peer relationships, relationships with faculty members, and behavioral engagement (Gunuc and Kuzu, 2015).

Summary of the Chapter

College socialization can be challenging to students as they transition into college and learn the "appropriate" ways of behavior. The process of socialization can begin before college, called anticipatory socialization in the literature. In the anticipatory socialization stage, students assign various people into reference groups that they use as a method for developing college expectations.

The increasing access to media due to technology introduces the potential of characters and settings in media to act as reference groups to influence the development of college expectations. New methods of education using media and other sources considered enjoyable by students are being developed in various fields and called *edutainment* by researchers.

This study aims to explore student attitudes toward edutainment by exposing them to a college-themed mystery novel and using Q methodology to gather their opinion about the novel's ability to influence their expectations of college socialization and engagement by assigning the characters and settings in the novel as reference groups. The results of this study could provide additional insight into the value that high school students place into reference groups in the media as a way to aid in their anticipatory socialization into college.

CHAPTER II

LITERATURE REVIEW

The transition to college can prove challenging to any students, especially those who do not have the resources to assist them with the transition. College socialization can occur both intentionally and unintentionally through a variety of ways. Students can be socialized while in college, but can begin their socialization process as early as before college. This type of socialization is called anticipatory socialization (Dailey, 2016; Wardahl, 2005; Weidman, 1989). Students can experience anticipatory socialization through a variety of ways, including peer influence, parental guidance, admissions counselor information, and exposure to college-themed media. Research on college-themed media has had increased interest over the last few decades as increases in technology provide students more access to media than ever before (Gray, Vitak, Easton, & Ellison, 2013). Researchers, college faculty, and student affairs personnel have increasingly begun to use media as a form of educational entertainment (edutainment) to teach students concepts in a variety of areas (Cirigliano, 2012; Duque et al., 2008; Lee et al., 2004; Marinelli & Pausch, 2004; Newcomb & Riddlesperger, 2007).

This literature review will define the different types of socialization as it applies to college students, followed by an introduction to reference group theory as it applies to anticipatory socialization. The next section provides an overview of the history of media

research and media's effects on society. The following section reviews studies that have attempted to use media and other forms of entertainment as a way to complement traditional learning in the classroom. Lastly, relevant research methods into edutainment will be addressed, as well as the methodology that will be used in this study: Q methodology.

College Socialization

When students enter college for the first time, they bring with them certain values and goals that are then shaped, refined, or even changed as they become exposed to various socializing influences (Weidman, DeAngelo, & Bethea, 2014). These influences can include interpersonal relationships with others, intrapersonal activities, and integration with the campus culture. In this section, I will define socialization in the context of higher education and its different stages.

Defining Socialization

Socialization has been defined several ways. Clausen (1968) defined socialization as a process designed to "lead a new member to adhere to the norms of the larger society or of the particular group into which he is being incorporated to commit him to its future," (p. 6). Later, in Weidman's (1989) model of undergraduate socialization, he defined the process as "learning the appropriate modes of social behavior and/or role enactment within the groups in which membership is desired" (p. 294). A more recent definition of socialization is a "process that allows individuals to perform a variety of roles within specific sub-groups that exist in society," (Cranmer & Myers, 2016, p. 2). The definitions all have in common the notion that socialization involves the relationship between an individual and a group and its change over a period of time. In a college setting, this includes a student's ability to behave in ways that are considered acceptable in a group as small as a specific friend circle or as large as the entire campus culture.

Socialization is a natural process that occurs when a student enters college. The degree to which a student is socialized, or the type of socialization that occurs will vary from student to student. However, as a student begins to interact with others in the college campus, their goals,

values, and beliefs will be affected in some way, whether they are affirmed or challenged. This can result in positive or negative effects in a student's resilience in college.

While students go to college primarily to take the required courses to get a degree, their socialization into the college environment occurs both inside and outside the classroom. In fact, college courses alone do not provide enough reference for a student to paint a complete picture of their chosen degree field. For example, Jahn & Myers (2015) revealed that students who took math and science classes received incomplete and fragmented information about what a STEM career would be like. Much of that information was acquired through internships, shadowing, and speaking to professionals working in the field. One source alone was not enough to socialize students into STEM occupations, since it is such a vast and diverse field. Non-academic influences were often prevalent in other areas of student socialization (Holley & Taylor, 2009). Participation and involvement in college activities outside the classroom influenced students' personal values and career choices (Holley & Taylor, 2009). Research has also overwhelming cited the positive effects of student involvement on student socialization (Astin, 1984, Roberts & Jr, 2010).

Astin (1984) developed a student involvement theory, which states that students who are more involved in their college experience are more likely to be successful in college. Astin defined involvement as engagement in coursework, participation in extracurricular activities, and interactions with faculty and staff outside the classroom. The idea behind the theory was to take away the focus of subject matter proficiency and methods of instruction as key factors to student success, and put it on the student's attitudes and behaviors while in college. It is a student-focused theory that reaches well beyond the classroom. Studies have found that experiences outside the classroom influence subsequent experiences in college and, in turn, influence persistence (Rendon, 1994). Alternatively, involvement within the classroom has also been shown to encourage involvement beyond the classroom (Tinto, 1994). Therefore, academic and social involvement should not be seen as mutually exclusive of each other, but rather as two sides of the

same coin of student success, working together to encourage student persistence. Stage (1989) described this relationship between academic and social proficiency as academic and social integration, and that students are more likely to persist when both occur simultaneously and build off each other. Flynn (2014) reinforced the importance of both social and academic engagement toward baccalaureate attainment. However, some researchers have argued the validity of the claim, stating that in many universities that do not have residential housing, students do not have the opportunity to build social relationships outside of regularly-scheduled class times, so academic preparation should be the primary focus (Tinto, 1998) such as career development (Wright, Jenkins-Guarnieri, & Murdock; 2013).

As such, students who do not properly socialize into college struggle to persist and often drop out. Although academic performance often influences the ability of a student to succeed in college (Banks, 2005; De Wolf, 1981; Goldrick-Rab & Han, 2011; Hazari, Tai, & Sadler, 2007; Sadler & Tai, 2001), social factors can have just as much of a negative impact if students are not properly socialized to their environment. Students who are not able to solve social problems in college tend to perform worse academically, thus making it more difficult to persist in college (D'Zurilla & Sheedy, 1992, Rowan-Kenyon et al., 2017; Savitz-Romer, Rowan-Kenyon, & Fancsali, 2015). Students who had a lower self-esteem and faced difficulty making friends experienced more social problems and stressful situations in college (Crocker & Luhtanen, 2003). Peer influence was actually found to have a significant influence in dropping a course, moreso than faculty's ability to teach or the difficulty of the course (Garza & Landeck, 2004). For this reason, one must understand the effects of socialization on undergraduate college students and their college persistence.

Undergraduate Socialization

The study of college impact on college students dates back to the 1940s, when social psychologists such as Theodore Newcomb (1943) learned about the liberalizing influence of college on female students from conservative families. The next few decades resulted in

conceptual frameworks about college impact on students (Astin, 1977; Chickering, 1969) which included student background characteristics, college characteristics, measures of connections between students and their college environment, and indicators of college's effects on students. Using these psychological and sociological conceptual frameworks, Weidman (1989) developed a model of undergraduate socialization. The model drew upon sociological notions of the socialization process in adolescence and adulthood.

Weidman's model was multifaceted in its depiction of a college student's socialization process. At its earliest stages, he described the importance of student background characteristics, parental socialization, and non-college reference groups in contributing toward pre-college normative pressures. These influences would continue throughout a student's college experience, with additional in-college normative pressures taking effect once the student entered college. These factors could be formal or informal, direct or indirect, and academic or social. Applied together, the factors would then influence socialization outcomes that are important for adult life after college and for contribution toward well-being.

Referring back to the definitions of socialization, this model describes in detail the way in which a student interacts with his or her environment before college, during college, and after college. These interactions shape a student's beliefs, values, and goals. However, the student is not a passive recipient of these processes. Weidman states that students must make choices concerning the activities to which they will dedicate their time. Their choices will determine what types of environmental factors with which they will engage, from peers, to social networks, to classes. As students make these choices, they are acquiring a role within their own social framework.

The acquisition of these social roles have been described to take place in four stages: anticipatory, formal, informal, and personal (Collins, 2009; Thornton & Nardi, 1975). Each stage involves interaction between an individual and the expectations of other outside influences in the individual's life. In the anticipatory stage, an individual develops expectations about a particular

group before he or she is formally introduced to that group. In the case of college, the individual may form expectations from parental influences, media depictions, guidance counselor advice, college visits, and college recruiters. The expectations are societal in nature, meaning that students learn about college from various sources in the broadest sense. This results in a very generalized and stereotyped conception of roles about what it means to be a college student.

The second stage is the formal stage. An individual in this stage is formally introduced into a new group, now creating expectations from members of the group instead of the broader society. A college student in the formal stage has entered college and is creating expectations based on members from within the college instead of external constituents. Expectations in the formal stage are frequently outlined in formal written or verbal terms. This includes student handbooks, syllabi, orientation activities, and housing meetings. Whereas college expectations in the anticipatory stage were more generalized to higher education as a whole, expectations created in the formal stage are specific to the college being attended.

The third stage, or the informal stage, occurs through unofficial avenues that delve into the finer details of expected behaviors. Individuals begin to learn which rules can be bent and how far, or ignored altogether, through interactions with other groups or individuals. College students in the informal stage begin to refine their initial expectations as they make friends and discover what other students value. College aspects such as which professors to take for a course, which dining location is preferable, and which organization memberships result in the highest social status are discovered through peer interactions and are not written in any official policy or discussed in any formal program. Unlike the formal stage, there is less consensus as to the appropriate behaviors, with different groups showcasing different ideas as to how to be the "correct" college student.

In the personal stage, an individual develops expectations that combine the anticipatory, formal, and informal influences and incorporate them into their own personality and lifestyle. Since students enter college with their own specific set of personalities and other background

characteristics, the expectations learned from others are filtered through their own perceptions before acquiring a role. Their role is personalized to fit their own individual style, which allows them to influence others' expectations of themselves. For example, a college student at this stage may decide to eat at an unpopular dining facility, despite her peers going somewhere else, because the facility offers pricier, but healthier, options. Although the informal stage may have taught her that her financially-strained peers prefer the cheaper eating establishment, her personal health goals may influence her to counter their implied suggestions.

Traditional college socialization programs occur at the formal stage, such as new student orientation and first year experience programs. In Weidman's model, these programs would be considered "in-college normative pressures." At this stage, college student personnel have the most control over the socialization of the largest number of students in the shortest amount of time due to the structured nature of the programs. The goal of these programs is to encourage students to take these presented expectations into the personal stage so that they internalize some of the strategies for college success to fit their individual goals and lifestyle. However, the challenges facing college personnel are the other two stages of socialization that have the potential to compete with the formal expectations introduced in their programs: anticipatory and informal expectations.

The purpose of new student orientation programs are to "create transition programs designed to strike the balance between meeting the formative needs of their first-time students and equipping them with the tools needed to successfully negotiate their new educational environment." (Mayhew, Vanderlinden, & Kim, 2010, p. 321). While it may be true that this is a student's first full exposure to *that* college, the student has likely already been exposed to the general idea of college in the anticipatory stage. Depending on how firmly-rooted these expectations have taken hold, college personnel may have a difficult time altering them with their formalized programs. Mayhew et al. (2010) found that an orientation program's impact on the academic and social learning of incoming students was related to the student's preconceived

perceptions of ease into their transitions from high school to college. The perceptions they brought from home heavily influenced the effect college personnel could have once they arrived. Even if the programs managed to dispel some myths about college life or instill some useful advice for success, students may then be exposed to informal expectations that run counter to what they were taught in the formal stage. If a student is taught at orientation several helpful study tips, but fails to see any other students utilize those study tips throughout the semester, they may question the validity of that advice. Despite this, college personnel who interact regularly with students in both formal and informal capacities have an opportunity to affirm informal expectations through their actions and behaviors around the student. In other words, through university offerings such as student organizations, library services, student activities, and learning communities, personnel can indirectly influence informal expectations through repeated interactions with students that affirm the formal expectations set at the beginning of college.

The difficulty lies in the anticipatory stage of social role acquisition in college. College personnel have limited options for interacting with students before they enter college. Academically, researchers have learned the importance of pre-college preparation in determining college success. Taking advanced math and science courses in high schools, for example, generally correlated with higher grades earned in college courses and improved class performance (De Wolf, 1981; Hazari, Tai, & Sadler, 2007; Sadler & Tai, 2001). Students, usually from disadvantaged families, who failed to take rigorous math and science coursework were more likely to take remedial courses in college (Goldrick-Rab & Han, 2011) and perceived their academic preparation as inadequate (Banks, 2005). Students who take remedial courses are then faced with additional barriers to success, including delaying important coursework for graduation and therefore delaying degree completion (Attewell, Lavin, Domina, & Levey, 2006).

For this reason, many programs have been implemented at the high school level by preparing students for college through advising, campus visits, and college information presented through speakers (Cates & Schaefle, 2011). Other programs have included summer bridge

programs that provide professional development to staff working with the students and various additional resources to at-risk students such as academic advising and labs to support classroom instruction (Kallison Jr & Stader, 2012). The combination of advanced high school coursework and supplemental programs have attempted to improve college student success and retention. However, even through these programs, students were still found to have high remedial placement rates, especially at urban colleges (Hoyt & Sorensen, 2001). This would suggest that college retention is affected by more than just academic preparation. Unlike academic preparation programs, there are not as many well-known socialization programs that focus on students before they enter college, where anticipatory socialization takes place.

Anticipatory Socialization

Thornton and Nardi (1975) described the anticipatory stage in reference to being the first stage in the role acquisition process. This precursor stage can also be applied to the broader concept of socialization. Anticipatory socialization, similar to role acquisition, can be defined as the process of adopting attitudes and beliefs of a reference group before obtaining membership (Merton, 1968). The concept of anticipatory socialization was originally developed to explain one's adaptation to new norms or changes in expectations (Merton, 1957). Earlier studies in anticipatory socialization were primarily focused on transition into the workforce. These studies suggested that anticipatory socialization in college influenced subsequent behavior after graduation (Wright, 1976), provided early evidence of a new graduate's commitment to a job (Sager & Johnston, 1989), and made graduates less likely to engage in questionable and unethical actions (Elias, 2006). Farag & Elias (2016) stated the anticipatory phase occurred in college, followed by the encounter phase in the first year of their career, and finally, the acquisition phase after several years in a particular career path. Students with higher motivation were more likely to become enculturated into a future profession before graduating (Keshishian, 2010), usually through intentional exposure and communication that would socialize them into fields in which they looked forward to working (Jahn & Myers, 2014). A notable source of this exposure to

professional jobs and careers is through media that showed work to be enjoyable, stressful, and linked with rewards (Hylmö, 2006; Jahn & Myers, 2015).

Recent scholars have studied anticipatory socialization of younger audiences. Dukes & Stein (2014) found that students who wanted a tattoo were more likely to report attitudes and behaviors similar to those of students who already had tattoos. Jahn & Myers (2014) found that students who regularly interacted with influential people in STEM careers became more familiar with STEM majors and were more likely to pursue them. Other studies used anticipatory socialization to describe the maturation of youth as they adapted to middle and junior high school (Wærdahl, 2005) or adolescence in general (Hoffner, Levine, & Toohey, 2008). Finally, Cranmer and Myers (2016) described the importance of student interaction with family, peers, coaches, and sports media as sources of anticipatory socialization into Division-I athletic programs. Just as the college experience can serve as a context for anticipatory occupational socialization (Weidman, 1989), pre-college experiences can serve as sources of anticipatory socialization for the college experience. Scholars that approach anticipatory socialization often do so by first selecting a specific source of anticipatory socialization and then examine their messages and effects on an individual (Jahn & Myers, 2014).

Reference Group Theory

The sources individuals utilize toward their anticipatory socialization are called reference groups. A reference group can be a person, group, or collectivity that an individual takes into account when selecting a particular course of action from among several alternatives or in making a judgment about a problematic issue (Kemper, 1968). Compared to a peer group, which consists of a group to which an individual already belongs, a reference group requires the individual to take the role of an outsider looking in (Dukes & Stein, 2014). Reference groups are a crucial component for an individual to identify important sources for socializing influences (Weidman, 1989). They can often take the shape of role models, or significant other people in an individual's life that influence important decisions and create a self-concept in early stages, refine their self-

concept in the middle stages, and enhance or affirm their self-concept in the later stages (Gibson, 2003).

Some researchers argue that no criteria exist for determining whether or not a person or group can be considered a reference group (Ofshe, 1972). Others argue that reference group status is achieved through similarity of status attribute, the degree that values and beliefs agree with the individual, clarity in a particular group's values and beliefs, sustained interaction between the individual and the group, and the degree that the individual defines the group as significant others (Bock, Beeghley, & Mixon, 1983). At minimum, individuals must see some similarities in status and other related factors from a group before using it as a point of reference (Merton, 1968).

Reference group theory was introduced by Theodore Kemper (1968), which was used to explain how people made decisions in situations from which they had no experience. He went on to divide reference groups into three categories: normative groups, comparison groups, and audience groups. Normative groups explicitly state the norms and espousing values of a particular environment. These groups function similarly to the formal stage in social role acquisition as explained by Thornton and Nardi (1975). These groups guide individuals into common cultural channels such as gender roles, age-appropriate behavior, and occupation. Using college as an example, a member of the normative group could be a college professor on the first day of classes reviewing the syllabus for a class. Although the student has not yet taken the class, they use the professor as a point of reference for what to expect throughout the semester. A normative group could include an admissions counselor at a college fair, or a college brochure given to a high school senior with college information. The message given to the student is direct and unquestionable about the culture found in that particular college or university.

Comparison groups are groups or persons that provide a frame of reference that helps influence judgments about attitudes and issues. These groups provide learning opportunities similar to the informal stage of Thornton and Nardi's role acquisition. Comparison groups can be found everywhere, from peers to media. These reference groups are not traditional, or sometimes

even intentional points of references for students. Comparison groups can be further divided into four subcategories: equity groups, legitimator groups, role model groups, and accommodator groups.

An equity group is used by an individual as a point of reference to determine if a particular action or situation is fair and equitable. An example of an equity group is the academic achievements by students coming from families with higher socio-economic status. According to traditional standards of equity, it could be perceived as unfair that students who did not have to work due to being supported financially by their parents have more opportunities to take advantage of extracurricular development opportunities compared to poorer students who had to work an outside job to pay their bills.

A legitimator group can confirm the legitimacy of a behavior or an opinion. If a freshman sees another student break the rules and get away with it, he or she may question the validity of the rules at the college since they are not being properly enforced. The rule-breaker serves as the legitimator group. A role model group can consist of a person or even a fictional or historical character that demonstrates how something should be done. Unlike a legitimator group, which can confirm whether a perceived action is the right thing to do, a role model group demonstrates how to complete said action. Lastly, an accommodator group provides a guideline for either complementary or parallel response in both cooperative and competitive settings. This can be seen in sporting events when the threat of an opponent victory can unite students to cheer for their own school. The opposing theme serves the role of accommodator group to influence the appropriate fan behavior at a sporting event.

The third reference group, following normative and comparison groups, is the audience group. Audience groups are similar to normative groups in that they influence the values and attitudes of an individual. The main difference is that an audience group does not take notice of the individual. This type of group serves as a motivator for an individual to act a certain way or believe in a certain thing. The audience can consist of a person with status that the individual

wants to impress. However, the audience can also be a younger sibling that motivates the individual to act as a role model. It is important to note that the types of reference groups are categorized in such a way for the purpose of analysis. In reality, the boundaries between the categories of groups are not as well defined. Audience groups may also be normative and comparison groups, for example. Simply stated, normative groups inform an individual on what needs to be done, comparison groups guide an individual on how something should be done, and audience groups provide the motivation to get it done.

The challenge facing college personnel is their limitation in providing students the quantity and quality of reference groups necessary to make informed decisions in college prior to college attendance. Orientation programs and other college transition programs provide formal training and expectations of college life and can act as a normative reference group for students entering college for the first time. College professors, staff, and student leaders such as resident assistants and orientation leaders may also serve as comparison groups, specifically role model groups. However, legitimator groups and audience groups are harder to provide, because they are most likely to be encountered organically through a student's daily experiences. A college professor can teach a student the importance of studying (normative group), and a resident assistant could hold a study group in which he participates (role model group), but a student ultimately makes the decision on who she will trust as her source of successful college attitudes (legitimator group) and who inspires her to act on these attitudes (audience group). Part of the reason colleges can struggle to create legitimator and audience groups for new students may have to do with the source providing the information. The source is usually a person holding authority over the student. Either faculty, staff, or carefully-selected student leaders are expected and trained to teach incoming students about how college *should be*, but these students often receive messages about how college *actually is* from other sources, such as family, friends, and media. Media, in particular, serves as a consistent reference group for students wanting to learn about college before they arrive. Regardless if these college depictions are accurate or not, students who

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use media as a reference group will internalize those messages as part of their anticipatory socialization. To better understand what media is teaching students about college, one must be familiar with the history of college-themed programming and entertainment.

Summary

The process of undergraduate socialization involves the interaction between a student and his or her environment to develop the appropriate social roles used to gain membership in the student's preferred groups. The student is not a passive recipient in these experiences; he or she incorporates the norms and customs experienced and refines them to construct his or her own identity based on his or her own personality and background characteristics. The socialization process starts before a student's entrance into college and continues through college and into the workforce after college. The process of socializing into college before experiencing college first-hand is called anticipatory socialization. A student going through anticipatory socialization will utilize reference groups to derive knowledge and information about how college should be. These reference groups can take many forms, from influential people of authority to fictional representations in the media. Media, in particular, serves as a powerful reference group for college due to its ease of access and increasing exposure of media to younger generations.

Impact of College-Themed Media

Recent advances in technology have allowed the American population more access to media than ever before. New mediums have allowed the dissemination of media in a variety of ways, from the invention of film and television in the early 1900s to the prevalence of blogs and social media sites in the 2000s. More than two-thirds of the US population (68%), for example, went to the movies at least once in 2013 (Motion Picture Association of America, 2013). Furthermore, the average person watches four hours of television a day (Herr, 2008). Media is undoubtedly popular in modern society, influencing culture. Media research suggests that there is a link between media and perceptions (Lillard et al., 2015; Senthilkumar & Venkatesh, 2017;

Williams, 1986), making it important to understand what the media is teaching consumers, especially our youth.

What does this mean for college students? According to the Motion Picture Association of America (2013), high school and college-aged students are increasing in numbers as movie-goers, continuing to oversample in movie-going versus their proportion of the population. There is also growing literature that demonstrates that university students consistently overestimate alcohol use and positive attitudes toward alcohol use on campuses (Wasylkiw & Currie, 2012), as well as feeling isolated, alone, and worrying about college relationships and economic prospects of the future (Tobolowsky, 2001). Media provides a lens to view college that may or may not be accurate, influencing college expectations for those that plan to go or are going to college. Due to its entertainment value, students are continually socialized through college books, TV shows, and movies, believing college to be a certain way, and then becoming disillusioned when the reality of college sinks in (Byers, 2005).

There has been much discussion of the role of media and popular culture in education among critical media literacy scholars in the K-12 arena, with a plethora of information available on media's effects on children (Tisdell, 2008), but not as much information is available regarding media's effects on college students. However, with college becoming a mainstream genre in American fiction over the last two decades (Williams, 2012), more attention has been placed on how college life depicted in the media influences societal perceptions of college.

This is evidenced by the increasing number of film studies departments and majors established in colleges, schools, and universities around the world (Turner, 2006). Scholars and college student personnel are recognizing that media is a source of pleasure that affects learning, having the power to both reinforce and resist the ideology of the dominant culture (Tisdell, 2008).

History of Media in Higher Education Research

The history of media research is expansive and crosses several different fields. One of the earlier studies of media includes Goffman's Frame Analysis on how we construct our realities

(Cornelissen & Werner, 2014; Goffman, 1974). Goffman describes framing as the process by which a communication source, such as a news organization, defines and constructs a political issue or public controversy. This section outlines the history of higher education research through four different media outlets: sports media, film, television, and literature.

Sports media. The relationship between sports, media, and higher education is strongly interconnected. Research suggests that the popularity of sport is due to the enormous amount of attention provided to it by the media (McChesney, 1989). However, the media also generates enormous sales in both circulation and advertising thanks to the extensive treatment of sports, creating a symbiotic relationship between sports and mass media.

Sports and mass media began their relationship in the 1830s when magazines decided to cover sports in its issues (McChesney, 1989). Magazines were struggling to capture an audience, so they attempted to link themselves with other professions in order to help with their own popularity. Their coverage of sports became an instant success, increasing the popularity of both magazines as a media outlet and sports as an entertainment source.

Sports media arrived through film as a genre between the end of the 1920s and World War II (Miller, 2010). In these theatrical depictions, individual athletes became exemplary team players as they competed and triumphed against their sporting opponents, criminal influences, and those who did not believe in their potential. Between 1926 and 1941, 115 college sports movies were produced, with 89 of those films featuring college football (Miller, 2010).

Since then, college sport movies and TV shows have increased in quantity, spanning a number of different genres. Although media coverage is not the sole reason for the increase in popularity of sports, the value of sports media can be seen today with the high ratings that sports coverage, such as the Super Bowl, can bring in for the television networks.

Film. The first film reached audiences in 1896, when Auguste and Louis Lumiere attempted to direct their work with moving pictures toward scientific research (Turner, 2006). Instead, this first attempt at film established it as an entertainment source instead of a source of

academic or scientific research. Academic interest in film did eventually conceptualize through two different lenses. The first lens in which film was viewed was through formalism in the early 1900s (Turner, 2006). This view analyzed film through its artistic, or formal, unity. This involved the study of a film's technical and artistic value, such as directing, cinematography, and acting.

In the 1960s and 1970s, a second lens became prevalent for studying film: realism. Realism involved analyzing the specific relation to the particular world that a film is attempting to capture with its frames (Turner, 2006). Films were dissected and analyzed to better understand the society that was represented in the era of that particular film. This lens is more similar to the way that media is studied today. Research involving the representation of higher education in film takes primarily the realism approach (Conklin, 2008).

Film studies in higher education use a variety of learning and attitude theories to understand a film's effect on the viewer. Wasylkiw & Currie (2012) analyzed 34 films classified as university-themed comedies that highlight risk-taking and minimized the importance of academics. The study used social cognitive theory (Bandura & Bryant, 2002) to understand why students consistently overestimate alcohol use and positive attitudes toward alcohol use on campuses after watching university-themed comedies. Social cognitive theory also serves to explain the results of a survey in which over half of incoming college freshmen believed that their college experience would be similar to that of the college movie *Pitch Perfect* (Reynolds, 2014).

Television. Research that focuses on links between television and higher education is relatively more recent than other areas of media. Historically, research on the effects of television was focused on the K-12 areas of education (Cann, 2015; Wells & Serman, 1998). Unlike film research, which generally focuses on societal portrayals of a subject as depicted in the media, television research has focused more on correlations between exposure to television and other factors such as aggressiveness and violent behavior (Anderson et al., 2003). The difference in research purposes are due to the differences in viewing habits between movies and television shows. Movies require minimal investment, usually about two hours of time, before the exposure

ends. However, television shows are recurring, requiring greater investment to tune in and keep up with every episode. This added layer of immersion provides more opportunities for researchers to study cognitive and psychological effects on television viewers. However, television research does exist comparing television depictions of higher education with real depictions of higher education, such as a researcher's analysis of the TV show *90210* (Byers, 2005) and a number of other college-themed television shows (Tobolowsky, 2001).

Literature. Literature as it relates to higher education can be divided into two types: campus novels and academic novels (Williams, 2012). Campus novels tend to revolve around campus life, most commonly from the student perspective, such as young adult comedies, dramas, and coming-of-age narratives. Academic novels are centered on professors and administrators, viewing colleges from a different perspective to that of the student. College novels in general have been informative about customs, rituals, jargon, and fashions within the American campus (Thelin & Townsend, 1988) and have had been shown to predict verbal ability (Mar & Rain, 2015). Campus novels throughout history have primarily been murder mysteries, dramas, and lighthearted comedies that were easily dated (Williams, 2012). Academic novels, on the other hand, were more critical in nature, usually by professors who were critical of their own institutions. However, campus novels were not exempt from university criticism. Thelin & Townsend (1988) found and analyzed 80 student-centered college novels that were written by authors who attended the depicted colleges. The tone of the novels more or less depicted the author's personal feelings toward the college.

Despite the fact that books are considered by many a "more intelligent" source of entertainment than other mediums, fictional literature that uses colleges as a major setting or plot point is usually disregarded by scholars and researchers, claiming that not only are college novels created purely for entertainment purposes, but they are also inaccurate (Thelin & Townsend, 1988) and tend to underrepresent the amount and variety of colleges available. Anderson & Thelin (2009) found that campus novels are overwhelmingly set at private, elite universities or

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large (and elite) public institutions. Nearly 37% of annotated novels are at these 14 schools, with Harvard being the university most commonly represented.

Research on college-themed literature has been consistent with research in other mediums in that books can serve as sources of information about the impact of college on students and project distinctive images of undergraduate life. However, literature research has shown that college novels can also provide a source of information on how alumni perceive the college experience, since college novels tend to take place in the college that the novel's author attended (Thelin & Townsend, 1988).

Thelin and Townsend (1988) believe that college novels provide "unobtrusive measures" to unwittingly provide information and insights on image-making for college experiences. This idea is reemphasized by Anderson (2009) in his study of academic college novels. The benefit of this idea is that people who are active consumers of this type of media engage in it primarily for pleasure (Tisdell, 2008) and thus are more receptive to its messages. Consumers who internalize the messages found in college-themed literature unwittingly assign the characters and settings in the books as reference groups to aid in their anticipatory socialization. The same can be said for the characters, stories, and settings found in television shows and movies that depict collegiate life.

Societal Effects of Media

The impact of media reaches far beyond that of the individual student. As a collective, college-themed media can enforce stereotypical gender roles and stereotypes, compromise the safety of college students, impact the anticipatory socialization of underserved populations of college students, and affect public support of higher education.

Gender roles and stereotypes. Researchers of media have discovered some themes regarding gender roles. Women are often under-represented in the media, often sexualized and depicted in subordinate roles (Collins, 2011). This can include traditional media such as television and advertisements but has extended to other mediums such as video games (Dill &

Thill, 2007) Studies on gender roles have revealed that media depictions of women tend to create a "culture of romance," which is a high-pressure system that propels women into a world where their attractiveness to men counts the most (Holland & Eisenhart, 1990). However, other studies on gender roles focus on the positive influences that popular culture can have toward feminism when women are depicted in positive ways (Zeisler, 2008).

Other research has focused on the stereotypes that media can have on exaggerating and enforcing stereotypes. For example, religion has been shown to be expressed in stereotypical ways in college media, especially minority religions (Forbes & Mahan 2017; Romanowski, 1996). Another study showed three trends that were commonly found in college media: the over-representation of men and Caucasians compared to women and minority groups, the stereotypical representation of gender and minorities, and the over-representation of risk-taking in young adults (Wasylkiw & Currie, 2012). Risk-taking behaviors such as binge drinking and recreational drug use have enforced stereotypes that college is about the parties and recklessness and downplayed the academic importance (Wasylkiw & Currie, 2012).

College student safety. Longitudinal studies have provided evidence linking frequent exposure to violent media in childhood with aggression later in life, including physical assaults and spouse abuse (Anderson et al., 2003). Media violence translates to real-life violence through several short-term and long-term measures through priming existing aggressive scripts and cognitions. This is concerning due to the large number of aggression, physical assault, and sexual assault cases that affect higher education institutions on a yearly basis (U.S. Department of Education, 2015). Although media alone does not account for the motivation relating to campus assault cases, certain characteristics of media consumers, social environments, and media content have shown to influence the degree to which media violence affects aggression (Anderson et al., 2003; Bushman & Anderson, 2015). However, other studies suggest that societal consumption of media violence is not predictive of societal violence rates (Ferguson, 2014), and that viewing

media violence does not necessarily reduce empathy to real-life violence (Ramos, Ferguson, Frailing, & Romero-Ramirez, 2013).

Anticipatory socialization of underserved populations. One of the more invisible effects of popular culture found in media is its tendency to put underserved populations at a disadvantage in regards to higher education. For example, there is a correlation between socioeconomic status and time spent watching television (Berry & Asamen, 1993; Stamatakis et al., 2014). The higher the socioeconomic status, the fewer hours an individual watches television. As noted above, increased exposure to inaccurate college portrayals in the media leads to unrealistic college expectations through anticipatory socialization, followed by dissatisfaction and attrition when the reality of college sets in. This poses a larger problem to people from lower socioeconomic status, who spend more time watching television and taking in the college culture depicted in television shows. In addition to financial struggles when attending college, this population faces more challenges adapting to the college environment, since heavier viewing of television has shown to lead viewers to accept the television presentations as real (Tobolowsky, 2001). Studies have also shown that high school students are more susceptible to influence from college-themed television shows than other populations, further serving as reference groups to the high school students that view them (Tobolowsky, 2001).

Unfortunately, this is not only a problem for students from a low socioeconomic class and it is not limited to television. Hispanics, along with college-age individuals, continue to oversample in movie-going versus their proportion of the population (Motion Picture Association of America, 2013), followed by African Americans. To make matters worse, the share of tickets sold to 2-11 year-olds was at its highest point since 2009, meaning that children of underserved populations are watching movies at much higher rates. The difference in media consumption between privileged and underserved populations only serves to widen the education gap.

Public support of higher education. Negative images of higher education may impact public support of the institution. For example, an analysis of movies featuring public K-12 public

schools revealed a couple of interesting findings (Cann, 2015; Wells & Serman, 1998). These movies tended to depict public schools as war zones and K-12 teachers as heroes that had to learn to maneuver the war zones. Although teachers were portrayed positively in the movies, public perception was more focused on the negative environment portrayed at the fictional schools.

Likewise, any negative, inaccurate perceptions of higher education can influence important community partners to reduce or eliminate their support of higher education. The support can be a parent refusing to pay for their child's tuition to attend that university, or state government reducing a university's budget. It is difficult to argue the value of a university degree when popular culture depicts college as a "party zone" where academics take a back seat to binge drinking and having fun.

Summary

The earliest form of college-themed media was found through college sports movies in the early 1900s. Since then, college themes were found in several other sources of media, such as television, film, and literature. The depictions of college through these media outlets created stereotypical ideas of what a college campus was supposed to be like. Some of the messages relayed by college-themed media included the role of males drinking heavily and throwing parties and the role of females finding a romantic partner. These were seen as the primary goals of colleges and universities, with the academic goals of higher education downplayed or ignored. Increased consumption of media can cause safety concerns for students on campus due to media consumption being linked to aggression in students. Public support of education can also be affected by the portrayals of colleges in media if lawmakers and parents form unfavorable opinions of college and universities based on what they see in the media.

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Media as a Socialization Tool

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Early media research focused on fictional college-themed novels. Although created for entertainment purposes, novels were found to unwittingly provide insights into college life (Thelin & Townsend, 1988). Media research shifted toward television when researchers sought to

establish links between violence in television shows and the likelihood of aggressive and violent behavior in children (Anderson et al., 2003). Other research studies analyzed the utility of movies for transformative learning purposes (Tisdell, 2008).

Research on college movies and television found that high school teens remember aspects of television depictions that reinforced their own beliefs and concerns regarding the college experience (Tobolowsky, 2001). A viewing of the movie *Animal House*, which is a movie that prominently displayed partying and binge drinking, brought positive attitudes toward substance abuse and negative attitudes toward academics, even when controlling for past substance abuse and movie-viewing frequency (Wasylkiw & Currie, 2012). Although university fraternities and sororities are often associated with heavy drinking and partying (Borsari & Carey, 1999; Cashin et al., 1998; Lasky, Fisher, Henriksen, & Swan, 2017; Page, 2017; Soule, Barnett, & Moorhouse, 2015), movies that focus on these aspects of college also tend to negatively portray academics and other forms of campus involvement that don't relate to Greek Life. This focus on specific college behaviors leads students to believe that the actions depicted are the preferred behaviors in college. An informal survey on incoming college freshmen revealed that over half of the students believed college would be similar to the one seen in the movie *Pitch Perfect*, a movie about an acapella group at a college (Reynolds, 2014). Byers (2005) suggested that the thousands of images displayed by media that compose a show or movie depict an alternate version of "reality."

These studies illustrate how media can serve as a socialization tool for students entering college. Specifically, high school students who watch these movies and television shows use the characters as reference groups for their anticipatory socialization process. A high school student who is unfamiliar with the rigor of college life may internalize the messages that heavy drinking and excessive partying are normal functions of daily college life. In a previous study on college media, I found that college students who were higher consumers of college-themed media were found to hold higher value in college stereotypes such as the importance of making friends and attending college parties and were less likely to believe that college media influenced their beliefs

in these stereotypes (Nuñez, 2018). In a follow-up, qualitative study, I found that the high school participants knew very little about college life outside what they saw in the movies (Nuñez, 2017). In the study, students were shown a college movie, two college TV shows, and a college mystery novel. Follow-up interviews after consumption revealed that the students found educational value in these works primarily meant for entertainment. College anticipatory socialization through media is more potent and lasting than traditional forms of anticipatory socialization such as college tours and admissions counselor visits due to the repeated exposure to media. Students who consume high amounts of media are more likely to internalize the messages in the media, whether accurate or inaccurate, simply because of their familiarity to the content.

Mere Repeated Exposure

Mere repeated exposure theory, originally developed by Zajonc (1968) for consumer and market research, suggests that repeated viewing of any particular stimulus, such as that found in media, enhances a positive attitude toward that stimulus. Mere repeated exposure theory served to explain several aspects of media consumption as they relate to college expectations. Repeated exposure of media results in recognition. This recognition, whether correct or mistaken, enhances the likelihood of preference toward whatever is shown (Harmon-Jones & Allen, 2001; Stafford & Grimes, 2012). This means that students who repeatedly watch college-themed media are likely to develop a preference toward attitudes and behaviors matching the students shown in the media. Students who watch other students in movies involved in more activities outside of the classroom are more likely to favor involvement when they enter college. However, since many of the college films available place a strong emphasis on unsafe college behaviors such as excessive partying, binge drinking, and substance abuse (Reynolds, 2014; Wasylkiw & Currie, 2012), students may also subconsciously develop a preference toward involvement activities relating to the ones they see in films. In addition to preference to the stimuli presented by the media, the consumer is also likely to attach that preference to other stimuli similar to the first stimuli (Kwan, Yap, & Chiu, 2015; Zajonc, 2001). This means that students can take the representation of a

college in one movie and generalize it to all colleges not related to the movie. In a recent study (Nuñez, 2018), students were asked if college movies, TV shows, and novels influenced their perceptions of college. Students who consumed larger amounts of college media were more likely to deny that media influenced their perceptions. However, the same high consumers of media were more likely to have positive attitudes toward socialization and partying in college, suggesting that their attitudes were, in fact, related to amount of media consumption, albeit subconsciously.

Once these expectations are developed, it is difficult to change them with traditional educational methods. Mere repeated exposure theory indicates that stimuli exposure without awareness produce substantially larger exposure effects than do stimuli that are consciously perceived (Bornstein & D'Agostino, 1992). This means that programs developed by institutions to encourage students to get involved in educationally-beneficial activities will have a difficult time competing with the subconscious lessons learned from college media consumption.

Educational Entertainment

To compete with the entertaining aspects of media, various educators and other entities have resorted to incorporating entertainment into educational activities to make learning more desirable and enjoyable. Although the lecture has traditionally been the dominant form of teaching (Davis, 2011), educators and researchers have studied alternative forms of education since the 1900s. The concept of entertainment has historically been seen as essential to a positive human experience, especially if formalized into a structured activity promoting learning (Dewey, 1910). For example, interest in paper-based games became increasingly popular among educators in the 1960s (Rice, 2007). Educators believed that games and other fun activities were the most powerful medium for reaching younger learners (Jenkins, Klopfer, Squire, & Tan, 2003) because they helped engage students in interactive learning and enhanced critical thinking, small group discussion, and problem-solving skills (Odenweller, Hsu, & DiCarlo, 1998).

Although there is no formal term for the concept of educational entertainment, scholars have repeatedly coined the term *edutainment* to describe activities, lessons, and programs that provide either entertaining education or educational entertainment (Cirigliano, 2012; Jarvin, 2015; Landt, 2001; Singhal & Rogers, 2012). The lack of a formal definition, however, has resulted in edutainment being defined in other ways. Edutainment has been used sardonically by researchers when referring to university athletics as a way to undermine their importance to an institution's academic mission (Benford, 2007). Recently, the term has been used to refer to simplistic games used by primary schools to teach lower level thinking skills through repetition in drills due to the increasing popularity of these games in classrooms (Charsky, 2010). Outside of these specific uses, edutainment is most commonly used to broadly describe anything that intentionally combines education and entertainment.

Research increasingly validates the use of educational entertainment to educate students and promote social change (Cotwright et al., 2017, Igartua & Vega Casanova, 2016; Obregon & Tufte, 2014). Edutainment has been used as a teaching tool historically across several fields and disciplines, with evidence of it used in early Greece as dramatic arts to teach moral lessons (Piotrow, 1994). Its use has rapidly increased in recent decades due to the increase in technology, which has facilitated the creation of new edutainment mediums. For example, the visual effects used to create a black hole in the movie *Interstellar* was subsequently used by space scientists to better understand real distortions in space and time (Singh, 2015). Children's television programming has been used for a long time to aid in children's development and encourage more educationally-appropriate activities such as leisurely reading (Jensen, Martins, Weaver, & Ratcliff, 2016). Educational television, first developed in the 1960s, revolutionized the edutainment industry with shows such as *Sesame Street* teaching students various concepts using music and puppets (Jarvin, 2015). Since then, edutainment has moved into the classroom. Short films have been used to educate Nigerian communities on HIV (Pappas-DeLuca et al., 2008), educational card games have been developed to teach health sciences (Odenweller et al., 1998),

theatre games have been created to help pre-service teachers develop more multicultural sensitivity (Souto-Manning, 2011), soap operas were produced with the intention of developing specific social learning concepts in viewers (Piotrow, 1994) and movies such as *Crash* and *Brokeback Mountain* have been used in group discussions as a form of transformative learning (Tisdell, 2008). Improvisational theater has also been used on various occasions to teach social and critical thinking skills (Newcomb & Riddlesperger, 2007)

Technology, like education, focuses on how to present and communicate information between people, making both fields compatible for merging and innovating (Marinelli & Pausch, 2004). One of the most heavily-studied uses of technology in education has been through educational video games used in classrooms (Marinelli & Pausch, 2004). The worldwide population spends over a billion hours a week playing video games (McGonigal, 2011), perhaps explaining the recent interest in incorporating video games into teaching curricula. Popular video games such as *Oregon Trail*, *SimCity*, and *Math Blaster* have been used in classrooms as educational supplements (Duque, Fung, Mallet, Posel, & Fleiszer, 2008; Rice, 2007). *Math Blaster*, the most popular math-related title in American classrooms, has sold several million copies under different titles (Becker, Ravitz, & Wong, 1999). The game creates a narrative that involves defeating enemies by correctly answering math problems. Although simplistic in its purpose, the game has managed to increase student and teacher motivation to work through the required repetition involved in math drills (Lee, Luchini, Michael, Norris, & Soloway, 2004). The entertainment factor of an activity often provides the motivation necessary to complete it, even if completion of the activity results in little to no tangible end product or result (Rafferty & Vander Ven, 2014). As long as the individual finds enjoyment out of the process, they care less about its purpose or the end reward for completing it. Critics of video game edutainment have suggested that video games are only able to address the lower levels of learning according to Bloom's Taxonomy (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956). The six levels of Bloom's Taxonomy, in increasing order, are knowledge, comprehension, application, analysis, synthesis,

and evaluation. Games such as *Math Blaster* are limited in only being able to address the knowledge and comprehension levels of thinking. However, simulation games such as *SimCity*, which allows players to design entire cities through minute decisions, may develop higher level thinking skills such as application.

Socialization through Edutainment

Although the majority of edutainment research focuses on primary and secondary education, colleges have begun to incorporate edutainment programs to supplement programs. Cirigliano (2012) used an edutainment model to understand student attitudes toward a graphic novel that presented concepts in custom cell biology. The program was used to supplement a more traditional, lecture-based cell biology course. Cirigliano stated that "passive exposure to information-enriched entertainment may prove beneficial as a method of making connections, recalling information, enhancing memory, and stimulating interest in academic subjects" (p. 29). Although not to be used as a substitute to traditional education, edutainment can be used to provide students additional opportunities to gain exposure to a particular concept, allowing them to synthesize and apply the concepts to other situations. There is evidence that problem-solving skills and strategies learned in one medium can carry over to another (Fisch, 2013)

One college, Richard Daley College, partnered with the Associated Equipment Distributers Foundations (AEDF) to provide construction training to high school students based on an edutainment model (Landt, 2001). The program involved combining college-level courses with various volunteering opportunities, mentor activities, hands-on projects, and various student incentives to motivate students to improve their skills in construction. The program targeted students who were neither the top-performing nor bottom-performing in their class; the "average" student. The college found that students in the mid-percentile in high school classes were less interested in learning and more interested in entertainment. They selected those students for the program, theorizing that providing a curriculum that the students found enjoyable would increase student grades and retention. The program was considered a success, with retention being much

higher for those students compared to students not in the program. Although media was not exclusively used in this program, the broader concept of edutainment was applied by providing activities that students would find enjoyable.

Other colleges and universities have embraced the edutainment model through various programs and areas of focus. John Hopkins University has supported over 36 television series and specials, 9 radio dramas, 3 songs, and 9 music videos (Piotrow, 1994). MIT created a Comparative Media Studies program which develops prototype games that teach and develop curricular materials (Jenkins et al., 2003). Professors at the Carnegie Mellon University's Entertainment Technology Center regularly research how to best use interactive technology in education (Marinelli & Pausch, 2004).

Although edutainment models are increasingly being used in higher education for academic preparation, there is little research available describing its use for social preparation as part of a student's undergraduate socialization process. Although studies have shown how students utilize characters, plots, and settings in college media as reference groups to aid in their anticipatory socialization of college life, virtually no studies were found that intentionally use edutainment through college media to provide students with constructive and beneficial reference groups to aid them in social role acquisition. High school students and other individuals who have not attended college are socialized through the media they consume. Although other reference groups such as parents, teachers, coaches, older siblings, and admission counselors can also influence a student's anticipatory socialization, their effectiveness is contingent upon the student's relationships with these individuals and their willingness to educate them. A first generation student, for example, may not have knowledgeable parents to dispel any myths about college that he or she may have learned in television or film. A lower-performing or academically-disinterested student may be less likely to assign a teacher or other person of authority as a reference group, and thus less likely to listen to their advice about college life. These students may be more likely to receive the majority of information through media

consumption. By creating programs that utilize mediums that students already use, students may be more likely to use them as resources and reference groups to aid them in anticipatory socialization.

Summary

Educational entertainment, often called *edutainment* by scholars, has been used in classrooms for decades to supplement traditional education programs. Video games such as *Math Blaster* provide an engaging way to learn lower level math skills by motivating the student through its repetition exercises through an enjoyable narrative. Due to repeated exposure to media, students of all ages have internalized messages from the media that can sometimes be difficult to overcome through traditional lectures and teaching methods. Schools and universities have begun adopting various edutainment programs to reach students who respond best to entertainment in an effort to teach them valuable skills and concepts. Although universities have been using edutainment to teach academic skills and social justice competencies, there is little evidence in the literature of colleges using edutainment as a way to help students socialize into college. Pre-college students often assign various sources as reference groups to aid in their anticipatory socialization. First generation students and other students with limited access to information-rich sources of college life will likely use characters and settings in college-themed media as reference groups to help them through their anticipatory socialization. The intentional creation of edutainment programs with the purpose of undergraduate anticipatory socialization may be able to provide reference groups for pre-college students to use to build a more accurate depiction of college life.

<div align="center">

Review of Methodological Research

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The literature available on edutainment as a pedagogical tool is relatively recent and limited (Reynolds, 2014). This section briefly reviews the methodologies primarily used in edutainment research. Afterwards, the methodology that will be used in this study, Q methodology, will be introduced.

Methodology of Relevant Studies

Edutainment researchers have used a variety of methodological approaches to understand its use as a pedagogical tool, including quantitative and qualitative approaches.

Quantitative approaches. Pappas-DeLuca et al. (2008) found positive associations between exposure to a radio program that promotes HIV prevention and various attitudes such as stronger intention to have HIV testing and talking to a partner about testing. Duque et al. (2008) used pre- and post-tests to evaluate the effectiveness of an instructional video game that simulated home visits for medical students. Findings indicated high levels of engagement that were associated with improvement in knowledge. Hether et al. (2008) surveyed 599 participants after viewing breast cancer-themed episodes of primetime shows *ER* and *Grey's Anatomy*. Results showed that combined exposure to the storylines had a significant impact in viewers' knowledge, attitudes, and behaviors related to breast cancer. Wasylkiw and Curry (2012), through conducting an experimental study, discovered that students who watched the movie *Animal House* were more likely to hold positive attitudes toward drinking alcoholic beverages and partying excessively. These acts were very prevalent in the movie.

Qualitative approaches. Lee et al. (2004) investigated whether educational video games could be integrated into a classroom setting to aid learning. They found that not only did students and teachers find more enjoyment using the video games, but students exceeded classroom expectations through the use of the video games. Byers (2005) analyzed various college-themed television shows to determine the messages they imposed on viewers through their depictions of fictional college life. Newcomb and Riddlesperger (2007) conducted a case study and found that using improvisational theater for teaching genetic concepts to nursing students served as an effective strategy and was well accepted by the students. Souto-Manning (2011) also used theatre games as a form of educating White teachers to view and understand their own power and privilege. Odenweller, Hsu, and DiCarlo (1998) found that students playing a card game based on gastrointestinal physiology were more engaged and found more ease in learning its concepts.

Rafferty and Vander Ven (2014) found that edutainment could also teach and reinforce negative attitudes and behaviors such as bullying. Through inquiries about respondent's personal experiences with cyber-bullying and online aggression, Rafferty and Vander Ven identified that people would often engage in these acts when exposed to them online and finding enjoyment from performing them. Tobolowsky (2001) found that high school Latina students shaped at least some of their college aspirations and expectations from the TV shows they watched about college.

Although generalizations cannot be made from the results of qualitative studies, the consistent pattern found from the various qualitative studies on edutainment as well as quantitative findings suggest that edutainment shows promise as a method of education for various populations on a variety of topics. However, qualitative and quantitative studies alone cannot capture the full scope of impact that edutainment can have on learners. Due to the combination of subjective viewpoints of various learners with different opinions and the objective outcomes developed by educators from which to shape the edutainment materials, a mixed method approach is more appropriate to create a clearer picture of how learners internalize edutainment materials. Q Methodology, the approach used for this study, applies a mixed methods approach and will be described in more detail in the next chapter.

Summary of the Chapter

The successful transition into college involves the process of socializing into the campus culture through activities both inside and outside the classroom. Socialization can occur through a variety of methods, from individual to group interactions. Socialization that takes place before entering college is called anticipatory socialization. Students who experience anticipatory socialization often socialize into college by creating reference groups that they use to form college expectations. The reference groups can consist of friends, families, admissions counselors, guidance counselors, and college depictions in media. Due to the increasing prevalence of media in modern society, recent research has focused on media's effects on college

students. Studies have found that students form college expectations based on college depictions in various media outlets such as television, film, literature, and social media. Educators have begun using media as a form of educational entertainment to teach traditional classroom concepts to students from cell biology to construction. Higher education personnel have increasingly studied the effects of edutainment on college students, showing that students often improve their learning using edutainment methods due to their increased engagement leading to improved information recall. Other studies have showed that students find value in both the educational and entertainment value of edutainment resources. Although both quantitative and qualitative studies have been conducted to better understand the significance of edutainment, a mixed methods approach would be more appropriate to better capture the scope of learner attitudes toward edutainment.

CHAPTER III

METHODOLOGY

The purpose of this study is to explore student attitudes toward edutainment by exposing

them to a college-themed mystery novel using Q methodology. This chapter begins with a

discussion of the theoretical and philosophical foundations of the methodology, which is followed

by descriptions of the specific strategies for this study. The participants (P set) are described, as

well as the strategies used for development of the study instrument (Q set), and the procedures for

data collection are detailed. Finally, the chapter concludes with a description of the data analysis.

Theoretical Perspective

The foundation of research is based on philosophical assumptions that guide researchers

as they select research methods that are appropriate for the research question or hypothesis.

Before any research can be conducted, it is important to address the assumptions of the researcher

through a discussion of the study's theoretical perspective and methodological approach.

The theoretical perspective driving a study is crucial to the determination of the

appropriate research method that will be conducted. For example, a researcher who subscribes to

a positivist or postpositivist paradigm would be more likely to use quantitative methods for their

study, since positivism and postpositivism are driven by the assumption that there is a "real"

reality, or truth, which can be appropriately measured or discovered through observation and experiment (Guba & Lincoln, 1994). In other words, knowledge is objective and quantifiable. This study subscribes to an interpretive paradigm because it attempts to understand the social world from the perspective of the individual experience (Rossman & Rallis, 2003). The interpretive paradigm tries to understand the social world as it is from the perspective of individual experience. An assumption of the interpretive paradigm is that there is no one true reality, because reality is created by individuals or groups through their own subjective experiences of the external world. Reality is viewed as socially constructed, and the role of the researcher is to discover the underlying meaning of attitudes and behaviors to discover the constructed reality of others. A key aspect to interpretivism is that it attempts to understand phenomena through the meanings that people assign to them (Deetz, 1996). Since the study is based on participant opinions toward both the educational and enjoyable aspects of a novel, the meaning that they assign to the content in the novel will be created by their own individual experiences. The goal of interpretive research is not prediction, as it takes away some social control from the participant. The interpretive paradigm states that humans are viewed as creators of their worlds. Therefore, any method used should allow participants the control and flexibility to acknowledge their lived experiences that are used to form their opinions on any given topic.

<center>**Methodological Approach**</center>

Various qualitative methods can be used to understand phenomena through the meanings assigned to them by people. However, one limitation of traditional qualitative studies is that studies can be influenced by researcher bias and perspective (Bryman, 2015). Although quantitative studies can be more objective, they cannot examine aspects of human subjectivity the same way that qualitative analysis can. A research approach that structurally combines qualitative and quantitative strategies serves as an appropriate approach to explore human subjectivity on a topic while lessening research bias, although not completely removing it.

Q methodology (referred herein as Q) is a research method approach that uses a structured way of applying qualitative and quantitative methods to research that exists within an interpretivist framework (Woods, 2012). Q methodology was introduced in 1935 by British physicist and psychologist William Stephenson in the British scientific journal *Nature*, through a letter to the editor and further expanded in the seminal work *The Study of Behavior* published in 1953. Stephenson was an assistant to Charles Spearman, the theorist who developed factor analysis (Brown, 1980). The idea foundational to Q was to investigate subjective behavior using objective measures. Q methodology provides a way to study subjectivity, which can consist of a person's opinions, beliefs, and attitudes (Van Exel & De Graaf, 2005), and allows the scientific analysis of people's own perspectives and opinions (Previte et al., 2007) while retaining the depth of a humanistic and holistic approach (Brown, 1980). It is concerned with human subjectivity, similar to a qualitative study, but the method adds a quantitative dimension at the collection and analysis phase (Ellingsen, Størksen, & Stephens, 2010).

The data collection phase of a study using Q methodology resembles similar qualitative approaches in that participants are asked to assign meaning to a particular topic of interest based on their own identity and experiences. However, during the analysis phase, a by-person factor analysis is conducted on all responses as a way to shift away from individual narrative toward a range of shared viewpoints (Previte et al., 2007). Although similar to traditional factor analysis, this process differs in that it "correlates persons instead of tests" (Van Exel & De Graaf, 2005, p. 1). In factor analysis, the population sample consists of the respondents/participants. In Q methodology, the population sample consists of the statements or beliefs that respondents are asked to sort (Brown, 1980). Therefore, the sampling of statements to be used in the study are structured theoretically instead of statistically as in factor analysis and represent all possible responses to the topic of study. Unlike factor analysis, which bases conclusions on a large number of persons using fewer statements or stimuli, Q methodology bases conclusions on a small number of persons using a larger number of statements or stimuli.

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An important assumption within the philosophy of Q methodology is that only a limited number of distinct viewpoints exist on any topic (Brown, 1980), so a "well-structured sample, containing a wide range of existing opinions on the topic, will reveal these perspectives" (p. 3). Based on this assumption, Q methodology aims to answer three questions: 1) What is the range of communicated ideas in a particular discourse? 2) What are the prevalent variations of it? 3) How do these variations logically relate to each other? (Stricklin & Almeida, 1999). These communicated ideas are defined as "operant subjectivity" and serves as the foundation of Q methodology (Brown, 1980). A Q study begins with careful and thoughtful preparation of the Q set of statements related to the topic of interest. Then, participants create their own individual profiles and assign meaning to a series of statements and ideas related to a topic that can then be analyzed statistically to determine how these viewpoints are shared among the participants. The most important analysis of the findings in a Q study is the final phase of interpretation of the factors using the various statement values, comparisons across factors, and other sources of data.

One of the earliest reviews of Q methodology described Stephenson's seminal research as "an important addition to the techniques for dealing with attitudinal questions, particularly in the area of the self" (Turner, 1955, p. 169). However, Turner dismissed some of Stephenson's early claims that responses received by small numbers of participants could be used to create "types" of people based on their responses to particular statements. The generalizability of Q methodology has repeatedly been questioned by scholars (Kampen & Tamás, 2014; Turner, 1955) when considered in the context of factor analysis and not realizing the generalization of statements to concourse to topic of interest rather than to populations of participants. However, Turner acknowledged Stephenson's claim that the goal of Q methodology was not to generalize the findings, but to better understand the themes related to the topic that emerged from the profiles.

Q methodology consists of five stages that are commonly cited by scholars (Brown, 1980; Previte et al., 2007; McKeown & Thomas 2013; Van Exel & De Graaf, 2005; Watts & Stenner, 2012): identifying a concourse, developing a representative set of statements (Q sample),

specifying the respondents for the study (P set) and condition of instructions, administering the

rank ordering of statements (Q sort), and analyzing and interpreting the results. The concourse in

the first stage is described as a series of viewpoints that represent every possible belief or opinion

on a topic (Thorsen, 2006), or the "communication of all possible aspects that might surround a

topic" (Ellingsen et al., 2010, p. 397). These do not have to be statements as viewpoints can be

represented by images, stories, smells, or vignettes. The concourse is then sampled, often

theoretically, to result in a condensed, smaller, more manageable set of representative items

called the Q sample. Once the Q sample has been created, the researcher strategically and

purposively selects participants for the study, which is called the P set. The purpose of the P-set is

to represent a variety of different points of view on a topic, not for the point of generalizability,

but "to obtain subjectivity by revealing the number and nature of the different points of view that

exist within the group of respondents" (Ellingsen et al., 2010, p. 399). These participants are

given a list of instructions that describe the process of the sorting and instructs them with the

steps to complete the Q sort, along with the thoughts under which the sorting will occur, called

the condition of instruction. Participants are generally asked to rank a set of statements based on

their scalability, such as the most intense positive expression on one end of a grid to the most

intense negative expression. In the middle would be statements ranked as less intense, neutral in

meaning. The ranking of the statements is called the Q-sorting process. Each statement is given a

statement score, also known as a Q sort value, based on their ranking within the Q sort. Once

participants have ranked the statements, the statement scores within Q sorts are analyzed by

correlating each sort to all other sorts, then using a by-person factor analysis, and finally a Z-

score calculation of each statement within each factor. Participants are grouped together through

the Q-sorting process and statements are ranked similarly by participants defining the same

factor. The factor loadings indicate how each Q sort correlates with each factor, and individuals

who share similar subjective viewpoints will be grouped in the same factors. The most essential

portion of the methodology is the interpretation of the statements within each factor using other

descriptive information to assist the researcher in describing the meaning of the viewpoint. Often, post-sort interviews of the persons whose sorts represent the factor as an exemplar are conducted.

There are several advantages to using Q methodology over other research approaches. Brown (1980) stated that "the subjective integration, with the synthesizing self at the center, Q methodology endeavors to retain is the starting point from which all measurement begins" (p. 53). In other words, Q methodology provides an exploratory starting point for which to base future research studies. This is often helpful when conducting research using participants that are unfamiliar with a topic to provide specific views on the topic. By providing participants pre-constructed opinions on a topic that they can rank as they desire, researchers can be certain that a participant's responses won't be limited by their knowledge on the topic since all the statements will be available for them to review and rank. However, the participants have the ability to assign meaning to the statements by ranking them against other statements relating to the same topic. Unlike traditional quantitative studies where statements are measured on a scale independent of each other, Q methodology forces a participant to evaluate a statement as it compares to every other statement in the Q sample. This can allow for subtle differences in opinions to be more easily observable by both the participant and the researcher by comparing them to each other.

Another advantage to Q methodology is that this type of study can explore the various influences of behavior. By ranking statements against each other, participants can give insights to the attitudes and opinions that influence any behaviors described in the Q sample. Participants can be grouped based on shared attitudes and opinions that influence particular behaviors. While not generalizable to populations of people, these shared viewpoints can be used as starting points for further analysis of the study phenomenon using other research methods.

Q methodology accommodates contradiction or ambivalence to a topic. By using a grid to rank statements on two extremes at the end and a neutral center, participants have the ability to place opinions on which they hold strong responses in the ends and the resulting statements have indifference, little knowledge, or confusion. This allows contradicting opinions to have value in

relation to each other instead of simply voiding each other. For example, if a person is agrees that stress eating provides them comfort, but that stress eating also provides them further stress, Q-sorting the statements acknowledges the contradicting opinions and allows a rank based on how passionate the participant feels about the opinions. The participant could strongly agree with one statement and strongly disagree with the other. Alternatively, the participant could strongly agree with one or be neutral on the other one. Even if the participant agrees with both of them, the ranking process allows the researcher to see which one the participant places more value on, even if the difference between the two is small.

Although Q sorts are most commonly created using statements, they can also consist of pictures or other forms of visual cues. This makes Q methodology a viable research approach when working with participants that are unable to respond to statements, such as people who speak foreign languages or children.

The popularity of Q methodology first became known in mass communication then widespread in the field of political science and marketing (Balch, 1982; Du Plessis, 2005). However, in recent decades, this approach has become prominent in other fields such as social work (Beck, 1972; Ellingsen et al., 2010), rural research (Previte et al., 2007), and education (Cirigliano, 2012; Killam, Timmermans, & Raymond, 2013; Orchard, Fullwood, Morris, & Galbraith, 2015; Woods, 2012). Q methodology has become increasingly popular internationally such as in the United Kingdom (Watts & Stenner, 2012), Netherlands (Van Exel & De Graaf, 2005) and Norway (Thorsen, 2006).

Woods (2012) used Q methodology to understand emotions experienced in the working lives of higher education employees. The study was used to understand employee perspectives in the higher education workplace. Instead of asking participants directly about their emotions regarding their jobs, the approach had them identify the importance of individual priorities in their work environment and the extent that the work environment attended to their priorities. The analysis of the different components of appraisal allowed inferences to be drawn about the

emotional tone of the workplace. The study resulted in four factors: employees who reaped the rewards of the job, employees who felt like a part of a family, employees who were very vigilant of their performance of the job, and the employees who did not fit in and felt like outsiders. The study revealed patterns within the participants who shared one of the above four viewpoints and revealed areas that would benefit from further research.

Orchard et al. (2015) explored the experiences of Facebook users and the gratification from site usage. The viewpoints revealed included Facebook as a superficial environment, Facebook as a valid and valuable social environment, Facebook as an environment of surveillance, and Facebook as a destructive environment. The authors of the study stressed that the viewpoints presented served as social narratives from the groups of participants that loaded onto each factor.

Cirigliano's (2012) Q methodology study on edutainment provides the most relevant example to this study. His study used Q methodology to explore attitudes of a student population using an author-developed graphic novel as a supplement to classroom learning. The graphic novel, based on concepts of cell biology, was presented to students before taking a class on cell biology. After reading the graphic novel, the students provided feedback through the Q sort on how they felt about using the graphic novel as a complementary learning method to traditional classroom instruction. The students defined into five factors, or viewpoints: diversion-seeking (the students were entertained for a short period), pro-edutainment (the students valued the educational aspects of the entertainment medium), strictly business (the students cared more about the information presented and less about the entertainment aspect), information recall (the students believed the method of presentation helped them recall information more easily), and entertained (were entertained but found no educational benefit to the material). Cirigliano stated that this method allowed for students to give feedback in a way that was more standardized and more easily analyzed while retaining the subjectivity of their responses and accounting for their individual tastes. A purely-quantitative study may not have captured the nuances between the

"diversion-seeking" and "entertained" viewpoints, as they were mostly similar save for one or two statements. The ranking process allowed for the author to gain a better understanding of the relationships that the students assigned between their enjoyment of the graphic novel and the utility of the information presented in the graphic novel.

Q methodology serves as an appropriate fit to capture the various thoughts, feelings, and opinions involved with edutainment from the learner's perspective. By providing statements that involve both enjoyment of an edutainment resource and the usefulness of the educational material provided in the edutainment resources, participants are given the power to assign their own meaning and value toward any relationship between the two areas. The participant is allowed to create their own profile of what an edutainment resource means to her or him, while the researcher is able to interpret the viewpoints shared by the multiple participants completing the Q sort.

Q methodology is not a traditional mixed methods research approach that results in findings for each type of study; rather, it is structured to capture subjective accounts of various complex phenomena, offering "a means of employing statistical operations within an interpretive approach" (Woods, 2012, p. 897).

While Q methodology uses statistical functions, such as correlation, factor analysis, and standard score calculations, the factor analysis used in Q methodology differs from traditional factor analysis in some notable ways (Woods, 2012). Whereas regular factor analysis measures individual traits or attitudes which participants may not be consciously aware, Q methodology provides the participant a more active role in that they measure a sample of representative material in an individualized way. Factor analysis breaks complete concepts into parts and measures them individually. Q methodology keeps the parts of the concept together and instead measures the whole individual. This is done through the Q-sort, or the ranking process of various representative statements. Instead of asking participants to rate individual items on a scale as in traditional, trait-based factor analysis or other quantitative methods, participants are asked to rank

the items in comparison to each other item, providing participants a more active role in making judgments about items as they relate to each other.

Since its inception in 1935, Q methodology has been used in studies spanning various fields and undergone rigorous scrutiny over the years as a research method. Critics of Q methodology state that the approach does not attempt to make claims of generalizability, yet prompts the researcher to make generalizations by sorting people into "types" based on the similarity of responses to each other (Turner, 1955). Critics have dismissed claims that the analysis of individual cases through Q methodology can be completed with the same statistical rigor as other forms of quantitative analysis (Turner, 1955), claiming that the small sample sizes often used in Q methodology fail to achieve the same level of statistical rigor of other methods. Other scholars have criticized the informal procedures used to form Q samples in various Q methodological studies, the inconsistency of factor interpretation methods used across Q studies, the opportunity for researcher bias to influence various phases of the study, and the lack of theoretical guidance in the literature with exact steps to develop a concourse and Q sample (Kampen & Tamás, 2014). The discussions, however, were ignorant of the methodology and focused on the method portion only.

Despite these criticisms, Q methodology has been praised as a viable alternative to understanding attitudes and subjectivity (McKeown & Thomas, 2013; Turner, 1955; Watts & Stenner, 2012). Recent studies have attempted to improve the rigor to the Q methodology process by outlining more detailed steps to developing a concourse and Q sample (Paige & Morin, 2016) and addressing reliability concerns (Thomas & Baas, 1992; Van Exel & De Graaf, 2005).

Participants

In a Q methodological study, the group of participants asked to rank the statements is called the P set. When determining the size of the P set, the research must ensure there are enough participants to establish the existence of a factor for the purposes of comparing one factor with another (Van Exel & De Graaf, 2005). Generally, the P set is smaller than the Q sample

(Brouwer, 1999). A guideline used by some researchers is to have four or five persons defining each anticipated viewpoint (or factor). These viewpoints usually average to two to four, and rarely more than six (Brouwer, 1999). This would result in a suggested guideline of eight to twenty participants (Previte et al., 2007). A review of Q methodological studies found a mean Q sample of 52 with a range of 7-388 (Kampen & Tamás, 2014). By comparison, the ratio of Q sample size to P set size had a mean of 1.62 (SD 1.25), ranging from .15-5.14 (Kampen & Tamás, 2014). Unlike traditional quantitative research, Q methodology does not need large numbers of participants because it can reveal a characteristic independently of the distribution of that characteristic relative to other characteristics (Smith, 2001). In an intensive-person sample, where participants are asked to sort the Q sort under many conditions of instruction, a smaller number is recommended (Du Plessis, 2005). When using an extensive-person sample, where a larger pool of participants complete one identical condition of instruction, larger samples are recommended, such as 40-60 participants (Du Plessis, 2005).

The P set is selected strategically to ensure it is theoretically relevant to the problem of the investigation. It uses strategic sampling that targets specific populations relevant to the topic. The number of persons associated with a factor is less important than who the persons are. Since the purpose of the study is to give participants an opportunity to assign meaning to statements based on their values, opinions, and beliefs, it is important to select participants that are most likely to provide relevant opinions to the topic of interest. Researchers have argued that the Q sample matters less than the participants that give meaning to the statements by sorting them (Van Exel & De Graaf, 2005).

Protocol

The Q methodology study took place over the span of two weeks at a local recreation center using high school students who may be prospective first generation college students. After IRB approval, the study was advertised and permission was received by the recreation center to use as the research location. Advertisement consisted of fliers posted around a local high school

searching for students with household members who did not go to college. The fliers had my contact information so the students could contact me directly. The first 15 students who responded and met the study criteria were selected for the study. One student dropped out, resulting in 14 total participants.

All students who participated in the study received a $100 gift card upon completion of all the phases of the study. The size of the gift card amount is based on the amount of work required to complete the study. The study took approximately 10 hours to complete per participant, averaging to about $10 an hour. The amount acted as an incentive to complete the book and lower participant attrition. A previous study offering a $20 gift card resulted in high participant drop-out when asked to read a book. A large monetary incentive may pose the risk that students will give an answer that they think the researcher wants to hear. However, the design of the study, which involves the rank ordering of statements that are neither good nor bad, will make it difficult for a student to guess what I am looking for. I will also instruct them in the beginning of the study that honest answers are encouraged to all questions asked.

Participants were selected through purposive sampling. Fliers, handouts, and emails were sent out to all students at a local high school and around the community asking for students living with household members who did not complete college to apply (Appendix A). The number of participants is not as important to a Q methodology study as the type of participants in the study. The suggested guideline for Q participants ranges from eight to twenty participants (Previte et al., 2007). Another guideline used by researchers is to have four or five persons defining each anticipated viewpoint (or factor). These viewpoints usually average to two to four, and rarely more than six (Brouwer, 1999). In this study, since the population attended a small, rural high school, the aim was 10-15 participants for the study. This falls within the suggested range of participants. For the purpose of gaining student input on the socialization aspects of college-themed media, I searched for students with minimal exposure to college and university knowledge. First generation students are less likely to hold preconceived notions of particular

details of college life, since there was a lack of parental influence due to parents not attending college themselves.

Participants were given an assent form (Appendix B), a parental permission form (Appendix C), and demographic questionnaire adapted from a previous study on college media (Nuñez, 2018; Appendix D). The demographic questionnaire includes demographic data such as race/ethnicity, GPA, first-generation status, and questions on previous exposure to college-themed media. All participants completed a student engagement Q sort at the beginning of the study after the demographic questionnaire. The Q sort consisted of a grid printed on posterboard that students had on a table. The statements for the Q sort were placed on individual index cards. Using the index cards, the students placed the statements on the grid based on whether they agree with the statement, disagree with the statement, or are neutral about the statement. Students placed index cards on the grid blocks until all index cards have been placed. They were provided glue sticks to adhere the index cards onto the grid.

After completion of the Q sort, participants received a physical copy of the *Halls of Ivy* mystery novel and were given two weeks to read the novel in its entirety. At the end of the two weeks, a second meeting was scheduled where students were asked to complete two more Q sorts, each with a different set of statements. After the Q sort process, I held an individual interview with each participant asking why he or she ranked the statements the way they did. The participants took a short content quiz as a way to determine if they read the whole novel. To qualify for payment at the end of the study, students had to make a passing grade of 70% on the content quiz, which was stated on the study consent form. 13 participants passed the content quiz on the first try and one participant passed the content quiz after a second try. All student demographic data, Q sort information, and interview notes were kept in a locked filing cabinet in an office not accessible by the public.

Instrument Development

Although the exact contents of the processes of Q methodology varies across disciplines, the most commonly used process consists of several stages to identify the instrument or Q sample (Brown, 1991; Previte et al., 2007; Van Exel & De Graaf, 2005). First, identify a concourse, sample the concourse to develop a representative of statements, establish the distribution for the rank ordering of statements, and structure the data collection process from participants.

The process of identifying a concourse includes creating a series of viewpoints or communication of subjectivity (Thorsen, 2006). It has been described as the "communication of all possible aspects that might surround a topic" (Ellingsen et al., 2010, p. 397). The breadth of ideas that create a concourse can be manifested in a variety of ways, but the most common method is through the use of statements. However, Q methodology allows for different methods of identification, such as pictures or objects. The development of a concourse can occur by interviewing individuals and groups and collecting their statements on a concept, analyzing secondary sources such as relevant literature, or a combination of both (Brown, 1991). In one study, the concourse was developed using a variety of validated survey instruments in higher education research (Woods, 2012). Another study developed its concourse through a thematic analysis of discussion board forum posts (Orchard et al., 2015). Paige and Morin (2016) developed a concourse using a hybrid method; a combination of literature review and interviews. It is important to note that it is impossible to provide an all-inclusive concourse on any topic as statements can always be added (Simons, 2013). Researchers are encouraged to attempt to collect as many statements as necessary and feasible to encapsulate the topic of interest. The statements developed in a concourse will likely be large in number as they attempt to collectively provide a well-rounded view of a particular topic or idea. In order to make the statements more manageable for the purpose of ranking in a Q sort, the statements must be condensed into a smaller number of representative statements. This smaller number of statements is called the Q sample.

The Q sample consists of a set of statements that are different enough from one another to make them broadly representative of all the viewpoints acknowledged by the concourse (Van Exel & De Graaf, 2005). The statements that form a Q sample become the unit of analysis for the study; therefore, the statements in a Q sample must uphold the concept of representative design (Brunswik, 1955). There are three methods identified for the development of the concourse and Q sample (Van Exel & De Graaf, 2005): naturalistic, quasi-naturalistic, and ready-made. Naturalistic Q samples are compiled by obtaining statements, written or oral, by participants in the study. These should be the same participants that will be ranking the statements later in the process. This process allows for a better understanding of statements from participants since they aided in their creation. Quasi-naturalistic Q samples are generally collected from sources external to the study. The sources could consist of populations that are not participating in the study, documents, online forum posts, literature, and various media sources. This method allows for a broader range of ideas and opinions on a topic to be discovered and collected since they are not limited to the sample used in the study. Ready-made Q samples utilize completed statements from other instruments, attitude scales, or questionnaires that have already been tested for validity and reliability. These statements could be incorporated, in part or whole, into a concourse and then into Q samples. This method has the benefit of increased rigor due to the prior processes that went into developing the statements. However, the downside to this method is that the statements may not be as easily comprehensible to participants asked to rank them. Despite this, using ready-made Q samples have the added benefit of establishing "whether meanings held by participants correspond with the meanings the items are designed to measure" (Du Plessis, 2005, p. 144). It allows a different dimension for measuring the concepts designed in the items, as the participants are assigning meaning to the statements based on their own experiences. The meanings are not preassigned for them. It is possible to combine the different types of methods to create hybrid Q samples.

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The statement-reduction process to form the Q sample can be structured or unstructured, regardless of the previous styles of Q samples chosen. Unstructured Q samples include statements presumed by the researcher to be relevant without additional steps taken to ensure coverage of all opinions or ideas on a topic. Unstructured Q samples can even skip the concourse stage entirely, as the researcher decides which ideas are most relevant to a given issue. Several studies have successfully used unstructured Q samples (Du Plessis, 2005). However, unstructured Q samples have the risk of statements being over-represented or under-represented in a given topic (McKeown & Thomas, 2013). Structured Q samples are created by compiling statements into theoretical categories, often using Fisher's (1956) method of experimental design. In the traditional design model, factors are defined with a number of levels respectively without replication. The experimental design process in Q Method is similar, except that the levels in factors are replicated through a balanced block design. In a balanced block design, statements are drawn from factors in equal numbers and provide a number of combinations or groupings for each level. The structured design is beneficial because it provides a focus and boundaries of the topic of interest to achieve a manageable study that answers the research question.

The creation of the themes and categories used to sort the statements can be completed using an inductive or deductive process. Inductive selection occurs when a researcher selects statements when no pre-existing theory exists related to the topic of interest. Instead, the statements result from the themes that emerge from the statements. Deductive selection occurs when the statements are grouped and selected based on theoretical considerations, often guided by the literature. Structured Q samples often use a deductive factorial design, or a design that "comprises categories and levels that are specified at the outset according to theory that has been clarified at the beginning" (Du Plessis, 2005, p. 147). Inductive selection is more appropriate when there is little or no theory to guide the topic of interest, and more appropriate for emergent flexible design.

Balanced block design provides conciseness, clarity, and representativeness in a Q sample, as well as overcome bias and preference (Brown, 1996). The statements in this design are sorted into categories that are created using theoretical considerations. Since all the statements in one category are generally homogenous, a researcher can select the statements most different from each other to provide a comprehensive look at every opinion or idea within that category. By doing this with every category, a comprehensive view can be achieved of a topic or discourse. Another benefit of using a structured Q sample through balanced block design is that it can provide a possible explanation for the resulting factors in the analysis stage.

The size of a Q sample can vary. Some suggest 40 to 80 statements as standard for a Q sample (Watts & Stenner, 2012). Others suggest 30-60 statements (Thomas & Watson, 2002). Another study described the ideal range to be between 49-70 statements (Du Plessis, 2005). A review of several Q methodology studies found a Q sample mean of 48 (SD 13.6) with a range of 19-80 (Kampen & Tamás, 2014).

The condition of instruction is the set of instructions given to the participants to complete the Q sort. There could be one condition of instruction applied to several participants, as in an extensive-person sample. However, it is possible to have several conditions of instruction applied to one or more person, such as in an intensive-person sample. The conditions of instruction are designed using theoretical considerations guiding the study and must be clear enough to be understood by the participants.

The process of rank ordering statements in a Q methodological study is called the Q sort. The Q sort is a ranking procedure that serves as "the technical means whereby data are obtained for factoring" (Brown, 1980, p. 7). The factors that emerge from a Q sort serve as the operational definition of opinions. Similar to the condition of instruction, it is possible to ask participants to fill out more than one Q sort. The Q sort process involves presenting the statements in a Q sample to participants in the form of cards, randomly numbered. Participants rank the statements "into a distribution grid with the number of spaces corresponding to the number of statements"

(Ellingsen et al., 2010) (P. 399). The distribution grid is most commonly quasi-normal in shape as a symmetrically-forced distribution. A forced distribution limits respondents to sorting the statements in a pre-defined grid. A free distribution allows participants more flexibility in where they place statements. In a Q sort, the statements placed in the middle of the grid are less significant to the participant than the statements placed on either extreme end of the Q sort.

The design of the distribution grid depends on the complexity of the subject and the characteristics of the P-set. For example, the kurtosis of the distribution depends on how controversial a topic is considered (Van Exel & De Graaf, 2005). If participant involvement, interest, or knowledge is low, the distribution should be steeper to leave more room for ambiguity or indecisiveness in the middle of the distribution. For strong opinions on a subject, distribution should be flatter to provide more room for agreement or disagreement with statements. The grid can range from +4 to -4, +5 to -5, or even +6 to -6, depending on the size of the Q sample and the complexity of the topic, as stated above. The Q sort may be done face-to-face or even by mail with little difference in results (Tubergen & Olins, 1978). Researchers recommend the Q sort process to be accompanied with interviews with participants to allow them to elaborate on their point of view and why they sorted the statements the way they did (Van Exel & De Graaf, 2005).

Q Set for Student Engagement

The research question that drives the study is how do high school students who may be prospective first generation college students conceptualize the reference groups depicted in a college-themed mystery novel as part of an edutainment strategy toward assisting with anticipatory socialization? The research question is further divided into two sub-questions: 1) How do high school students develop their expectations of out-of-class engagement in college after reading a novel depicting various types of involvement in college activities? 2) What reference groups do high school students assign to fictional characters and settings in a college-themed mystery novel?

This study will develop two Q sets to address first and second sub-questions. The first sub-question focuses on a student's level of understanding of out-of-class engagement in college before and after reading a novel set in a college campus. To create the Q set for this sub-question, I developed a concourse using statements related to student engagement. Although there are several methods to develop a concourse, such as through participant interviews and comments collected from printed sources, I chose to use items from conventional rating scales as part of a structured, quasi-naturalistic concourse design. A quasi-naturalistic design uses sources from outside of the current study (McKeown & Thomas, 2013) to create the concourse. Rating scales, though not a common avenue as sources for developing a concourse, have successfully been used in many Q methodology studies (Baas, 1979; Brown, 1982; Brown & Rhoads, 2010; Brown & Rothenberg, 1976; Rhoads, 2001; Thomas & Sigelman, 1984; Woods, 2012). I searched for instruments that focused on socialization and student engagement in college. The purpose was to get a breadth of statements representing student engagement and involvement in college. Surveys and questionnaires were most appropriate as they contained statements that made distinctions between in-class and out-of-class student engagement. Personal interviews, which are the most traditional form of developing a concourse, may result in a difficulty finding statements that make that distinction.

The first step was to find questionnaires and rating scales that provided a broad range of viewpoints regarding student engagement. The questionnaires that were selected were the National Survey of Student Engagement (Kuh, 2001), the Small Group Socialization scale (Riddle, Anderson, & Martin, 2000), Hammond's Socialization Scale (Hammond & Shoemaker, 2014), Student Engagement Scale (Gunuc & Kuzu, 2015), a survey created by the Wabash National Study of Liberal Arts Education (2006-2012), and a college media and involvement survey (Nuñez, 2018). The studies were chosen due to their strong reliability and validity, their relevance to student engagement, or a combination of both. Please see Appendix E for a summary of reliability and validity data for each chosen instrument as available. While reliability and

validity was a consideration, the use of the statements in a Q methodology study lessens their importance since participants who rank the statements make their own meaning of the statements; not the meaning imposed on them by the instrument creators.

The analysis of these rating scales and surveys resulted in 182 statements that comprised the concourse of student engagement (Appendix F). The next step was to reduce the number of statements to create a representative Q sample. Development of the Q sample can occur through a structured or unstructured process as well as an inductive or deductive process. For this study, I chose a structured, deductive process due to the use of theory to guide the Q sample development. I used Fisher's (1956) experimental design through balanced block design. This design includes the development of several categories. Statements were then placed in each category in equal numbers to ensure equal representation of each viewpoint or category in a topic. It provides boundaries for limiting statements within a topic. Within each category, it also allows for a broad range of statements within that category while avoiding statement repetition.

To develop the categories, I referenced Gunuc and Kuzu's (2015) student engagement categories developed through factor analysis. These student engagement categories include valuing, sense of belonging, cognitive engagement, peer relationships, relationships with faculty member, and behavioral engagement. I took all the statements from the rating scales and surveys and assigned them each to one of the six student engagement categories. First, I removed all statements that referenced in-class student engagement. Since the novel being presented to participants focuses on out-of-class student engagement, the statements had to represent the same type of engagement. Once all the statements were placed in the six categories, I removed statements that were repetitive within each category. Of the statements that remained, I removed and added a few more to keep the categories relatively even in number of statements. The resulting Q sample contains 52 statements, with nine statements in each category, with the exception of the category "relationships with faculty member" which had seven statements (see Table 1, Appendix G). Since the focus was on out-of-class engagement, I used statements of

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engagement with staff members in place of faculty members. The guidelines for Q sample size varies. Some suggest 40 to 80 statements as standard for a Q sample (Watts & Stenner, 2012). Others suggest 30-60 statements (D. M. Thomas & Watson, 2002). Another study described the ideal range to be between 49-70 statements (Du Plessis, 2005). A review of several Q methodology studies found a Q sample mean of 48 (SD 13.6) with a range of 19-80 (Kampen & Tamás, 2014). The resulting P sample with 52 statements suggests that it falls within established guidelines.

The Q sorting process in Q methodology involves providing participants a condition of instruction under which participants think about their ranking the Q set. In the case of this study, participants will be asked to rank order the provided Q sample statements using the following condition of instruction: Sort the items according to those with which you *most agree* (+5) to those with which you *most disagree* (-5). By deciding on the ranking of the statements, the participants have the opportunity to "create functional relationships among the Q sample components," (McKeown & Thomas, 2013, p. 25). Students involved in the Q sorting process will place value on the different statements of student engagement in college by determining where on the distribution grid they place each statement.

The distribution grid is a large grid used to rank a set of statements based on their scalability, such as the most intense positive expression on one end of the grid to the most intense negative expression on the other end. In the middle would be statements ranked as less intense, neutral in meaning. The shape of the distribution grid depends on the topic and the statements being presented. Generally, topics that are very controversial or where participants may otherwise have strong opinions in either direction require a flatter distribution grid, with more spaces toward the end of the grid to allow for more extreme opinions. However, for topics where participants are unfamiliar with the subject matter, more spaces are allocated toward the center of the grid to account for more ambiguity or neutrality in opinions. Due to the fact that high school students may not have strong opinions either way about out-of-class college engagement, I opted

Table 1

Engagement Q Set

Valuing	Sense of Belonging	Cognitive Engagement	Peer relationships	Relationships w/ Faculty Member	Behavioral Engagement
Most students in college will have values and attitudes different from my own.	It will be difficult for me to meet and make friends with other students.	Interpersonal relationships with other students will a positive influence on my intellectual growth and interest in ideas	The student friendships in college will be personally satisfying	I will likely discuss a personal problem or concern with a student affairs professional	I will participate in one or more study group(s) outside of class
I will likely question whether I made the right decision to engage in undergraduate study.	There will be a sense of solidarity among the students in this program.	I will examine the strengths and weaknesses of my own views on a topic or issue	Interpersonal relationships with other students will have a positive influence on my personal growth, attitudes, and values	I will work on out-of-class activities (e.g., committees, orientation, student life activities) with a student affairs professional	I will attend an art exhibit, play, dance, music, theater, or other performance
I am sure that I will complete a college degree program.	I do not see myself as an effective group member	I will try to better understand someone else's views by imagining how an issue looks from his or her perspective	Few of the students I will know would be willing to listen to and help me with a personal problem	I will talk about career plans with a student affairs professional	I will exercise or participate in physical fitness activities
I believe university is beneficial for me	I will find someone in a group who could provide me with emotional support	I will learn something that changes the way I understand an issue or concept	I will develop close personal relationships with other students.	I will discuss ideas from readings or classes with a student affairs professional	I will participate in activities to enhance my spirituality (worship, meditation, prayer, etc.)
I think the rules at university are fair for everybody	I will find someone in a group who could help me adjust to the group	I will meet outside of class with other students in my program for a meeting, discussion, or study group.	If I have a problem, it will be easy to find someone to help.	I will discuss grades or assignments with a student affairs professional	I will attend workshops on career development/opportunities.
I give importance to university education and take it seriously	I will find someone in a group with whom I could discuss personal matters	My interaction with peers will contribute greatly to my progress in this program.	I will have close friends in college	College staff will help me when I need them	I will attend departmental social events with other fellow students.
The college campus is an entertaining place	I can see feel myself feeling as a part of the college campus	I will meet with students to talk about course work, plans of work, and faculty.	My friends in college will always be near me when I need them	I will participate in social activities involving faculty and/or staff.	I will attend informal dinners and get-togethers with other fellow students.
I will like spending time in a college campus	I will feel secure in a college campus	My classes will be entertaining	I will like communicating with other students in a college campus		I will participate in campus clubs, student organizations, or student government.
I look forward to going to college	I will benefit from the facilities in college (canteen, library, sports arenas and so on)	I expect college is going to be very difficult.	Making friends are an essential part of the college experience.		College parties are an essential part of the college experience.

Least Agree										Most Agree
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

Figure 1. Student engagement distribution grid.

for a more narrow distribution grid to accommodate for the 52 statements (See Figure 1,

Appendix H).

Q sorts can contain one condition of instruction with a large number of participants or

can contain multiple conditions of instruction with a smaller number of participants. In this study,

participants are asked to complete the student engagement Q sort at the beginning of the study.

Following the reading of the college-themed mystery novel, they were asked to complete the Q

sort again using the same condition of instruction and same Q set.

Q Set for Reference Groups

The second sub-question of the study attempts to understand how high school students

assign reference groups to fictional characters and settings. To do this, a Q set was created using

Kemper's (1968) reference group theory. The theory divides reference groups into three

categories: normative, comparison, and audience reference groups. The comparison category was

further broken down into four sub-categories: equity, legitimator, role model, and accommodator

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groups. This theoretical background would be used with Fisher's balanced block design to create the boundaries of the Q sample.

The concourse was developed using a structured, quasi-naturalistic approach. A combination of comments found in various online sources as well as statements from personal interviews were used to create the concourse. To better understand the reference groups that participants assigned to the characters, settings, and story elements of the mystery novel they would be instructed to read, I had to acquire statements with a broad range of opinions about the novel. The first source was found through online reviews of the novel. An online search for reviews for *Halls of Ivy* resulted in several websites with reader reviews. The concourse consisted of statements that came from 17 reviews on Amazon.com, 21 reviews on Goodreads.com, and 12 reviews on Librarything.com. The statements contained both positive and negative opinions on the novel, and reviewed the novel on creative elements such as world-building and characters to technical elements such as editing and pacing.

Additional statements were collected from student interviews conducted in a previous study (Nuñez, 2017). In this study, students were instructed to read *Halls of Ivy* and were asked several questions in a follow-up interview of various aspects of the novel. Statements from the interview were also included in the concourse. Between the review comments and interview statements, a total of 84 statements created the concourse of communication (Appendix I).

Using a balanced block design, the statements were assigned a category based on Kemper's reference group theory. Statements were placed in one of six categories: Normative group, equity group, legitimator group, role model group, accommodator group, or audience group (Table 2, Appendix J). Repetitive statements were removed, resulting in each category having six to seven statements. Several of the statements did not fit into a specific reference group category, but offered distinctive viewpoints on the novel expressed by several of the reviewers. Some of these viewpoints recurred enough that they formed trends or themes that were too prevalent to ignore. Q methodology allows for emergent flexible design, or the ability to

adjust a study as new themes emerge from the data. To maintain a comprehensive representation of all the views on the topic, I created a seventh category called "general" that contained these additional statements. To stay consistent with the balanced block design, I limited the items in this category to seven statements to be consistent with the rest of the categories. The resulting Q sample consisted of 46 statements. The size of this Q sample is appropriate and consistent with guidelines found in the literature.

The condition of instruction for this Q sort is the same as the previous one: "Sort the items according to those with which you *most agree* (+5) to those with which you *most disagree* (-5)." Students will be given cards that each contain a statement in a random order. On their desk (or other flat surface), they will place a statement card on a particular spot in the distribution grid based on how strongly they agree or disagree with the statement.

The distribution grid I created was narrow due to allow for limited ambiguity in responses, with a larger percentage of spots in the neutral zone than in the extreme ends of the grid (Figure 2, Appendix K). Students were asked to complete this Q sort after reading the mystery novel and after completing the first Q sort. If data analysis of the Q sorts results in themes that are difficult to explain or analyze on their own, follow-up interviews would be held with the students to explain their reasoning for certain placements of statements on the grid as an additional data source for the data analysis phase. These interviews would be held one-on-one and notes would be taken. The participant's reasoning for particular ranking choices would be taken into account in determining any themes that emerged from the Q sort data.

Table 2

Reference Group Q Set

Normative Group	Comparison Group				Audience Group	General
	Equity Group	**Legitimator Group**	**Role Model Group**	**Accommodator Group**		
Educational aspects	*Fairness of treatment*	*Legitimacy of behavior*	*Instructional capacity*	*Comparison to characters*	*Engagement/motivation*	*Other Comments*
The book gave me insight into college life and told me what to expect.	I was concerned over the fairness of the fates of at least one character.	I was concerned with whether the students' actions were justified.	I learned how to do something because of a character in the book.	There are some characters in the book I liked and some I just can't warm up to.	This story has encouraged me to change my view on college	I really enjoyed how three different storytelling methods all helped uncover the mystery of the suicides.
The book constains an interesting look at the first year of university life.	I found myself wanting the protagonist to be successful and expose the problems within this fictional university.	The characters weren't so bad, but they are nothing special.	I think that sometimes things could have been a little more subtle and give the reader a bit more credit for figuring things out on their own.	Most of the characters presented in this book were likable.	I found this book to be a meandering tale of university life.	The writing style was a little confusing.
Now and then, the story will mention problems that a lot of students encounter when going to university for the first time.	This book does exactly what it claims the 'corrupt officials' of its story does-not care about its students.	A lot of interactions in this book I feel would be realistic to the college experience.	The book teaches you that to be a college student, you have to put a lot of effort.	i didn't really connect with the characters.	It is a book that students planning to enter a university might like to read	The story was very well written and really kept me intrigued.
The book gives readers an upfront look at the inside of a college that makes readers wonder whether this is fact or fiction.	The story presented was very controversial.	The book was a lot more realistic than a college-themed TV show.	My view of college hasn't changed much since I knew the general gist of college before reading this book.	There were so many characters I couldn't keep my investment in one.	An interesting story with an in depth character study of freshmen that is very intriguing and held my interest throughout.	I feel like the story of the book was poorly executed.
It really does represent that college isn't gonna be just partying and drinking all the time.	I think the characters could have been described in more detail.	The book showed that kids do get depressed whenever they get faced with struggles.	It all basically centers around the fact that you need to try something new.	Whenever I read a character's situation in the book, I'm like "this is me".	I feel like this book would make an amazing mini-series or television show,	It reads a bit like a piece of academic writing with a storyline woven in.
I feel it's a good representation of how different college is from anything you've ever experienced before.	Depression, in particular, is a large part of this book, but it's never really addressed.	The setting seemed both believable and clear.	The book teaches you that you're really gonna have to socialize in college.	I really connected with at least one character over everyone else.	It was easy to see the world the author created.	This is a well constructed mystery that was fun to read and yet kept me guessing until the very end.
This book would be better suited for someone who is currently in college or has been a part of the college atmosphere.			The story might serve as a caution to parents to thoroughly research universities and associated personnel before enrolling any children.	The book teaches you that to be a college student, you have to put a lot of effort.		The characters are well defined and the story is full of twist and turns.

Least Agree										Most Agree
-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

Figure 2. Reference group Q Sort.

Media Selection

Prior studies on college-themed media have used movies (Wasylkiw & Currie, 2012), graphic novels (Cirigliano, 2012), and television shows (Byers, 2005). The selection of media to use in a study is important because different mediums relay information to consumers in different ways. The decision to use a novel was based on the comprehensive nature that novels use to tell a story. A two-hour movie does not provide enough time to a viewer to fully grasp the ins and outs of a university, even if it is fictional. A television show, while able to go into more detail through the episodic nature of its storytelling, requires a much larger investment to complete one or more seasons. The time and commitment it would take to watch through an entire show would be unfeasible for this study. A novel is able to provide both the breadth of detail in storytelling and the ability to complete the entire story within a short amount of time.

Choice of novel. The novel I selected for participants to read is *Halls of Ivy*. I wrote and published the book in 2012. *Halls of Ivy* is a mystery novel set on a fictional college campus in Florida. Cheyenne Winters, the novel's protagonist, is a doctoral student majoring in student affairs who visits the campus to conduct interviews with a group of 21 first-year college students. The novel follows the lives of the 21 students as they transition into college and the many challenges they face. What seem like trivial problems at first, like making friends and joining organizations, eventually evolve into more severe problems such as mental health issues and violence. As Cheyenne becomes closer to the students through the interviews, she wonders whether the university is providing the support they need to overcome their various obstacles. Her investigation into the university leads to a conspiracy that may threaten every student on the campus.

One of the issues with other books that used a university as a setting is that the story often focused on one particular aspect of university life. Typically found in mystery novels, universities were often stereotyped and focused on one particular student group, department, or individual. There was a lack of examples of out-of-class engagement as the college was mostly used as a prop for telling a different story. For example, in *The Godwulf Manuscript*, a detective visits a college to solve a crime. Despite introducing the reader to several university settings, the main plot often circumvented university life and focused more on the detective protagonists' goals and motives. The plot of *The Rules of Attraction* revolves around a group of students who engage in deviant behavior and become intertwined with relationship drama. Although the novel takes place in a university, the actual university setting takes a backseat to the specific problems of the protagonists that often did not involve the university itself. *Halls of Ivy*, written with this thought in mind, contains a broader view of university life from the perspective of various characters, outlining various day-to-day activities that are typical of many college students. These narratives are tied together through a fictional mystery plotline to move the settings from one scene to the next. As a writer of the novel to be used in the study, I understand the inherent bias that may

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occur and took steps to minimize the bias. For example, at the beginning of the study, I told all participants that despite being the writer of the novel, I wanted candid feedback on their thoughts, whether positive or negative. In a previous study, I found that being upfront with students about the feedback I wanted resulted in honest feedback from the participants, with some of the feedback being very negative toward the novel (Nuñez, 2017).

Development of novel. The novel Halls of Ivy was written with an educational purpose. The original idea for the novel came from the observation of ubiquitous depictions of risky and deviant behavior found in media focused on a college setting. The lack of more realistic views of out-of-class engagement led to the creation of a novel that would focus on student life. To do this, a cast of characters was created to represent a variety of backgrounds, beliefs, and personalities. Many of the characters were modeled through the guidance of people that shared their background or beliefs. To gain a broad perspective of character traits and personalities, I used the 16 Myers-Briggs personality types to create at least one character that fit a different psychological preference (Myers, McCaulley, & Most, 1985). The plotlines of several characters were created using personal experiences of students that I worked with, case studies from various textbooks, and news stories from current events. To make the story engaging to a non-reader, the novel was created as a mystery, with some traditional mystery plots woven in to tie the different student plots together. Although some of the conflict was exaggerated for a greater narrative effect, many of the issues were based on real problems experienced on college campuses. The novel intentionally minimized the depiction of alcohol use and partying as a way to highlight other university activities of which people who have not attended college may not be aware. Rather than try to find a novel that highlighted these alternative activities, I created the novel with the information I wanted to present. A similar strategy was used by Cirigliano (2012) in a Q methodology study, who created a graphic novel that depicted various cell biology concepts to a group of students.

Data Analysis

Data from the study was collected over the period of two weeks. The first Q sort was assigned on the first day of the study. All participants who took the Q sort, after filling out a demographic questionnaire and signing a consent agreement, were given a copy of *Halls of Ivy* to read in the span of two weeks. After two weeks, the students took the first Q sort a second time and were given another different Q sort. At this second meeting, students were interviewed to describe their rankings.

The meaning-making in Q is completed following a quantitative analysis phase through interpretation (Previte et al., 2007). First, an inverted factor analysis is completed, which involves a by-person factor analysis that sorts respondents who shared viewpoints within the topic. Commonly used Q software to complete analysis include PQMethod and PCQ analysis (Previte et al., 2007). PQMethod was used for this study. This statistical process uses similar procedures to traditional factor analysis as seen in the statistical package R. However, Q methodology puts less emphasis on the units of measurement with the premise that "all observations in Q technique are on a common unit of measurement, namely, self-significance," (McKeown & Thomas, 2013, p. 49). Although Q and R both use identical factoring techniques, Q essentially uses different theoretical principles to guide the correlations of items (or in the case of Q, participants).

The Q sort values, or the numerical rankings of each statement by a participant, are entered into factor analysis software to determine factor loadings. In Q methodology, the resulting factors generally range from two to four factors, with factors rarely being more than six (Brouwer, 1999). These factors serve as viewpoints shared by participants that ranked certain statements in a similar way. The respondents group themselves into the different viewpoints based on how they ranked the items through the Q sorting process. Once the Q sorts have been correlated, the mathematics of the factoring process are identical to R method applications. At this point, traditional factoring considerations are taken into account such as determining a factor's significance and rotation. Similarly, one must apply statistical criteria in Q methodology

to determine statistical significance of a factor. However, Q methodology also highlights the importance of theoretical considerations for factor significance as statistical criteria alone may not tell the whole story. After the factor analysis, the researcher interprets the viewpoints based on a combination of theoretical guidance, participant interviews, and general factor analysis factor-loading principles and guidelines. Researchers will not know in advance how many factors there will be or what structure they will reveal. The key to interpreting the shared viewpoints in a Q methodology study is to understand the limitations of Q methodology. The results cannot be generalized outside of the sample population because their small size and method of sampling do not allow them to represent the larger population. The major concern of Q methodology "is not how many people believe such and such, but why and how they believe what they do," (McKeeown & Thomas, 2013, p. 34). In other words, the purpose of Q methodology is not to specify the frequency of an attitude or opinion, but to acknowledge the existence of the attitude or opinion and its characteristic features.

The type of factor analysis used is also determined by the theoretical foundations guiding the study. For example, Stephenson (1953) endorsed centroid factor analysis as the preferred method of factor analysis for Q methodology because it is derived as more of an approximation than an exact statistic. The centroid method posits that "there is no mathematically correct solution out of the infinite number possible," (McKeown & Thomas, 2013, p. 55). The indeterminacy lines up well with the subjectivity and theoretical considerations involved with analyzing factors. However, principal component analysis is also a factor analysis method used by Q methodology researchers, and an option available in PQMethod, a popular software package used for statistical analysis of Q sorts. Principal component analysis differs from another form of factor analysis, exploratory factor analysis (Bartholomew, Steele, Galbraith, & Moustaki, 2008). This study used principal component analysis as the statistical analysis method due to its widespread use in Q methodology studies and its ability of condensing a group of individuals into distinctly different groups. The study used a Varimax rotation method.

Once the distinctive viewpoints have been determined through appropriate statistical techniques, theoretical considerations must be taken into account when interpreting the data. It is common in Q methodology to incorporate interview data into the interpretation of the findings to create a more complete picture of participant viewpoints (McKeown & Thomas, 2013).

The key implication with the findings is that these are viewpoints created by the participants through the meaning they assigned to the various statements they ranked. It may serve to explain if any particular viewpoints exist and why they exist, providing a starting point for further research into socialization through media.

Summary of the Chapter

This study uses Q methodology as a way to quantitatively structure the subjectivity of high school students in various topics. After reading a college-themed mystery novel, a group of high school students were asked to complete a Q sort on college student engagement and reference groups comprised of statements directed at the novel. Using the data, statistical analysis was conducted using exploratory factor analysis to find any shared viewpoints by the participants in the study. Follow-up interviews and theoretical considerations were used to interpret the findings and determine how the students conceptualize the reference groups presented to them through the novel on out-of-class college engagement.

CHAPTER IV

ANALYSIS AND RESULTS

This study seeks to understand the attitudes of high school students toward the use of edutainment as a college socialization tool. It aims to answer the following research question: How do high school students who are prospective first generation college students conceptualize the reference groups depicted in a college-themed mystery novel as part of an edutainment strategy toward assisting with anticipatory socialization? This research question can be further divided into two sub-questions: 1) How do high school students develop their expectations of out-of-class engagement in college after reading a novel depicting various types of involvement in college activities? 2) What reference groups do high school students assign to fictional characters and settings in a college-themed mystery novel?

A total of 15 high school students were recruited from a local high school to complete three Q sort surveys, read a mystery novel, and take a content quiz (Appendix L). One student dropped out of the study prior to finishing the mystery novel, so only 14 participants were included in the analysis process. In order to be considered for Q analysis and receive compensation for study participation, the students were required to pass a 20-question content quiz with at least a 70% score and allowed only one retake if they failed. All 14 participants who finished the book passed the content quiz; 13 passed the quiz on the first try and one passed the

quiz on the second try. The participants took one Q sort prior to reading the novel. After finishing the novel and passing the content quiz, the participants completed two additional Q sorts. The study concluded with a short interview with each participant to explain their reasoning for ranking the statements in the Q sorts the way they did. This chapter describes the analysis process used in the Q methodology study and an interpretation of the results.

<div align="center">**Analysis of Data**</div>

Unlike qualitative data collection, which takes an approach creating statements based on theory and given to participants to assign meaning to them, data analysis in Q methodology uses quantitative approaches to demonstrate shared viewpoints between participants based on their responses. The process is completed through an inverted factor analysis (McKeown & Thomas, 2013). An inverted factor analysis differs from traditional factor analysis in that the factors being created group people together instead of items. Also called a by-person factor analysis, this type of factor analysis has different theoretical implications and attempts to understand all the viewpoints that exist within a given topic. Statistically, however, both types of factor analysis are identical. Once the resulting data is interpreted, Q methodology requires additional steps that include verifying the significance of Q sort values and the implementation of interview data to explain the results. Both of these steps will be described in more detail in the following sections.

Several methods of data reduction exist, such as cluster analysis, principal components analysis, and exploratory factor analysis. The most commonly-used data reduction method in Q methodology is principal components analysis (PCA) (McKeown & Thomas, 2013). This study used PCA as a means of data reduction with a varimax rotation of the factors, which is consistent with most Q methodology studies in the literature. One limitation of PCA in Q methodology is the apparent lack of tests to ensure that the data meets the assumptions of linearity. Q methodology textbooks and peer-reviewed literature fail to describe the use of these tests as used in traditional factor analysis, and therefore it can be assumed the tests were not done or not considered important enough to report. PQMethod, one of the most popular software used to

complete Q methodology analysis, does not report tests of linearity, nor does it report communalities nor correlation matrices. To provide the additional data, I completed the PCA twice using two different programs: PQMethod and SPSS. SPSS allowed me to conduct tests of linearity and examine the communalities and correlation matrices of the factors that were extracted. PQMethod allowed me to view the factor loadings of all the participant groupings and the z scores of the statements that loaded within each factor. Since both traditional factor analysis and inverted factor analysis in Q methodology use identical statistical procedures (McKeown & Thoms, 2013), I concluded that I can use the same tests for linearity on inverted factor analysis without compromising the analysis. This additional step helps to strengthen the validity of the findings.

The data analysis phase of this Q methodology study consisted of analyzing three sets of data. Two sets of data came from the same Q sort administered twice to participants under different conditions of instruction. The Q sort consisted of statements relating to college engagement and administered to participants before reading the mystery novel (Q sort 1A) and after reading the mystery novel (Q sort 1B). The college engagement statements used in Q sorts 1A and 1B can be found in Appendix G. The last set of data came from a second Q sort that was administered after the participants read the mystery novel (Q sort 2). This Q sort consisted of statements relating to reference groups found in the novel. The reference group statements used in Q sort 2 can be found in Appendix J.

Student Engagement Q Sort 1A Analysis

The first step taken to analyze Q sort 1A included tests for linearity. Skewness and kurtosis are common statistics used to test for linearity (Duncan, 1997). Table 3 shows the descriptive statistics for Q sort 1A, which includes skewness and kurtosis. The skewness statistic was .000 and the kurtosis statistic was -.312. The recommended parameters for linearity for skewness is a statistic between -1 and 1 (Bulmer, 1979). A statistic of .000 suggests that the data are perfectly symmetrical. A negative kurtosis suggests a platykurtic distribution of data, or a

distribution with a shallower peak and fewer outliers (Duncan, 1997). Due to the fixed

distribution format used to create the grid that forms the Q sort, these results are not unusual. The

grid forced participants to conform to a specific layout when ranking statements so there was no

room for extreme outliers in the data.

Table 3

Number of responses (N), skewness, and kurtosis of each
participant's responses to 52 Q sort 1A items

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Zoey	52	.000	.330	-.312	.650
Nicholas	52	.000	.330	-.312	.650
Luke	52	.000	.330	-.312	.650
Kayti	52	.000	.330	-.312	.650
Caelan	52	.000	.330	-.312	.650
Ryan	52	.000	.330	-.312	.650
Collin	52	.000	.330	-.312	.650
Taylor	52	.000	.330	-.312	.650
Olivia	52	.000	.330	-.312	.650
Daniela	52	.000	.330	-.312	.650
Azul	52	.000	.330	-.312	.650
Ruth	52	.000	.330	-.312	.650
Juan	52	.000	.330	-.312	.650
Jeremy	52	.000	.330	-.312	.650

The next tests completed were the Kaiser-Meyer-Olkin (KMO) test for sampling

adequacy and Bartlett's test of sphericity. The KMO test measures sampling adequacy for the

variables in the model and returns values between zero and one (Cerny & Kaiser, 1977). Lower

KMO values indicate that the sampling is not adequate. A suggested cutoff point is 0.5 (Cerny &

Kaiser, 1977); however, a higher value closer to one is desirable. The KMO value for Q sort 1A

is .624, suggesting an adequate sampling value (Table 4). Bartlett's test is used to examine if

there is a redundancy between variables that can be summarized with some factors (Snedecor &

Cochran, 1989). The null hypothesis is that the variances are all equal. Since p < .05, we can

reject the null hypothesis and continue with the PCA (Table 4).

Table 4

KMO and Bartlett's test Q sort 1A

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.624
Bartlett's Test of Sphericity	Approx. Chi-Square	208.517
	df	91
	Sig.	.000

In addition to passing tests of normality, the strength of the relationships between the data

must be evaluated using the correlation matrix (Beavers et al., 2013). Intercorrelations should be

high enough to justify comprising factors. Results from the correlation matrix for Q sort 1A

suggest weak to moderate relationships between the participants of the study (Table 5). In a

correlation matrix, low values suggest variables are not intercorrelated enough and extremely

high values suggest variables may have extreme multicollinearity. The Bartlett's test completed

for this analysis rejected the null hypothesis that the correlation matrix is an identity matrix,

suggesting that there is some intercorrelation between the variables. The determinant can be used

to check for multicollinearity. If the determinant is greater than zero and less than one, then

multicollinearity is not present and the values "can be arranged into linear combinations"

(Beavers et al., 2013, p. 4). The determinant value is .01, suggesting that PCA is appropriate with

the given data (Table 5).

A possible reason for the lower values in the correlation matrix could include the sample

size used for the PCA. Traditional PCA scholars recommend large sample sizes (usually above

100) to accurately measure intercorrelation between variables. Q sort 1A has 52 variables, or

items, to represent the "sample size." While this is a low number for traditional factor analysis,

this number is appropriate for Q analysis. As mentioned earlier, the sample size for the items used

for Q analysis is called the Q sample. Some suggest 40 to 80 statements as standard for a Q

sample (Watts & Stenner, 2012). Others suggest 30-60 statements (Thomas & Watson, 2002).

Another study described the ideal range to be between 49-70 statements (Du Plessis, 2005). A

review of several Q methodology studies found a Q sample mean of 48 (SD = 13.6) with a range

of 19-80 (Kampen & Tamás, 2014). Q sort 1A's Q sample size is 52 statements, which falls

within the accepted range for Q analysis using PCA.

Lastly, the information presented in a correlation matrix for a Q methodology study has

different theoretical implications than a traditional factor analysis. Watts & Stenner (2012) stated

that "the initial correlation matrix duly reflects the relationship of each (Q sort) configuration

with every other (Q sort) configuration (not the relationship of each item with every other item)"

(p. 80). This is an important distinction to note when proceeding to the factor extraction stage of

PCA, as the factors will represent distinct viewpoints held by groups of participants based on how

they ranked the statements during the Q sort.

Table 5

Correlation matrix and determinant of item responses to Q sort 1A questions

							Correlation Matrix[a]								
		Zoey	Nicholas	Luke	Kayti	Caelan	Ryan	Collin	Taylor	Olivia	Daniela	Azul	Ruth	Juan	Jeremy
Correlation	Zoey	1.000	.256	.204	.344	.172	.248	.356	.232	.344	.192	.232	.284	.232	.424
	Nicholas	.256	1.000	.220	.440	.080	.196	.104	.260	.200	.288	.276	.140	.336	.512
	Luke	.204	.220	1.000	.160	.148	.016	0.000	.168	.304	.332	.148	.132	-.280	.236
	Kayti	.344	.440	.160	1.000	.060	.112	.276	.236	.136	.240	.556	.200	.192	.348
	Caelan	.172	.080	.148	.060	1.000	.268	-.012	.416	.268	.144	-.032	-.032	.056	-.016
	Ryan	.248	.196	.016	.112	.268	1.000	.208	.188	.144	.184	.004	.148	.244	.148
	Collin	.356	.104	0.000	.276	-.012	.208	1.000	.500	.108	.312	.416	.300	-.132	.180
	Taylor	.232	.260	.168	.236	.416	.188	.500	1.000	.276	.220	.384	.172	.036	.280
	Olivia	.344	.200	.304	.136	.268	.144	.108	.276	1.000	.352	.212	.216	.204	.336
	Daniela	.192	.288	.332	.240	.144	.184	.312	.220	.352	1.000	.336	.492	.036	.300
	Azul	.232	.276	.148	.556	-.032	.004	.416	.384	.212	.336	1.000	.356	.260	.368
	Ruth	.284	.140	.132	.200	-.032	.148	.300	.172	.216	.492	.356	1.000	.216	.400
	Juan	.232	.336	-.280	.192	.056	.244	-.132	.036	.204	.036	.260	.216	1.000	.260
	Jeremy	.424	.512	.236	.348	-.016	.148	.180	.280	.336	.300	.368	.400	.260	1.000

a. Determinant = .010

When performing PCA, one must determine how many factors to extract. This can be

done using several methods: the Kaiser Criterion, scree plot analysis, and parallel analysis

(Beavers et al., 2013). Researchers using Q sort methodology also suggest using theoretical

justifications to determine the number of factors to retain (McKeown & Thomas 2013). Using

multiple criterion methods is best to make an informed decision on the factors to retain.

Kaiser Criterion. The Kaiser Criterion is the most commonly used method to determine

factor extraction (Beavers et al., 2013). Using this criterion, the only factors worth extracting are

those with an eigenvalue greater than one. Using the Kaiser Criterion, the recommended factors

to extract for Q sort 1A is five (Table 6).

Table 6

Q sort 1A eigenvalues and percentage of variance by each factor

				Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.044	28.883	28.883	4.044	28.883	28.883	2.595	18.538	18.538
2	1.524	10.883	39.766	1.524	10.883	39.766	2.229	15.919	34.457
3	1.436	10.259	50.026	1.436	10.259	50.026	1.750	12.498	46.955
4	1.279	9.133	59.159	1.279	9.133	59.159	1.709	12.204	59.159
5	1.088	7.769	66.928						
6	.869	6.209	73.138						
7	.830	5.926	79.063						
8	.693	4.948	84.012						
9	.578	4.132	88.143						
10	.505	3.608	91.751						
11	.404	2.883	94.634						
12	.336	2.400	97.034						
13	.241	1.723	98.757						
14	.174	1.243	100.000						

Extraction Method: Principal Component Analysis.

Note: Extraction Sums of Squared represents specification of extracting four factors. Rotation
Sums of Squared represents the results using a varimax rotation.

Scree plot analysis. A scree plot allows for a visual representation of the eigenvalues and

distribution of variance across the factors. Using a scree plot, the recommended number of factors

is based on the factor that comes before the "elbow" of the line, or where the line flattens out.

This method is more subjective as any given scree plot can have more than one elbow. The scree

plot for Q sort 1A appears to have two elbows at factors two and six. Based on this, the

recommended factors to extract using the scree plot analysis is either one or five factors.

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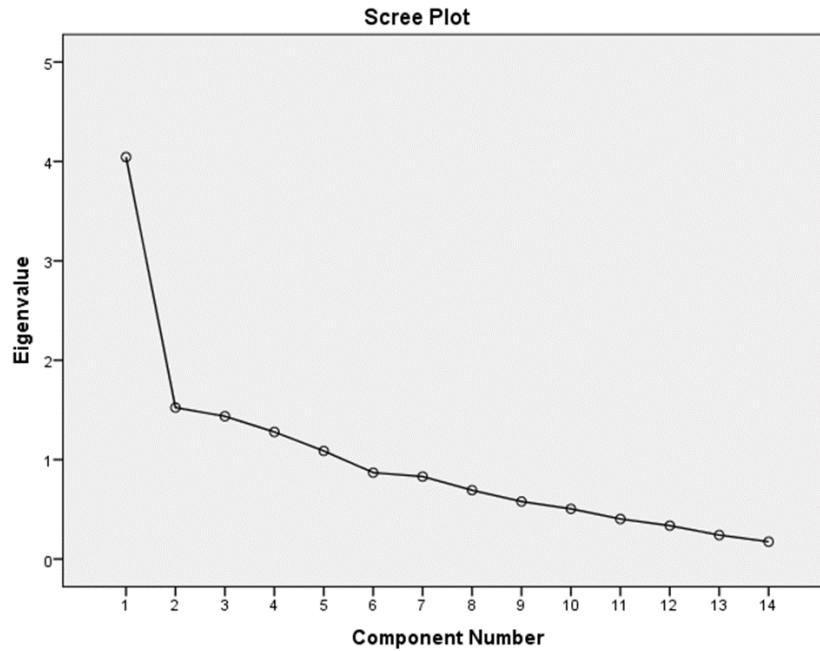
Figure 3. Scree plot for Q sort 1A.

Table 7

Parallel analysis for Q sort 1A

Eigenvalues	Simulated
4.044	2.00252
1.524	1.72978
1.436	1.53214
1.279	1.37235
1.088	1.22652
.869	1.09616
.830	0.98355
.693	0.87018
.578	0.76555
.505	0.66614
.404	0.57584
.336	0.48363
.241	0.39652
.174	0.29912

Parallel analysis. Parallel analysis is a helpful, but seldom used, tool for determining factor extraction (Franklin et al.; 1995). In parallel analysis, "the eigenvalues from research data prior to rotation are compared with those from a random matrix of identical dimensionality to the research data set" (p. 100). Significant factors are those whose eigenvalues are greater than the simulated eigenvalues calculated using the parallel analysis. The parallel analysis for Q sort 1A suggests only one extracted factor (Table 7).

Theoretical considerations. In addition to the above criteria, the Q methodology literature recommends theoretical considerations for determining the number of factors to extract. Researchers are encouraged to extract multiple factors and select the ones that make the most theoretical sense. In Q methodology, the recommended factors to be extracted are two to four factors (Brouwer, 1999). In addtion, another requirement specific to Q methodology is that an interpretable factor must have at least two participants to load on any individual factor for it to be considered significant (Watts & Stenner, 2005). A theoretical criterion unique to Q methodology is the use of distinguishing statements to determine the significant factors. A distinguishing statement is a statement "found on factors when participants who loaded on that factor have placed a statement in a position that is significantly different to where all the participants loading on the other factors have placed that particular statement" (Herrington & Coogan, 2011, p. 27). For example, if participants in Factor 1 ranked a particular statement a +5, while participants in factors 2-5 ranked that statement between -1 and -3 on the Q sort, then that would be considered a distinguishing statement. The statements are considered distinguishing statements when the difference is significant at the <.05 level, or preferably, at the <.01 level (Herrington & Coogan, 2011). The number of distinguishing statements per factor is not as important as the ability for the statements to describe the relationship between the participants in a single factor. Their

interpretability is something to consider when deciding on the factors to extract and retain in the PCA.

Using the criterion above, there was no consensus on the number of factors to retain. The Kaiser Criterion recommended five factors, the scree plot recommended either one or five factors, and the parallel analysis recommended one factor. Retaining one factor did not provide the viewpoint comparisons necessary for the Q analysis. However, retaining five factors was also not optimal, as the distinguishing statements in each factor made little theoretical sense. By removing the fifth factor and only extracting four factors, the distinguishing statements were interpretable and made the most theoretical sense (Table 8). Four factors also fell within the Q methodology guidelines of two to four factors retained. A three-factor matrix was also attempted, but resulted in significant cross-loading of participants. The distinguishing statements used to determine the factors will be discussed in more detail in the next section.

Table 8

Four-factor loading solution to PCA with Varimax rotation of Q sort 1A item responses

	Independent Realists	Questioning Realists	Academic Optimists	Social Optimists
Juan			.756	
Jeremy			.688	
Nicholas			.679	
Kayti	*.445*		.517	
Zoey			.439	
Ruth	*.415*		.416	
Collin	.892			
Azul	.651			
Taylor	.590	*.531*		
Luke				.875
Daniela				.535
Olivia				.493
Caelan		.818		
Ryan		.631		

Data in italics signifies secondary loading onto a factor.

Lastly, communalities were evaluated to determine the appropriateness of the factors used for the analysis. Higher communality values mean that participants were strongly represented in the resulting extraction. A three-factor extraction resulted in low communalities among several of the participants. The four-factor extraction was most appropriate in retaining significant representation from each participant and loading at least two or more participants in each factor (Table 9). The four factors explain 57.33% of the total variance. To see factor loadings and communalities for a three-factor and five-factor extraction, refer to Appendix M.

Table 9

Communalities showing participant representation in Q sort 1A

	Initial	Extraction
Zoey	1.000	.404
Nicholas	1.000	.517
Luke	1.000	.767
Kayti	1.000	.472
Caelan	1.000	.717
Ryan	1.000	.477
Collin	1.000	.821
Taylor	1.000	.655
Olivia	1.000	.510
Daniela	1.000	.498
Azul	1.000	.641
Ruth	1.000	.398
Juan	1.000	.799
Jeremy	1.000	.607

Rotation. Several factor rotation methods exist in PCA. In Q methodology, the two most common factor rotation methods include the more traditional hand, or manual, rotation and varimax rotation. This study used varimax rotation due to its aim to maximize the amount of variance explained by the extracted factors and is "highly reliant on the topographical features of the correlation matrix" which "prioritized the input of the participant group on the emergent factor structure" (Watts & Stenner, 2005, p. 81).

Student Engagement Q Sort 1B Analysis

The second Q sort, 1B, was given to participants at the second meeting after they finished reading the novel. All 14 participants had to pass a content quiz with a score of at least 70% to receive this Q sort. The conditions of instruction were the same as Q sort 1A, where participants had to rank a series of college student engagement statements from those with which they most agreed (+5) to those with which they most disagreed (-5). The Q analysis for Q sort 1B followed virtually the same steps as the Q analysis for Q sort 1A.

Table 10

Number of responses (N), skewness and kurtosis to participant's Q sort 1B item responses

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Caelan2	52	.000	.330	-.312	.650
Luke2	52	.000	.330	-.312	.650
Collin2	52	.000	.330	-.312	.650
Ryan2	52	.000	.330	-.312	.650
Zoey2	52	.000	.330	-.312	.650
Olivia2	52	.000	.330	-.312	.650
Nicholas2	52	.000	.330	-.312	.650
Ruth2	52	.000	.330	-.312	.650
Jeremy2	52	.000	.330	-.312	.650
Daniela2	52	.000	.330	-.312	.650
Azul2	52	.000	.330	-.312	.650
Juan2	52	.000	.330	-.312	.650
Taylor2	52	.000	.330	-.312	.650
Kayti2	52	.000	.330	-.312	.650

Table 11

KMO and Bartlett's test Q sort 1B

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.609
Bartlett's Test of Sphericity	Approx. Chi-Square	185.584
	df	91
	Sig.	.000

First, tests for linearity were conducted. Skewness and kurtosis results were identical to Q

sort 1A, which suggested a linear distribution with minimal outliers (Table 9). Next, KMO and

Bartlett's tests were conducted (Table 10). The KMO statistic was .609, which is considered

adequate, and the Bartlett test for sphericity was significant ($\chi^2(91) = 184.548, p < .05$),

rejecting the null hypothesis that all variances are equal.

The next step was to check the correlation matrix for the intercorrelations of the Q sorts.

Similar to Q sort 1A, the correlation matrix for Q sort 1B displays correlations that are on the

weaker side in some areas (Table 11). However, a review of Bartlett's test and the determinant

statistic (.017) suggest that the intercorrelations are within an acceptable range for PCA.

Table 12

Correlation matrix of item responses to Q sort 1B

		Caelan2	Luke2	Collin2	Ryan2	Zoey2	Olivia2	Nicholas2	Ruth2	Jeremy2	Daniela2	Azul2	Juan2	Taylor2	Kayti2
Correlatio	Caelan2	1.000	.208	.304	.328	.440	.220	.216	.040	.240	.260	.052	.056	.060	.104
n	Luke2	.208	1.000	.036	.128	.416	.268	.312	.328	.160	-.052	.248	.260	.172	.384
	Collin2	.304	.036	1.000	.096	.068	.284	-.112	.276	.220	.164	.328	.112	.104	.256
	Ryan2	.328	.128	.096	1.000	.324	.236	.084	.320	.120	.084	.108	.372	.180	.036
	Zoey2	.440	.416	.068	.324	1.000	.344	.520	.276	.300	.176	.196	.176	.320	.200
	Olivia2	.220	.268	.284	.236	.344	1.000	.144	.404	.480	.344	.360	.156	.188	.148
	Nicholas2	.216	.312	-.112	.084	.520	.144	1.000	.104	.348	.172	-.004	.132	.200	.092
	Ruth2	.040	.328	.276	.320	.276	.404	.104	1.000	.164	.172	.244	.376	.264	.312
	Jeremy2	.240	.160	.220	.120	.300	.480	.348	.164	1.000	.340	.176	.336	.180	-.208
	Daniela2	.260	-.052	.164	.084	.176	.344	.172	.172	.340	1.000	-.136	.076	.152	-.036
	Azul2	.052	.248	.328	.108	.196	.360	-.004	.244	.176	-.136	1.000	.172	.304	.184
	Juan2	.056	.260	.112	.372	.176	.156	.132	.376	.336	.076	.172	1.000	-.056	.092
	Taylor2	.060	.172	.104	.180	.320	.188	.200	.264	.180	.152	.304	-.056	1.000	.228
	Kayti2	.104	.384	.256	.036	.200	.148	.092	.312	-.208	-.036	.184	.092	.228	1.000

a. Determinant = .017

Once the PCA was conducted, I had to determine how many factors to retain. This

involved the use of various criterion to make the most informed decision. All rotations were

completed using a varimax rotation. Kaiser's Criterion suggested that five factors should be

retained based on the eigenvalues (Table 13). The scree plot showed the possibility of three

elbows at factors two, six, and nine. This would suggest to retain either one factor, five factors, or

eight factors (Figure 4). I also conducted a parallel analysis, which recommended the extraction

of one factor (Table 14). The criterion did not seem to provide a consensus on the number of

factors to retain so additional theoretical considerations had to be taken.

Table 13

Eigenvalues for Q sort 1B and percentage of variance for each factor

	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.689	26.349	26.349	3.689	26.349	26.349	2.121	15.153	15.153
2	1.652	11.804	38.153	1.652	11.804	38.153	2.074	14.811	29.964
3	1.449	10.353	48.506	1.449	10.353	48.506	2.055	14.676	44.640
4	1.237	8.833	57.339	1.237	8.833	57.339	1.778	12.699	57.339
5	1.114	7.958	65.297						
6	.967	6.904	72.201						
7	.942	6.727	78.928						
8	.675	4.821	83.749						
9	.512	3.658	87.407						
10	.474	3.386	90.793						
11	.424	3.030	93.823						
12	.356	2.544	96.367						
13	.309	2.205	98.572						
14	.200	1.428	100.000						
Extraction Method: Principal Component Analysis.									

Note: Extraction Sums of Squared represents specification of extracting four factors. Rotation Sums of Squared represents the results using a varimax rotation.

Table 14

Parallel analysis Q sort 1B

Eigenvalues	Simulated
3.689	2.002522
1.652	1.729781
1.449	1.532138
1.237	1.372353
1.114	1.22652
.967	1.096157
.942	0.983546
.675	0.870182
.512	0.765552
.474	0.666142
.424	0.575842
.356	0.48363
.309	0.39652
.200	0.299116
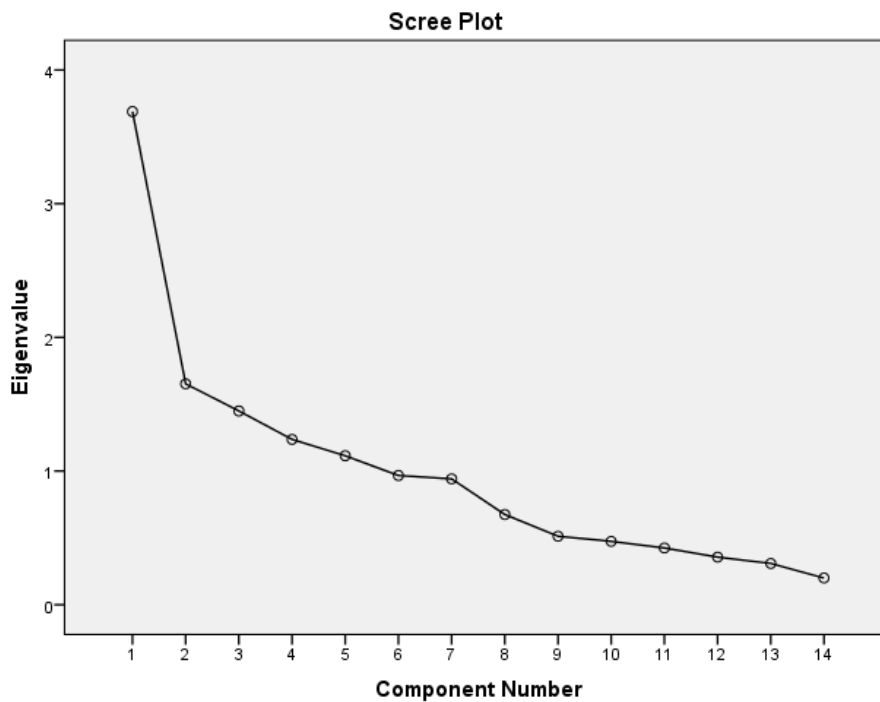
Figure 4. Scree plot analysis for Q sort 1B.

Additional considerations for retaining factors included an analysis of communalities.

Communalities were examined for three factors, four factors, and five factors, since these are the

most common factors retained in Q methodology studies. A three-factor rotation resulted in low communalities for several of the participants, meaning they were not well represented in the groupings. A four-factor rotation resulted in better communalities across the board for all participants. A five-factor extraction resulted in marginally better communalities for all participants.

Distinguishing statements were also taken into consideration for factor retention. Using PQMethod software, distinguishing statements were analyzed for three factors, four factors, and five factors. The distinguishing statements were interpretable for a four-factor rotation and a five-factor rotation, but not a three-factor rotation. This narrowed down the options to either a four-factor solution or a five-factor solution.

The last consideration taken was the factor loadings. In the four-factor rotation, the spread of participants onto each factor was relatively even and cross-loading was minimal. In the five-factor rotation, there was significant cross-loading among participants and the fifth factor only had one participant loading primarily onto that factor. Q methodology recommends at least two participants loading onto each factor as a minimum. This left the four-factor solution as the best fit for the Q analysis. The communalities for all participants were at least .4, suggesting that all participants were adequately represented in the resulting groupings (Table 15). The four-factor rotation can be found in table 16. To see the factor rotations for a three-factor solution, five-factor solution, and their communalities, please refer to Appendix N.

Table 15

Communalities showing participant representation in Q sort 1B

	Initial	Extraction
Caelan2	1.000	.378
Luke2	1.000	.601
Collin2	1.000	.640
Ryan2	1.000	.421
Zoey2	1.000	.707
Olivia2	1.000	.573
Nicholas2	1.000	.686
Ruth2	1.000	.557
Jeremy2	1.000	.628
Daniela2	1.000	.551
Azul2	1.000	.479
Juan2	1.000	.776
Taylor2	1.000	.415
Kayti2	1.000	.615

Table 16

Shared viewpoints by participant groups using a four-factor rotation in Q sort 1B

	Component			
	Collegial Academics	Independent Realists	Social Realists	Interdependent Optimists
Azul2		.668		
Kayti2		.647		
Collin2		.647		
Taylor2		.461		
Nicholas2			.776	
Zoey2			.753	
Luke2			.610	
Daniela2	.739			
Jeremy2	.710			
Olivia2	.551			
Caelan2	.493			
Juan2				.879
Ryan2				.601
Ruth2				.529

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

Reference Group Q Sort 2 Analysis

The final Q sort was distributed to participants after completion of Q sort 1B. Q sort 2 had a similar condition of instruction in that it asked participants to rank a set of statements based on how much they agreed or disagreed with them. The statements all related to reference groups that were found in the mystery novel they read as part of the study. Once participants completed the Q sort, they were given a short, informal interview to explain their rankings of Q sorts 1A, 1B, and 2.

Analysis of Q sort 2 consisted of the same steps as the previous Q sorts. Tests for skewness and kurtosis revealed acceptable ranges with a symmetrical distribution and few extreme outliers in the data (Table 17). Likewise, KMO test resulted in a statistic of .666 and the Bartlett's test was significant ($\chi^2(91) = 289.480, p < .05$) (Table 18). A determinant of .002 suggested a lack of multicollinearity and therefore it was reasonable to continue with the PCA (Table 19).

Table 17

Number of items (N), skewness and kurtosis of item responses
Q sort 2

	N	Skewness		Kurtosis	
	Statistic	Statistic	Std. Error	Statistic	Std. Error
Caelan	46	.000	.350	-.150	.688
Luke	46	.000	.350	-.150	.688
Collin	46	.000	.350	-.150	.688
Ryan	46	.000	.350	-.150	.688
Zoey	46	.000	.350	-.150	.688
Olivia	46	.000	.350	-.150	.688
Nicholas	46	.000	.350	-.150	.688
Ruth	46	.000	.350	-.150	.688
Daniela	46	.000	.350	-.150	.688
Juan	46	.000	.350	-.150	.688
Azul	46	.000	.350	-.150	.688
Jeremy	46	.000	.350	-.150	.688
Taylor	46	.000	.350	-.150	.688
Kayti	46	.000	.350	-.150	.688

Table 18

KMO and Bartlett's test Q sort 2

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.666
Bartlett's Test of Sphericity	Approx. Chi-Square	249.480
	df	91
	Sig.	.000

Table 19

Correlation matrix of item responses Q sort 2

		Caelan	Luke	Collin	Ryan	Zoey	Olivia	Nicholas	Ruth	Daniela	Juan	Azul	Jeremy	Taylor	Kayti
Correlatio	Caelan	1.000	.072	-.081	-.063	-.122	.045	-.036	-.230	-.086	-.333	-.221	-.243	.284	.189
n	Luke	.072	1.000	.739	.153	.351	.081	.401	.248	.194	.266	.284	.135	.045	-.050
	Collin	-.081	.739	1.000	.122	.369	.221	.293	.351	.171	.234	.365	.063	.261	-.054
	Ryan	-.063	.153	.122	1.000	.514	-.176	.586	.527	.541	.297	.257	.351	.261	.113
	Zoey	-.122	.351	.369	.514	1.000	.216	.662	.577	.613	.428	.500	.189	.126	-.027
	Olivia	.045	.081	.221	-.176	.216	1.000	.032	.185	-.005	-.027	-.050	-.144	.059	.045
	Nicholas	-.036	.401	.293	.586	.662	.032	1.000	.505	.468	.491	.455	.342	.108	.086
	Ruth	-.230	.248	.351	.527	.577	.185	.505	1.000	.550	.505	.369	.378	0.000	-.018
	Daniela	-.086	.194	.171	.541	.613	-.005	.468	.550	1.000	.505	.302	.099	-.009	-.027
	Juan	-.333	.266	.234	.297	.428	-.027	.491	.505	.505	1.000	.432	.432	-.185	-.081
	Azul	-.221	.284	.365	.257	.500	-.050	.455	.369	.302	.432	1.000	.338	.342	-.054
	Jeremy	-.243	.135	.063	.351	.189	-.144	.342	.378	.099	.432	.338	1.000	.036	.122
	Taylor	.284	.045	.261	.261	.126	.059	.108	0.000	-.009	-.185	.342	.036	1.000	.063
	Kayti	.189	-.050	-.054	.113	-.027	.045	.086	-.018	-.027	-.081	-.054	.122	.063	1.000

a. Determinant = .002

A PCA was conducted using a varimax rotation. To determine the number of factors to retain, several criterion were used. The Kaiser Criterion recommended five factors be retained (Table 20). A scree plot analysis had three elbows at the second factor, the fifth factor, and the seventh factor. This would suggest to retain either one factor, four factors, or six factors (Figure 5). A parallel analysis recommended the retention of one factor (Table 21).

Table 20

Eigenvalues for Q sort 2 and percentage of variance by each factor

	Initial Eigenvalues			Extraction Sums of Squared			Rotation Sums of Squared		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.569	32.636	32.636	4.569	32.636	32.636	3.689	26.349	26.349
2	1.752	12.517	45.153	1.752	12.517	45.153	2.206	15.758	42.107
3	1.481	10.576	55.729	1.481	10.576	55.729	1.589	11.348	53.455
4	1.204	8.603	64.332	1.204	8.603	64.332	1.523	10.878	64.332
5	1.035	7.393	71.725						
6	.960	6.859	78.585						
7	.651	4.651	83.235						
8	.623	4.451	87.687						
9	.509	3.638	91.325						
10	.362	2.583	93.907						
11	.314	2.243	96.151						
12	.217	1.548	97.699						
13	.191	1.366	99.065						
14	.131	.935	100.000						

Extraction Method: Principal Component Analysis.

Note. Extraction Sums of Squared represents specification of extracting four factors. Rotation Sums of Squared represents the results using a varimax rotation.

Table 21

Parallel analysis for Q sort 2

Total	Means
4.569	2.07811
1.752	1.78241
1.481	1.56872
1.204	1.38845
1.035	1.23894
.960	1.1033
.651	0.97586
.623	0.85603
.509	0.7463
.362	0.64115
.314	0.54558
.217	0.45041
.191	0.36016
.131	0.26456
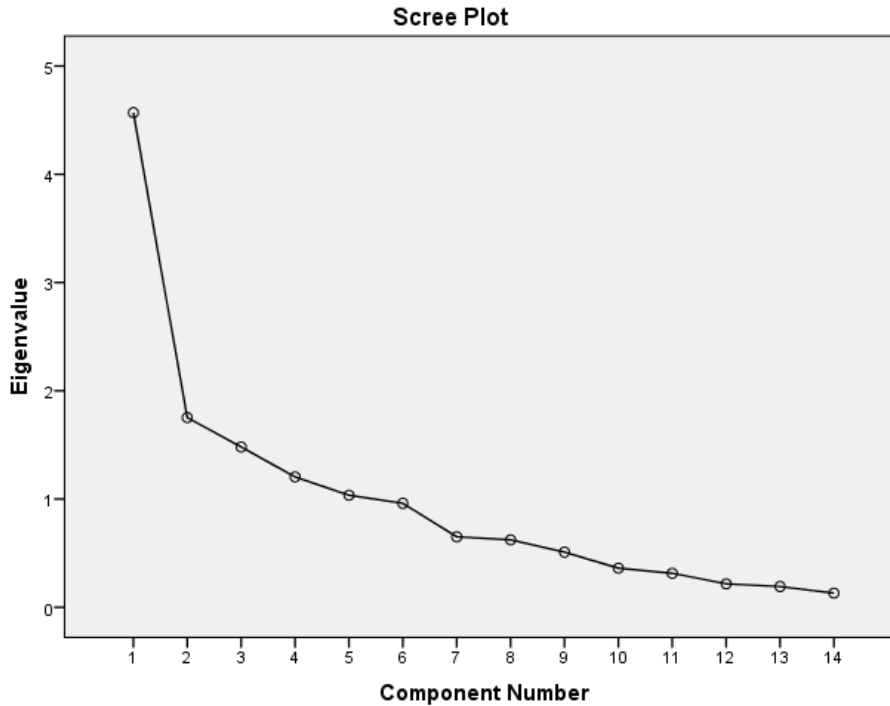
Figure 5. Scree plot for Q sort 2.

Additional considerations for factor retention included an examination of communalities. The communalities for a three-factor rotation had low values for a few participants, meaning they were not strongly-represented in the factors. In the four-factor rotation, only one participant had a low value, whereas in the five-factor rotation, all participants had high values. However, in the five-factor rotation, one of the participants was the sole person loading onto the fifth factor, which is not recommended in Q methodology studies. As a result, I chose to go with the four-factor rotation. A review of the distinguishing statements in the four-factor and five-factor rotation also revealed the four-factor rotation to be more favorable. The communalities for the four-factor rotations can be found in table 22, while the loadings can be found in table 23. The loadings and communalities for the three-factor and five-factor rotations can be found in Appendix O.

Table 22

Communalities for participant representation in Q sort 2

	Initial	Extraction
Caelan	1.000	.620
Luke	1.000	.667
Collin	1.000	.825
Ryan	1.000	.729
Zoey	1.000	.743
Olivia	1.000	.557
Nicholas	1.000	.670
Ruth	1.000	.663
Daniela	1.000	.679
Juan	1.000	.672
Azul	1.000	.618
Jeremy	1.000	.578
Taylor	1.000	.688
Kayti	1.000	.299

Extraction Method: Principal Component Analysis.

Table 23

Shared viewpoints by participants groups represented using a four-factor rotation for Q sort 2

	Component			
	Entertained and educated	Learning prioritized	No learning or engagement	Personally invested
Daniela	.820			
Zoey	.795			
Ruth	.771			
Nicholas	.741			
Ryan	.730			
Juan	.600			
Collin		.885		
Luke		.788		
Azul		.536		
Caelan			.718	
Taylor			.695	
Kayti			.489	
Olivia				-.695
Jeremy				.677

<center>**Presentation of Results**</center>

The previous section described the analysis procedure for the three Q sorts that were distributed to 14 participants. This section presents the findings of the Q analysis based on participant groups using their shared viewpoints. Q sorts 1A and 1B attempted to understand how high school students conceptualize and prioritize student engagement in a college or university. Q sort 2 allowed participants to assign meaning to the various reference groups presented in the mystery novel they read as part of the study. All three Q sorts resulted in four distinct factors, or shared viewpoints, each. The distinguishing statements for the three Q sorts can be found in Appendices P, Q, and R. Each factor was created using the distinguishing statements with which all the participants of the factor strongly agreed and strongly disagreed. Each statement has a statement number that is used to identify the statement, a Q-sort value (Q-SV) that serves as the average ranking by all participants of that statement within that factor, a Z-score (Z-SCR) used to determine the significance of the distinguishing factor, and the statement description. When describing a statement, the statement number will be used. When necessary, the Q-sort value and Z-score will also be presented in the following format: (statement number*, Q-SV, Z-SCR). The asterisk (*) is used when the statement has significance at p<.01. All distinguishing statements, by default, have significance at p<.05. For example, statement 29 in Q Sort 1A for factor 1, which says "I expect college is going to be very difficult" would be depicted as (29*, 5, 1.87). In Appendix P, the statement has significance at p<.01, has a Q-SV of 5, and has a Z-SCR of 1.87. This statement distinguishes factor 1 from all the other factors that ranked the statement. It means that the participants in factor 1, on average, ranked statement 29 as a +5 (they strongly agree), compared to participants in the other factors which may have not agreed as strongly or may have even disagreed.

Q Sort 1A Groupings

A group of 14 high school students completed Q sort 1A at the beginning of the study, prior to reading a college-themed mystery novel and taking the content quiz. The statements

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contained in this Q sort described student engagement in college in various forms (Table 1). Participants were asked to rank the different forms of engagement based on how likely they agreed they would participate in that form of engagement. Students who highly agreed with the statement would rate it a +5. If they highly disagreed they would rate it a -5. If they were not sure or if it did not apply to them, they would rate it a number in between, including 0 for neutral. Due to the forced distribution format of the grid, participants had limited slots for each rating, so they had to carefully consider each statement before assigning it a ranking. Unlike traditional surveys using a Likert scale, this type of ranking requires a participant to assign value to a statement by comparing it to all the other statements on the list.

Q analysis of this Q sort resulted in four distinct factors, or groupings, that describe different viewpoints on student engagement in college. The four groups are independent realists, questioning realists, academic optimists, and social optimists. The distinguishing statements that comprise each grouping can be found in Appendix P.

Independent realists. The first group (factor 1 in table 8) consists of students who I call independent realists. The students in this group believed that college would be difficult, as depicted in statement 29* (5, 1.87). They also believed that few of the students they know would be willing to help them with a personal problem (28*, 3, 1.5). They are realists, understanding that college will present a challenge to them. However, they felt they are prepared to handle that challenge on their own. All participants in this group agreed that they look forward to going to college (9*, 3, 1.5) and that they will attend academic events such as art exhibits or plays (43*, 4, 1.55). Alternatively, they disagreed that they would ever question whether they made the right decision to go to college (2*, -5, -2.12). They felt empowered to do it on their own, as evidenced by their disagreeing with the statement that they will attend workshops on career development (48*, -4, -1.79) and that they will benefit from the facilities in college (20*, -1, -0.78).

Although three students (Collin, Taylor, and Azul) primarily loaded onto this factor, two other students (Ruth and Kayti) cross-loaded onto this factor as their secondary grouping. The

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scores between their primary and secondary grouping were so close that I felt it was necessary to include them in this group as well.

In addition to statement scores, Appendix P also lists the engagement category of each distinguishing statement of that group. Appendix G lists the set of statements as divided into different categories of student engagement. To understand how the high school students conceptualize student engagement in college, it is important to see what engagement categories are more prevalent in the distinguishing statements of the group. The student engagement categories described in Appendix G are valuing, sense of belonging, cognitive engagement, peer relationships, relationships with faculty members, and behavioral engagement. The independent realists felt strongly about five of the six of the engagement categories, with each category represented at least once as a distinguishing statement for the first group except for relationships with faculty members. Based on the range of statements, it made sense that relationships with faculty members wouldn't rank strongly due to their insistence of doing things on their own.

Questioning realists. The students in the second group, called questioning realists, shared their belief that college would be challenging. However, unlike the independent realists who felt prepared to tackle any obstacles they faced, the questioning realists were not as sure about their abilities to overcome. On average, they agreed that they would at some point question whether they made the right decision to go to college (2*, 4, 2.01) and that interaction with peers will contribute to their progress in their program (21*, 3, 1.47). This group exhibited more dependence on others than the first group.

Questioning realists all strongly disagreed that most students in college would have values and attitudes different from their own (1*, -5, -2.55), that they would feel secure on a college campus (19*, -4, -2.01), and that they would find someone in a group with whom they could discuss personal matters (15, -4, -1.47). Even though they knew peer interaction was important to academic success, they did not feel confident enough to make those kinds of beneficial interactions.

The engagement categories of the questioning realists were more homogeneous than the first group. The majority of the distinguishing statements for the second group fell into the valuing and sense of belonging categories of engagement. These students were unsure of the value of college and felt a lack of sense of belonging. Two students shared this viewpoint (Caelan and Ryan) with one student sharing this as their secondary viewpoint (Taylor). These students appeared to be most at risk of the four groups and would likely need the most support getting started in college.

Academic optimists. Six students were considered academic optimists based on their shared viewpoints (Zoey, Nicholas, Kayti, Ruth, Juan, and Jeremy). The distinguishing statements in this group focused more on valuing, cognitive engagement, and sense of belonging. These students looked forward to going to college (9*, 5, 2.77), believed they would learn something that changes the way they understand a concept (18, 3, 1.85), and believed there would be a sense of solidarity among the students (13*, 3, 0.96). The students are excited about the possibilities that college can bring and understand the academic advantages of attending college.

They also disagreed that they would have a difficult time making friends (10*, -5, -2.74), that college would be difficult (29*, -4, -1.7), and that they would question their decision to attend college (2*, -3, -0.95). Unlike the independent realists, the academic optimists painted a brighter picture about the college experience. It would not be hard making friends, and people will get along, but their primary focus is to learn and graduate. They don't believe they will have a difficult time as they are confident in their academic abilities.

Social optimists. The social optimists are the counterparts to the academic optimists. Comprised of three students (Luke, Olivia, and Daniela), the social optimists plan to participate in activities to enhance their spirituality (47*, 5, 1.93), will try to understand someone else's views by imagining an issue from their perspective (17, 4, 1.83), believe that friendships will be personally satisfying (30, 3, 1.25), believe that making friends are an essential part of the college experience (40, 3, 1.22), and plan to attend informal get-togethers with other students. Unlike the

other three groups, the social optimists strongly valued statements that belonged in the peer relationships and behavioral engagement categories of college engagement. They felt they would have an easy time making friends and put a high emphasis on the value of friendships in college.

The students disagreed with the statements that they would attend academic events on campus (43*, -5, -2.23), that they would meet outside of class to form study groups (22*, -4, -1.97), and that few students would be willing to listen to their problems (28*, -3, -1.38). Unlike the academic optimists, the social optimists did not place much value in the academic engagement opportunities of college. Their social involvement took priority. This was also the only group that put a high value on their spiritual development. Statement 47, "I will participate in activities to enhance my spirituality," had the highest average score within this group. It was the only distinguishing statement to score a five.

Group consensus. In addition to group-specific shared viewpoints, PQMethod software also provides distinguishing statements that are shared by all four groups. When reviewing overall group consensus, one must look at the statements that are non-significant among all four groups, meaning that the statements ranked the same among all the groups.

All four groups in Q sort 1A believed in giving importance to university education and plan to take it seriously (statement 4, Q-SV scores were 2, 3, 3, 2 for each group respectively). They were also reasonably sure that they would complete a college degree program (statement 5, Q-SV 4, 4, 4, 3). Both of these statements belong in the valuing category of college engagement. This suggests that the high school students all believe in the value of college, whether or not they think they will be successful.

All four groups disagreed with statements relating to relationships with faculty and staff. The students all disagreed with the statements that they would likely discuss a personal problem with a student affairs professional (33*, Q-SV -2, -3, -3, -3) and that they would participate in social activities involving faculty and staff (45, Q-SV -3, -2, -1, -2). Interestingly, all the students disagreed with the statement that college parties are an essential part of the college experience

(52*, Q-SV -3, -3, -3, -2), Despite media depictions of college overemphasizing the importance of college parties, none of the students believed that parties were an important factor relating to college.

Q Sort 1B Groupings

The students who completed reading the mystery novel and passed the content quiz with a minimum of 70% were given Q sort 1B to complete. This Q sort is identical to Q sort 1A. The purpose of this Q sort was to see how the high school students' conceptualization of college engagement evolved after reading a novel that was set on a college campus. A total of 14 students completed Q sort 1B. The resulting viewpoints created from the Q sort were collegial academics, independent realists, social realists, and interdependent optimists. Refer to Appendix Q to see all the distinguishing statements that loaded onto each group.

Collegial academics. Once participants took the college engagement Q sort a second time, a new group was created to describe a different shared viewpoint. Collegial academics are students who looked forward to going to college (9*, 5, 2.32), planned to exercise or participate in physical fitness activities (44*, 4, 1.79), planned to meet with students to talk about course work (25*, 3, 1.21), and believed that their interaction with peers would contribute greatly to their program of study (21*, 3, 0.96).

The participants also disagreed that college parties are an essential part of the college experience (52*, -5, -3.04), that they would attend an academic event or activity (43*, -4, -1.94), that student friendships in college would be personally satisfying (30, -3, -1.26), and that making friends are an essential part of the college experience (40*, -2, -0.69).

Overall, this group believed that the social experience in college is important, but they also linked that social experience to academic success. Of the four students that shared this viewpoint (Daniela, Jeremy, Olivia, and Caelan), two of them previously belonged to the social optimist group and one to the academic optimist in Q sort 1A. The engagement categories prevalent with this group were cognitive engagement, behavioral engagement, and peer

relationships. It appears that the academic and social optimist groups merged into the collegiate

academic group after the students read the novel. It is important to note that this group did put an

emphasis on interacting with peers, but the purpose of the interaction was to discuss course work

and succeed in their program of study. The novel, which had a number of students working

together to complete homework assignments, group projects, and study sessions, seemed to have

expanded the options for these students to socialize in college with friends. However, the group

still disagreed that they would attend an academic activity like an art exhibit or play. Their

interest in academic appears to be linked to the ability for them to socialize with their peers while

they participate in these activities.

        Independent realists. The independent realist group was the only group to stay intact

between Q sort 1A and Q sort 1B. The same students loaded onto this group (Azul, Kayti, Collin,

and Taylor). The strongest engagement categories for the independent realist group were valuing

and cognitive engagement. This was a change from Q sort 1A, where the independent realist

group was more even spread out among the college engagement categories.

        The independent realists believed that university is beneficial for them (6*, 5, 2.8), that

they will like spending time on a college campus (8*, 4, 1.52), and that they expect college is

going to be very difficult (29*, 3, 1.49). However, they disagreed with the statements stating that

they would discuss a personal problem with a student affairs professional (33*, -4, -1.65), that

they would meet with students to talk about course work (25, -3, -1.38), and that they would meet

outside of class with other students for discussions or study groups (22, -3, -1.19).

        These students still believe that college will be challenging, but they are also confident in

their ability to overcome those challenges. They strongly believe in the value of college and don't

feel that working with other students will be of any real benefit for them. This group was also the

only group that was unchanged between the two Q sorts. This makes sense, since the group is

very self-sufficient and does not seem to respond strongly to outside pressures or motivators. The

novel seemed to provide little value to them concerning college engagement as their attitudes

remained unchanged. The reference group Q sort in the next section further describes the impact, if any, the novel had on the participants in this group.

Social realists. The students who identify as social realists place a lot of importance on peer relationships and behavioral engagement in college. They are very social, but unlike the social optimists of Q sort 1A, this group acknowledges some realities about college life.

The students in this group all agreed that most students in college will have values that are different than their own (1*, 4, 1.81), that they will have close friends in college (35, 3, 1.67), and that they will like communicating with other students in college (39*, 3, 1.34). They all disagreed with statements stating that college parties are an essential part of the college experience (52*, -4, -1.93), that the rules at university are fair for everyone (3, -3, -1.31), and that they will exercise or participate in physical fitness activities in college (44*, -3, -1.18).

The social realists, while placing strong emphasis on making friends and interacting with them, were also the only group to focus on equity issues in college. This group acknowledged that there will be students in college with different attitudes, values, and opinions from them. They also believed that the rules in college are not fair for everyone, with some students being more disadvantaged than others. Three students shared the social realist viewpoint (Nicholas, Zoey, and Luke). Two of the students were academic optimists (Nicholas and Zoey) in Q sort 1A and one student (Luke) was a social optimist. After reading the book, these students seemed to take a more realistic approach to their college expectations, perhaps internalizing some of the struggles faced by the students in the novel. The novel focused on 21 students attempting to navigate their first year of college. The students came from different walks of life and their backstories were shared to give the reader an idea of how they got to the point in the story. It is possible that these stories may have connected with some of the students to look at college from perspectives that are different from their own.

Interdependent optimists. Three students shared a viewpoint called interdependent optimists (Juan, Ryan, and Ruth). Unlike the other students, whose college expectations became

more grounded in reality, these students continued to maintain an optimistic view on college life, albeit with an added component of interdependency. The interdependent optimists all agreed that they would find someone in a group who could provide them with emotional support (11*, 3, 1.41), that they would find someone in a group with whom they could discuss personal matters (15, 2, 1.03), and that they would likely discuss a personal problem or concern with a student affairs professional (33*, 2, 0.75).

They disagreed with the statements saying that it would be difficult to make friends with other students (10*, -5, -2.29), that they would examine the strengths and weaknesses of their own views on a topic (24*, -3, -1.43), that most students in college would have values and attitudes different from their own (1*, -3, -1.14), and that they would attend an art exhibit, play, or other performance (43*, -2, -0.87).

The college engagement category most prevalent with this group was sense of belonging. This was unlike the other groups in Q sort 1B. The interdependent optimists valued the ability to make connections that could benefit their lives in many ways, not just socially. This was also the only group in either Q sort to place a priority on discussing a problem or issue with a student affairs professional. Although all the students read the same novel, the lessons that they took from the book varied depending on their personal values. The independent realists appeared to take little from the book that applied to their own lives. However, the collegial academics focused on the academic aspects of the book, such as classes and course assignments. The social realists focused on the social aspects such as making friends, as evidenced by their distinguishing statements. The interdependent optimists, however, seemed to overlook both the academic and social aspects and cared more about the support aspects. They took notice of the relationships in the novel where students supported other students, or where the protagonist, a student affairs professional, got involved in their lives to help them with their problems. These students seem to want the same for themselves.

However, the students in this group had an optimistic view of college that may not be grounded in reality. While the students didn't think they would have difficulty making friends, they also didn't believe that students would have different values and attitudes from themselves, nor were they willing to examine their own views and attitudes on a topic or issue. It is reasonable to assume that students who attend college for an extended period of time will have their values challenged by meeting other students with differences in perspective. Despite reading about a variety of students in the novel, they still seem to retain the idea that most students in college will be just like them.

Group consensus. There were a number of statements on which all four groups agreed and disagreed. These statements are called the group consensus. They identify overall themes found throughout the Q sort using statements that students ranked very high or very low across the board. The students in all four groups agreed that they valued university education and would take it seriously (4*, Q-SV 3, 4, 3, 4), that interpersonal relationships with other students will be a positive influence on their intellectual growth (23*, Q-SV 1, 1, 1, 1), that interpersonal relationships with other students will have a positive influence on their personal growth (27, Q-SV 2, 0, 0, 1), and that they will learn something that changes the way they understand an issue or concept (18*, Q-SV 0, 1, 1, 1). Statements 23, 27, and 18 were not as strongly agreed on as statement 4, but they all leaned on the positive side so they were included in the consensus.

The groups all disagreed that their classes will be entertaining in college (26*, Q-SV -1, -1, -2, -2) and that they will attend workshops on career development (48*, Q-SV -1, 0, -2, 0). Overall, there are two significant points of interest when comparing the group consensus for Q sort 1A and Q sort 1B. The first is that the value of college remained the top priority of every student in the study. Regardless of what group the students loaded into, they all agreed that college is important and valuable to their lives. The second point of interest is that after reading the novel, the students did not seem as averse to interacting with student affairs professionals. In Q sort 1A, all four groups had two statements disagreeing with their interest in interacting with

student affairs professionals. In Q sort 1B, it was no longer a group consensus, meaning that at least one group did not seem opposed to interacting with student affairs professionals. In fact, the interdependent optimists seemed more willing to do so considering that was one of their positive distinguishing statements. One possibility for this could be that the students were unaware of the role of a student affairs professional in their lives until they were introduced to one in the novel.

Q Sort 2 Groupings

The final Q sort participants were asked to complete contained a different set of statements to rank. These statements related to the novel they read and consisted of several categories of reference groups. Appendix J contains the list of statements that comprised the reference group Q sample and Q sort. The participants were asked to rank the statements based on how highly they agreed or disagreed with the statements as they applied to the novel. Four groups with distinct shared viewpoints were discovered through Q analysis: entertained and educated, learning prioritized, no learning or engagement, and personally invested. For a complete list of distinguishing statements for each group and their Q-sort values/Z-scores, refer to Appendix R. The students were also interviewed after the completion of the Q sorts. They were asked to explain the reasoning for ranking the statements that they placed in the two extreme sides of the grid, specifically the statements they placed in the +/-5 and +/-4 columns of the grid. A summary of each participant's quotes can be found in Appendix S.

In addition to various statement scores, Appendix R identifies the reference group category in which the statement is classified. The three main reference group categories are normative group, comparison group, and audience group. The comparison group is further divided into four subcategories: equity group, legitimator group, role model group, and accommodator group. The normative reference group highlights the direct educational aspects of something. It helps establish the "norms" of a particular topic or concept. The equity group emphasizes fairness of treatment. A student who subscribes to an equity reference group cares about what happens to a person or group of people above all else. A legitimator group focuses on

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the legitimacy of someone's behavior. Students who focus on this group care about whether or not the actions of a particular individual's actions are justified in a larger context. The role model group emphasizes the instructional capacity of a person or situation. Did the source of the reference group teach something new or provide a lesson to be learned? The accommodator group focuses on comparisons. A student may compare him or herself with a particular character, or a group of characters, either to relate to them or to rival them. The audience reference group serves as a motivational tool. Did the reference group manage to attract the engagement of its "audience," the reader? Did the students care about what was going on and were they encouraged to find out more out of curiosity or pleasure?

In addition to the six reference group categories, a catch-all "general" category was created to catch statements that did not fit into any one reference group category. These statements were meant to serve as an alternative option students could use in their rankings if they felt that none of the reference group categories applied to them. In addition to discovering what reference group categories the students prioritized when reading the novel, it was also important to acknowledge the possibility that students may not prioritize *any* reference groups in their reading and found no pedagogical value. Although many of the responses from the participants involve their opinion on the quality of the book, the book's quality is not what is being studied. The research question is more focused on the participants' use of reference groups, if at all, to internalize some of the college culture found in the novel. While their opinion of the book's quality may play a factor into this, it is not the central purpose.

Entertained and educated. The first group of participants, which is also the largest group (Ryan, Zoey, Ruth, Daniela, Juan, and Nicholas), seemed to gain the most from reading the novel. This group, named entertained and educated, found both enjoyment and educational value in the novel. The group all agreed with the statements that it was an interesting story with an in-depth character study of freshmen and an intriguing plot (37*, 5, 1.47), that it was a well-

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constructed mystery that was fun to read and kept them guessing (45, 4, 1.41), and that it was a story that encouraged them to change their view on college (34*, 2, 1.15).

The same group of students disagreed with the statements saying that the characters weren't so bad, but were nothing special (19, -4, -1.71), that depression was a large part of the book that was never really addressed (15*, -3, -1.44), that the book would have been better suited for someone already in college (6, -3, -1.4), and that they did not get to know the characters in the story all that well (31*, -2, -1.32).

During their follow-up interviews, the students repeatedly mentioned that they loved the story and that the plot was engaging. This is supported by the above statements about their enjoyment of the book ranking the highest. The readers mentioned enjoying the characters, many with whom they related, the nonlinear storytelling method, and the ongoing mystery. Ryan went as far to say that "it was the best mystery novel I ever read." They also referenced the educational value of the book. Zoey mentioned that "it was a good book on freshman standards" and that "there were many problems other than parties." Ruth admitted that her "view of college had changed" after reading the book. Juan specifically mentioned that the "problems are very real" and he connected to the characters as a result.

The reference group category most prevalent with this group of students was the audience group. The audience group, which prioritizes motivation as an impetus for learning, characterized two of the three statements with which the students strongly agreed. The rest of the statements were evenly spread out amongst the other reference group categories, with no other category standing out above the others.

Learning prioritized. Three students shared the viewpoint titled learning prioritized (Luke, Collin, and Azul). This group focused mainly on the educational aspects of the novel but did not care much for the enjoyment aspect. The students all agreed that the book teaches you that to be a college student, you have to put a lot of effort (24*, 4, 1.62) and that they feel the book is a good representation of how different college is from anything experienced before (9, 2, 1.26).

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They all disagreed with the statements that there were so many characters they could not keep their investment (32*, -5, -2.29), that they connected with at least one character over everyone else (30*, -4, -1.78), that it is a book that students planning to enter a university might like to read (36*, -2, -0.9), and that they were concerned over the fairness of the fates of at least one character (8*, -2, -0.88). Unlike the entertained and educated group, this group did not react strongly to any of the statements relating to enjoyment. The students in this group were more concerned with the book's accuracy to real life. However, relatability to the book's characters had a strong negative response. These students did not feel particularly connected to any single character, nor were they really concerned with the fates of the characters. However, there was a bit of variance in the reasoning for their lack of connection to the characters. While Collin didn't relate to any of the characters, Luke ranked that statement strongly because he was invested in all of them and could not pick just one. Azul, likewise, said that "all the characters were special" and could not focus on just one character that she was invested in over all the others.

The two main categories describing the *agree* statements were role model group and normative group. These are the two most directly educational reference groups, which supported the students' "no nonsense" approach to learning. Their comments in the interviews also supported this view. Azul described the story as "simple to follow", while Luke said that he "understood the whole story." Collin mentioned that "it was a believable setting" and that the "book represents college." These statements focus more on the mechanics of the book and its application to real world settings, but does not describe their feelings towards the book the same way that the entertained and educated group shared.

No learning or engagement. The third group, no learning or engagement, was comprised of three students (Caelan, Kayti, and Taylor). In addition to having the largest number of distinguishing statements than any other group, the viewpoints of this group were particularly distinct. This group agreed with the statements that their view of college has not changed much because they knew the general gist of college prior to reading the book (22*, 3, 1.61), that there

were so many characters they could not keep their investment in one (32*, 3, 1.38), that there were some characters in the book they liked and some they didn't warm up to (26*, 2, 0.85), that they didn't really connect with the characters (29*, 2, 0.72), and that the writing style was confusing (39*, 2, 0.64).

They disagreed with the statements that the story may serve as a caution to parents to research universities for their children (27*, -4, -1.78), that they think sometimes things could have been a little more subtle (21, -3 -1.69), that it was a well-constructed mystery that kept them guessing until the end (45*, -3, -1.36), and that they enjoyed how the different storytelling methods helped uncover the mystery (38*, -2, -0.65).

Overall, the students in this group felt that their view of college had not changed much after reading the novel. They had their own idea of what college would be like, and they still held strong to those views. Kayti said "I still have my own idea of college compared to what was in the book." Caelan agreed when he said "I know what to expect from college." When asked to elaborate, he said that "watching family who went to college, I see there is more than what is in the book." Overall, the students did not feel like they gained much educational knowledge from the novel. One possibility for this was their lack of engagement. The students all agreed that the writing style was confusing and disagreed that the different storytelling methods were enjoyable. They also disagreed that it was a well-constructed mystery.

Kayti, in particular, was honest about her displeasure in the story. She said that she wanted more detail and more hints to make the mystery more enjoyable to figure out. Taylor said she did not like Cheyenne (the student affairs professional protagonist of the story) and did not agree with the decisions she made in the story. Caelan said that he "could not connect with the characters" and was only able to relate to Cheyenne, the protagonist.

The strongest reference group categories for these students were the accommodator and role model reference groups. A large part of their critique of the story was based on how they viewed the characters and did not manage to find a connection with them. The accommodator

reference group suggests that a person finds meaning and insight by comparing themselves to another person or group of people. By not having that connection, they failed to gain anything meaningful from the novel. They also did not see the book as a good source of a role model reference group. This type of reference group gives instructional advice that can be emulated or repeated. The students believed that there was little for them to learn from the story as they already felt they had an idea of what college would be like.

Despite this, the follow-up interviews did reveal individual lessons learned by the students. Taylor said that it was interesting to see that there are other problems than just college parties. Kayti said that students would be there for her more than she originally thought based on the book. Although Caelan said he did not really learn anything, he did appreciate that the book was more realistic than what he sees in typical college movies like *22 Jump Street*.

Personally invested. The fourth and final group, personally invested, consisted of only two students (Olivia and Jeremy). As seen in table 23, this group is different because one of the students, Olivia, loaded highly with a negative number. A high loading onto a factor signifies that a student voted strongly on a set of statements that was similar to other students in the factor. However, the high loading only measures magnitude, not direction. Since all the previous loadings were positive, it can be assumed that all the students loading onto that factor agreed with the same statements and disagreed with the same statements. In the case of the fourth group, however, where both students loaded highly onto one factor but one is highly positive and one is highly negative this means that they agreed on which statements mattered the most to them, but they had opposite opinions on those same statements. In other words, if Jeremy ranked a statement a +5, then Olivia likely ranked that same statement a -5. They both had a strong opinion on the same statement, but their rankings were on opposite ends of the grid. This requires the distinguishing statement scores to be viewed differently. For Jeremy, a positive statement score means he agrees with the statement and a negative statement score means he disagrees with the statement. For Olivia, the inverse is true. A positive statement score means she disagrees with a

statement, while a negative score means she agrees with a statement. In order for Olivia to be placed in a group with Jeremy, it means that her disagreements were more in line with Jeremy's responses than any agreements she could have had with the other groups.

The highest-scoring positive statements were those that stated that it is a book that students planning to enter university might like to read (36*, 5, 2.05), that it all centers on the fact that you have to try something new (25*, 4, 1.83), and that the book would be better suited for someone who is currently in college or has been a part of the college atmosphere (6*, 3, 1.23). The highest-scoring negative statements are those that stated that their view of college has not changed much since they knew the general gist of college before reading the book (22, -5, -2.07), that it represents that college is not about drinking and partying all the time (5*, -4, -1.76), that there are some characters in the book they liked and some they cannot warm up to (26, -3, -1.48), and that it is a good representation of how different college is from anything one has experienced before (9*, -3, -1.26).

The term "personally invested" as it refers to this book came as a result of the follow-up interviews with the two students. The reasoning for their answers, unlike the other groups, came from a very personal point of view and their justification for what they got out of the book was related to how it made them feel. The most prominent reference group category in the distinguishing statements was the normative group. The students seemed to care about the norms of college culture and whether or not they agreed with those norms. For example, the highest-ranked statement about it being a book that students planning to enter university should read (36*, 5, 2.05), was ranked highly by the students for reasons very personal to them. Jeremy said that he had cousins who attended college, and the book was very similar to what he learned from his cousins, so he felt the book was very accurate. As a result, he strongly felt that entering college students should read the book to learn about college. Olivia's response was different. She said that students should only read the book after they finish college because the book was very depressing. She said that a plot point about students committing suicide due to depression made

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her sad, and she didn't wish that upon other students to be scared away from college.
Alternatively, the statement saying that their view of college was not changed by the book (22, -5, -2.07) was rated highly as well due to personal reasons. Jeremy disagreed strongly with the statement because he had his cousins as a reference group on which he based his college perceptions. However, Olivia, who did not have an alternative reference group, felt she learned a lot about college. Initially, she believed that "college was all about studying." Emotion played a big part into these students placing value on the book and, as a result, their responses were very strong on both ends of the ranking grid. Even the lower-ranked distinguishing statements had higher Z-scores than distinguishing statements in other groups.

Group consensus. There were only a few consensus statements among the four groups. The few consensus statements that were found were still on the weaker end due to the largely varying opinions by the students on the novel. Based on the statement scores, all the groups agreed that the book contains an interesting look at the first year of college (2*, Q-SV 1, 1, 0, 0) and that most of the characters presented in the book were likeable (28, Q-SV 1, 2, 0, 1). Even though some of the groups did not like the story (no learning or engagement group) or could not invest themselves into the characters (learning prioritized), the groups did agree that the students were well-presented and that the world created by the novel was something worth noting.

All groups disagreed that the characters could have been described in more detail (14, Q-SV -1, 0, 0, -1) and that the book teaches you that you really have to socialize in college (23, Q-SV 0, 0, -2, 0). There were numerous comments by students that they weren't planning to socialize in college, particularly by the more seemingly introverted students in the group. Overall, it seems that socialization was not something that the book can encourage. Students who planned to socialize were already going to do it anyways and those who did not want to do it had not changed their minds. The students all generally agreed that the characters were described with enough detail, resulting in their disagreeing with the statement that more detail was needed.

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Interpretation of Findings

The three Q sorts given to participants resulted in four factors, or shared viewpoints, each. The main research question driving the study aims to discover how high school students who are prospective first generation college students conceptualize the reference groups depicted in a college-themed mystery novel as part of an edutainment strategy toward assisting with anticipatory socialization. The focus was college student engagement as understood by the high school students in the study. They were asked to rank the forms of college engagement that most likely applied to them using a Q sort. They completed the Q sort before and after reading the mystery novel. The viewpoints that emerged in each Q sort would be compared to see if and how their viewpoints changed after reading the novel. These Q sorts were used to answer the following sub-question as part of the overall research question: How do high school students develop their expectations of out-of-class engagement in college after reading a novel depicting various types of involvement in college activities? The final Q sort had the students evaluating the novel based on a number of reference groups that they felt applied to them. These reference groups ranged from comparisons to the book's characters, justification of their actions, the norms exhibited in the story, and any practical lessons they took from the story. The purpose of this Q sort was to answer the following sub-question: What reference groups do high school students assign to fictional characters and settings in a college-themed mystery novel? The statement rankings and follow-up interviews provide insight into how these students perceive college engagement and how reference groups serve as a part of that equation.

Table 24

Participant Summary

	Grade	Ethnic Background
Azul	11th	Hispanic
Caelan	11th	White/Hispanic
Collin	9th	White
Daniela	9th	Hispanic
Jeremy	11th	Hispanic
Juan	12th	Hispanic
Kayti	11th	White
Luke	11th	White
Nicholas	12th	White
Olivia	9th	White
Ruth	10th	Hispanic
Ryan	9th	White
Taylor	11th	White
Zoey	9th	White

To understand how the students' viewpoints evolved over the course of the study, it was necessary to look at each individual students' progression from Q sort 1A to Q sort 1B, and how Q sort 2 may be used to explain the progression. A short introduction to each student is provided in table 24, including their grade in high school and their self-identified ethnic background. Table 25 provides a summary of each individual student's group placement in each of the three Q sorts.

A few students had a strong secondary placement in Q sort 1A. Those placements are noted on the table. The follow-up interviews after the study were short and unstructured, but offered the students an opportunity to explain their rankings at both extreme ends of both Q sorts. Each student had a different way of viewing student engagement. Even those students who loaded onto the same factor and shared the same viewpoint had different reasons for forming that viewpoint.

Table 25

Individual participant groupings in all Q sorts

Q Sort	Collin	Taylor	Azul	Caelan
Engagement 1A Q Sort	Independent Realist	Independent Realist	Independent Realist	Questioning Realist
Engagement 1A Secondary Loading		*(Questioning Realist)*		
Engagement 1B Q Sort	Independent Realist	Independent Realist	Independent Realist	Collegial Academic
Reference Q Sort	Learning Prioritized	No Learning or Engagement	Learning Prioritized	No Learning or Engagement

Q Sort	Ryan	Zoey	Nicholas	Kayti
Engagement 1A Q Sort	Questioning Realist	Academic Optimist	Academic Optimist	Academic Optimist
Engagement 1A Secondary Loading				*(Independent Realist)*
Engagement 1B Q Sort	Interdependent Optimist	Social Realist	Social Realist	Independent Realist
Reference Q Sort	Entertained and Educated	Entertained and Educated	Entertained and Educated	No Learning or Engagement

Q Sort	Ruth	Juan	Jeremy	Luke
Engagement 1A Q Sort	Academic Optimist	Academic Optimist	Academic Optimist	Social Optimist
Engagement 1A Secondary Loading	*(Independent Realist)*			
Engagement 1B Q Sort	Interdependent Optimist	Interdependent Optimist	Collegial Academic	Social Realist
Reference Q Sort	Entertained and Educated	Entertained and Educated	Personally Invested	Learning Prioritized

Q Sort	Olivia	Daniela
Engagement 1A Q Sort	Social Optimist	Social Optimist
Engagement 1A Secondary Loading		
Engagement 1B Q Sort	Collegial Academic	Collegial Academic
Reference Q Sort	Personally Invested	Entertained and Educated

The following section provides an overview of each student's group placement within each Q sort, as well as an explanation of their statement rankings as appropriate. Afterwards, a collective view of participant groupings in the Q sort will be used to explain the students' perceived value of college engagement and their assignment of reference groups in the novel.

Transformation of Viewpoints

The purpose of Q methodology is to examine all the possible viewpoints that exist within a given topic. This can be achieved either through an extensive study using one condition of instruction and a large sample of participants or through an intensive study using multiple conditions of instruction and a smaller sample of participants (McKeown & Thomas, 2013). An intensive approach was more appropriate for this study because it allowed the participants to share their viewpoints prior to reading a mystery novel and after reading the novel. The viewpoints created using the Q sorts would give an idea how the participants viewed college engagement prior to experiencing any first-hand college exposure. Since the students had limited second-hand exposure to college by being prospective first-generation college students, this study aimed to see if the novel provided a means for anticipatory socialization for these students by introducing them to college through a fictional story.

Due to the nature of a Q methodology study and the limited sample size, this study does not aim to generalize any findings beyond the participants of the study. However, the viewpoints they provide and the reasoning for their viewpoints before and after reading the novel could provide valuable input into understanding how entertainment can be used as an educational tool for a variety of purposes, such as college socialization.

Collin. Collin was very quiet during the Q sort process. His mother described him prior to the study as a student lacking confidence and needing an additional push toward his true potential. During my follow-up interview with Collin, he seemed inquisitive and interested in my study and its purpose. Initially, Collin identified as an independent realist. He understood the challenges of college and knew he would struggle. However, he looked forward to attending college. During his interview, he said that he "might like school" and that he "looked forward to an interesting experience." Like the other independent realists, he understood the value of an education and was determined to complete his degree despite the difficulty.

Collin shared a trait with the other independent realists in that their viewpoints did not change between Q sort 1A and Q sort 1B. He was an independent realist before reading the novel and still identified as an independent realist after reading the novel. To understand the type of impact, if any, the novel had on his anticipatory socialization into college, I reviewed his placement in Q sort 2. Collin fell into the learning prioritized group. This group appreciated the novel's educational value, but did not necessarily engage with the book beyond that level. Collin did not feel that he connected with the characters and he, personally, did not find much insight into college life. This could explain his viewpoint remaining the same between both Q sorts.

Taylor. Taylor also identified as an independent realist. Unlike Collin, Taylor was more conversational during her interview and during the Q sorting process. She seemed knowledgeable about many topics and was enthusiastic about getting a degree. When asked about why she ranked the value of college so high on her grid, she said that "people in college do better in life" and that she wants "to do well in life and have a good lifestyle." Taylor strongly disagreed with the statement that she would feel secure on a college campus (statement 19). Although it did not appear as a distinguishing statement for the independent realist group, safety was a concern I heard more than once during the interviews. Taylor and Collin both mentioned a fear for their safety due to the increasing amount of school shootings that are taking place nationally. Taylor said that it has made her more nervous to be out in open places. She said she was a private person and would rather keep to herself. This could explain why Taylor also loaded into the secondary group *questioning realist*. The questioning realist group did have "I will feel secure in a college campus" as a distinguishing statement (19*, -4, -2.01) and Taylor seemed to identify with those students' viewpoints as well.

However, by the time she took Q sort 1B, she firmly identified as an independent realist, similar to Collin. This was unsurprising, as she fell into the no learning or engagement group of Q sort 2. This group found little enjoyment in the novel and did not find much educational value in it. Taylor admitted that she could not relate to the book's protagonist and did not agree with many

of the decisions she made. If anything, she said the book shows that university officials care more about themselves than their students. She complimented the imagery and the details of the setting and the characters, but overall, the book was not for her.

Azul. Another independent realist, Azul was a confident, determined individual who knew what she wanted out of college. Azul wants to be a fitness trainer, so it was important to her to get a lot of exercise and study so she could finish her degree. She said she was told often that college is hard, and that she is not there to make friends. She only talks to people "to finish projects" and keeps her problems to herself. She said that she did not want to put the weight of her problems on her friends.

Azul shared the same viewpoints as Collin throughout the course of the study. She started out as an independent realist and finished as an independent realist. Like Collin, she fit into the learning prioritized group in Q sort 2. Her comments about the book generally focused on more technical aspects of the book, such as the story being simple to follow, the characters being treated fairly, and that colleges sometimes do not care about their students. She did say that the mystery was interesting, but based on her opinions of college engagement and identifying as an independent realist, it did not seem like the novel did much to sway her opinion of college in any direction. She appeared to know what she wanted out of college and was determined to achieve it.

Caelan. Caelan was one of three students who did not fit the traditional role of "prospective first generation college student" (the others were Juan and Luke). Caelan's mother went to and graduated from college. However, her time in college was recent as a non-traditional student. As such, she went part time and did not utilize any of the university's resources, per Caelan's admission. Her only engagement was in the classroom at school and with her homework at home. Since she did not experience out-of-class engagement in college (on which is the type of engagement this study is focusing), I decided to classify Caelan as a prospective first generation student for this specific purpose.

Caelan's responses fell in line with the other students in his group, questioning realist. Caelan understood the value of college and knew that he was going to go. However, he feared falling behind and knew that he had to work on his social skills. During his interview, he said that sometimes he "needs reminders to be nice." Like his mom, he said he planned to be studious in college and did not plan to make friends or go to parties. He planned to finish all his homework in class so that he did not have to take any work home with him.

When asked about the book, Caelan was relatively neutral regarding its value. He was in the no learning or engagement group, meaning that he did not find much enjoyment in the novel, nor did he find much educational value in it. He said that the book would make a good TV show. Otherwise, all his comments were either discussing his lack of connection with the characters or disagreeing with aspects of the book. He identified with the collegial academic group when he took Q sort 1B. The transition from questioning realist to collegial academic was unusual, as he was the only student to identify in those groups in that order. His mother going to college could have had an impact on his reception of the novel and the shift in his viewpoints.

In reference group theory, students use reference groups in the absence of peer groups when they are trying to understand something they have not experienced directly. For the majority of the students in the study, the novel was one (if not their only) source of direct insight into college life. For some of the students (Caelan included), they compared the novel with other fictional works involving college, such as college movies and TV shows. Caelan compared the novel as a more realistic version of *22 Jump Street*. However, in Caelan's case, he used his mother as his reference group into college, even though he admitted that she did not have a typical college experience. He mentioned that his mother's experiences showed that there was more to college than what was found in the book. Although he questioned himself a lot during the first Q sort, he seemed surer of himself by the second Q sort. He also seemed to adopt some of his mother's strategies for dealing with college. At first he mentioned the importance of finding

someone to hang out with. Later, he decided that he was not going to make friends in college and was just going to study and work hard to finish.

Another notable aspect regarding Caelan's viewpoints is what he said to me in the interview versus the statements he ranked on his Q sort. Caelan would mention that he wanted to do the work on his own, and in class whenever possible. However, the collegial academic group had distinguishing statements about meeting with students to talk about courses and succeed in their program outside of class. Even though he did not mention it outright, Caelan did rank interacting with peers significantly higher the second time he took the Q sort than the first time. There was not enough feedback to determine if the novel had an impact on that specific viewpoint, but it was a significant detail worth mentioning since he fell into the no learning or engagement group.

Ryan. Although Ryan was one of the youngest students in the study, he seemed to have the most concrete plan for his future. Ryan wants to be a college professor. He said he loves reading and doing research at the library. Despite this, Ryan acknowledged the importance of college parties as he said that being social was a part of the college experience. He also valued the importance that a college degree would have in helping his family. Despite all of this, he identified as a questioning realist. He had some big aspirations for himself, but during the interview, he did not seem very confident. Part of it was likely due to being younger than the other students in the study, but part of it could also have been due to his lack of college knowledge.

This was made more evident by his subsequent Q sorts. Ryan identified with the entertained and educated group in Q sort 2. He enjoyed the reading the novel, claiming that he "related to a lot of the characters" and that "it was the best mystery novel [he] ever read." He was able to name one of the students in the novel, Ben, as one with which he identified the most. This was illustrated through his grouping in Q sort 1B, where he identified as an interdependent optimist. This group had a bright view of college and believed they would be successful in

finding peers who would support them through their program. This group was also likely to consult a student affairs professional to discuss a personal problem. During the follow-up interview, Ryan seemed more confident in his responses and kept going back to the book to justify his views of college engagement. It appeared that the novel was one of the first extended looks into college life and therefore Ryan valued it highly as a reference group.

Zoey. There were few outgoing students in the study, so Zoey's energetic demeanor and talkative nature provided a unique perspective to the process. Zoey identified as an academic optimist in Q sort 1A. This group was excited to learn both inside and outside of the classroom and looked forward to interacting with peers in an academic setting. Zoey considered herself a social person, excited to make friends and meeting the variety of people in college. However, she knew her limits, and knew that "parties can get you into trouble" so she knew she had to avoid those. She was not worried about her academics. She thought that college "will be easy and boring."

Like Ryan, Zoey identified as entertained and educated in Q sort 2. She said that she enjoyed the book and found it to be a well-constructed mystery. As an academic optimist, she saw college parties as the biggest problem you can run into in college. However, after reading the novel, she acknowledged that "there were many problems other than parties." This could explain why she identified as a social realist in Q sort 1B. Social realists believed that while they would have many and close friends in college, they understood that college was a unique place with different beliefs, attitudes, and values. As a result, the rules at university were not fair for everyone. Zoey mentioned that problems such as depression were a serious issue and acknowledged that sometimes, the rules in college may be tipped in favor of some people over others. Due to her valuing the social aspect of college, she seemed to identify most with the social problems that the students were facing and empathized with them. Her strongest college engagement category was peer relationships, since she was worried about what happened to the

students in the novel and had more distinguishing statements about friendships in the second Q sort compared to the first.

Nicholas. Nicholas was a senior getting ready to graduate in the spring semester. Although he would be the first in his family to attend college, he said he had visited a college campus before, likely for college tours. Nicholas identified as an academic optimist in Q sort 1A. He was confident in his academic abilities and did not expect college to be hard. He said that he was always about "getting it done" and was not interested in participating in physical fitness activities or partying. Like many of the other students in the study, he did not plan to talk about his personal issues with other students or staff at the college.

Nicholas belonged to the same categories as Zoey. He initially identified as an academic optimist, but after reading the book, he identified as a social realist. He was entertained and educated regarding Q sort 2. Nicholas said that he enjoyed the different angles used to tell the story, wanted the protagonist to be successful, and found it to be a good mystery in a believable universe. It is possible that being introduced to all the characters in the novel enabled him to rank the distinguishing statement "many students in college will have values and attitudes different from my own" (1*, 4, 1.81) much higher after reading the novel than before reading the novel. In his follow-up interview, he specifically said that there would be different attitudes found in college.

Kayti. Kayti cross-loaded into two groups in Q sort 1A. Her primary group, with the highest loading, was academic optimist. Kayti was excited to go to college because of the independence that it would bring. She has done very well in high school and expects to do well in college. Her secondary group was independent realist. This was further evidenced by her comments about independence and excited to be on her own and out of her house. Once she completed Q sort 1B, her primary group was independent realist, consistent with all the other students who identified as independent realists. Kayti identified as no learning or engagement in Q sort 2. She was the most vocal about her displeasure reading the book. Interestingly, Kayti was

the only student to fail the content quiz the first time, suggesting that she probably did not read the book in its entirety when she took the quiz.

Kayti's criticisms of the book included having too many characters, needing more hints to help uncover the mystery sooner, paced too slow in the beginning, and not being very realistic to college. She described it as "too fictionalized." She also disagreed with how the book portrayed college and said she still had her own idea of what college is going to be like. She said the one thing that she loved about the book was the character development and their backstories, with Japanese international student Miyu being her favorite character. She made a similar comment as several other participants that the book would be better as a TV show.

The combination of Kayti's strong opinions about college and her lack of interest in the book led to minimal change in her views on college. She is excited to socialize with friends in college, but she is going to be selective on the friends she chooses to bring into her circle. She does not plan to engage with faculty and staff and does not expect her classes to be fun.

Ruth. Ruth's initial responses in Q sort 1A were very similar to Kayti's. Both students primarily identified as academic optimists, but also held a secondary identification as independent realists. Ruth was most familiar with the academic expectations of college. She knew that college was necessary to help her with her career and was prepared to excel in her classes. She was excited to make friends and experience the new environment. Her similarities with Kayti ended after reading the book, however. Whereas Kayti identified as no learning or engagement in Q sort 2, Ruth identified as entertained and educated. Ruth found the story relatable to her own life and said she "felt like [she] was actually there."

This resulted in Ruth identifying as an interdependent optimist once she completed Q sort 2. Some of her distinguishing statements seemed to parallel some of the comments she made about the novel. As an academic optimist, she was under the impression that college would be simple and straightforward. However, after seeing the challenges faced by the students in the book and relating to them, she acknowledged that college will be difficult. As a result, she did not

feel very secure going to college and said she would be looking to fit in with friends for additional support. The most prominent engagement category for interdependent optimists was sense of belonging. Ruth's focus on people and personal relationships further supported her placement in this group.

Juan. Juan was similar to Caelan in that he was not a traditional "prospective first generation college student." His mother attended and graduated college. However, she went to college in Argentina. Since the focus of this study was out-of-class engagement at an American college or university (since the novel takes place at an American-style university), I decided that Juan was eligible for the study. A short, initial conversation with him prior to the study revealed that he knew as much about college as the other students in the study.

Juan found himself in the popular academic optimist group in Q sort 1A. Six students belonged in that group, which was the largest number of students in any single group for that Q sort. Similar to his peers, he looked forward to college and saw it as a necessary step to advance his career. The view was simplistic, straightforward, and limited. Like many of the other students, he was not familiar with the concept of a student affairs professional or their role in a college student's life. He did not know much about college outside of classes and professors.

The novel resonated very strongly with him. He identified as entertained and educated in Q sort 2, meaning that he enjoyed the novel and felt that he learned a lot from it. He particularly enjoyed the relationships formed between protagonist Cheyenne and the students with which she worked. He said that he identified most with the characters Ben and Grace from the story. He acknowledged that the problems the students faced in the book felt very real, and as a result, he plans to get help in college whenever he is in trouble. In Q sort 1B, he identified as an interdependent optimist. While he did not feel that he would struggle in his classes in college, he understood that personal problems would arise and that he knew he had to find someone to help him with his problems. Although the novel may have had an impact in forming the viewpoint, other environment characteristics may have played a part in it as well. Juan's father was a very

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involved parent. He conversed with me during the study, learning of the study's purpose, procedure, and benefit for his son. The two discussed the novel at length as Juan read it, which is probably why some of the lessons he retained were so specific. Juan's reliance on his father for guidance could explain the trust that he put in the fictional character Cheyenne, and the reason he is more willing to talk to someone in college if he ever has a problem. His reference group could have been a combination of the novel and his family support.

Jeremy. Jeremy was quiet throughout the study. He rarely spoke, and only did so to answer a question. His interview was short and to-the-point. He identified as an academic optimist in Q sort 1A. He said he was determined to finish college because "there is no point in quitting college." He loved sports, and said he would continue to play sports in college. In Q sort 1B, he identified as a collegial academic, which was relatively similar to the previous group placement. After reading the novel, he acknowledged that passing classes was priority, but he was confident he would do well.

Jeremy was one of only two students who identified as personally invested in Q sort 2. The students in this group responded strongly to personal and sentimental triggers as a way to evaluate the novel. Jeremy enjoyed the novel and the way that the story was told. However, his biggest takeaway from the novel is the comparison to his cousins' experiences in college. He has cousins that are currently in college and they are very close. His cousins have never been to a college party and they tell him a lot about their experiences. He said that the book is similar to what he has been told by his cousins, which is why he valued the book as an educational tool. He says that the novel taught him a lot, and that incoming college students should read the book.

Luke. Luke was the only student in the study who had both parents go to college. During an initial conversation with Luke, he revealed that his parents went to non-residential colleges as nontraditional students and, similar to Caelan's mother, were minimally involved outside of the classroom. When asked to explain what college was like, Luke struggled to describe anything

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outside of classes and homework. His level of out-of-class engagement knowledge was at a similar level to the other students, so I decided to let him participate in the study.

Luke's characteristics were different from the other students. He was a highly spiritual student who went to church regularly. He also identified as a conservative, which made him feel uncomfortable as he was under the impression that college was full of liberals. Despite this, Jeremy identified as a social optimist, meaning that he expected to make friends easily and peer relationships were very important to him. He was also less likely to attend academic events or meet with students to discuss course work.

Although he considered himself a social person (and identified as a social optimist), his placement in Q sort 2 was in the learning prioritized group. When discussing the novel, he primarily described mechanical aspects of the book. He said that he understood the story and that he appreciated the storytelling method used. When it came to his personal and social life, his family served as a greater influence than the novel. He said that if he encounters any problems in college, he would talk to his father about them. He understands that talking to people is important and that one should not try to handle everything on their own. Luke was similar to Caelan in that his reference group was his parents. Although they were not engaged in college, the fact that his parents went to college was enough for Luke to utilize them as his reference group for his anticipatory socialization.

Luke's primary identification in Q sort 1B was as a social realist. There was not much change from his initial identification as a social optimist other than the fact he was now more aware of the personal challenges he could face as a college student. The novel may have exposed him to some of the potential challenges that he may not have thought of on his own, but his parents serve as his greatest role model to overcome the challenges.

Olivia. Olivia was friendly, soft-spoken, and well-mannered throughout the study. She was the only one out of the 14 participants that was homeschooled. As a social optimist, she was most excited about making friends in college. While academics were important, the majority of

her distinguishing statements revolved around peer relationships. She was spiritual and planned to go to church while in college.

Olivia was personally invested in the novel, similar to Jeremy. She said she saw it more as a cautionary tale. She admitted that prior to reading the novel, she thought college was all about studying, but she still would not recommend the book to students entering college. She repeatedly mentioned the negative situations in which the students put themselves, like cheating, spraying graffiti, or illegal races. She also mentioned the suicides caused by depression and said those plots were too sad for students who have not already been to college. Overall, she said she did learn a lot, such as the variety of clubs one can join and all that there is to do in college. This could explain why she transitioned from a social optimist in Q sort 1A to a collegial academic in Q sort 1B. Being homeschooled, she had a specific, idealized view of college that was challenged by reading the book. She enjoyed reading about the things the students did academically, but did not enjoy reading about all the personal problems they faced.

Daniela. Daniela was one of three students who identified as a social optimist in Q sort 1A. Unlike the other students in the study, she did not have much family support. During her follow-up interview, she said "my family doesn't think I am going to make it." Nevertheless, she was optimistic about the freedom she would experience in college and was looking forward to making many friends. She said that she wanted to run cross-country in college and use all the facilities available to her.

Daniela enjoyed the book, identifying in the entertained and educated group in Q sort 2. She said that she did not know much about college prior to reading the novel and learned a lot. She cared about the characters and worried about Sarah, a religious student who was the victim of sexual violence at the campus. She said she enjoyed the character backgrounds and thought the characters sounded like her. Her placement in Q sort 1B was in the collegial academic group. She emphasized her commitment to using the fitness facilities and joining a cross-country team. She was excited to get to know other students because she knew they would be pivotal to her success

in the college. Since her parents did not appear to be a support network for her, she was searching elsewhere for the support network.

Perceived Value of College Engagement

The students in the study had a limited understanding of college engagement. Most of them saw college as a place to take classes, do homework, and pass tests. The only "engagement" the students were familiar with was classroom engagement. Additionally, while some of them looked forward to making friends in college, they did not see it as a form of college engagement. The original groups of Q sort 1A supported these viewpoints. The independent realists, questioning realists, and academic optimists based their college engagement on how difficult their classes would be. The independent realists believed the classes would be difficult but they would still succeed on their own. The questioning realists believed that classes would be difficult and they were unsure if they would be able to pass them on their own. The academic optimists believed that their classes would be relatively easy and that the students would all get along easily.

The first sub-research question aims to understand how high school students view college engagement. According to this Q sort, the first three groups see college engagement as classroom-based, with little else taking place outside the classroom. Another way to look at how students conceptualize engagement is through the engagement categories introduced in table 1. The independent realists had distinguishing statements that covered most engagement categories equally. Being independent, they felt prepared to handle a variety of challenges. Of the four groups, the independent realists appeared to be the most well-rounded in regards to being engaged in college. However, even though they covered many engagement categories, the statements within the categories still heavily leaned on class work, disagreeing with statements about attending career workshops or using university facilities.

The questioning realists cared more about valuing college and their sense of belonging. They wanted to feel like a part of the campus. These students believed they would at one point

question their decision to go to college and that peer interaction was necessary for academic success. They also did not feel secure in college and did not feel confident enough they would be able to make those peer interactions. They feared failing their classes due to lack of support.

The academic optimists felt good about their chances at excelling in college. Their strongest engagement categories were cognitive engagement, sense of belonging, and valuing. They believed their classes would be easy (or at least achievable), and looked forward to learning new concepts and challenging their minds. They were certain of their decision to attend college and believed they would graduate with little effort.

The social optimists differed from the other three groups in that their college priorities revolved around friends and socializing. Although creating friendships can be considered an important form of college engagement, these students did not initially make that connection during our initial conversations. The primary engagement categories of this group were peer relationships and behavioral engagement. These students were excited to make friends and participate in college activities.

All four groups strongly valued the importance of a college education and strongly disagreed with the importance of building a relationship with faculty and staff. For some of the students, this was because they felt their problems were personal and not to discuss with others outside of the family. For others, it was because they were not familiar with the concept of a student affairs professional and the resources available to students to deal with personal problems.

The results of Q sort 1B suggest that the novel did make an impact on many of the students. The only group that remained mostly the same was the independent realists. Not only did that group retain the majority of the same distinguishing statements, but it also retained the same students that were a part of the group the first time. Some of the students in that group did not enjoy the novel enough to have their opinions changed, but all of them held a consistent opinion about college engagement regardless of if they enjoyed the book or not. However, there appeared to be a shift in the engagement categories of this new group. The most prevalent

engagement categories were valuing and cognitive engagement. The students in this group doubled down on their belief that college classes would be difficult, but that they would not work with other students on class activities and would do it all on their own.

The other three groups in Q sort 1B were very different from the original groups. The collegial academic group introduced students from different categories. This group differed from the independent realists in that they understood the importance of peer relationships to succeed in school. Their strongest engagement category was cognitive engagement. They still believed that classroom engagement was the most important part of college, but they now acknowledged that there was a necessary collaboration component to succeed in those classes. Although the collegial academics were not looking to make friends, they were more willing to work with other classmates for a common goal. The novel, which included many students completing group projects together for an orientation class, may have given the students some perspective as to college group work.

The social realists were similar to the collegial academics, except they took peer interactions one step further. Peer relationships were the primary engagement category for this group. They were excited about making lasting friendships, but they were also more cognizant that college is full of diverse viewpoints and not everyone gets treated fairly. A notable fact part about this group is that only one of the three students in the group was originally a social optimist. The other two students were academic optimists that became social realists. This means that prior to reading the book, the students placed the highest value on course work as part of their college engagement. After reading the book, they became more interested in developing lasting friendships as part of their college engagement.

The final group, interdependent optimists, appeared to have received the most direct impact from the novel. Their strongest engagement category was sense of belonging. They wanted to feel like a part of the college campus more than anything else. Another unique aspect of this group is that this is the only group in any Q sort that had a positive distinguishing

statement mentioning a student affairs professional. The students in this group acknowledged that they would likely discuss a personal problem or concern with a student affairs professional (33*, 2, 0.75). In the previous Q sort, any type of interaction with college staff was uniformly ranked negative by all four groups. One group of students seemed to internalize some of the relationships formed between the students and the protagonist of the novel. These students were also more open to collaboration with others than the other three groups. They understood that there were people out there, both staff and students, which were willing to help them out with personal problems.

When looking at the group consensus statements for Q sort 1B, there is a shift in the distinguishing statements that appear. While the previous Q sort focused more on the value of college as the group consensus, this Q sort made more mention of the importance of interpersonal relationships with other students. Even the independent realists, who believed they could do it on their own, acknowledged that interpersonal relationships can be helpful at least some of the time. A large part of the novel focused on the relationships formed between the various characters in the story, and how those relationships helped them overcome a variety of obstacles. The students seemed to internalize those messages to a level where they were able to appear as distinguishing statements in the group consensus. Whereas statements in the "relationships with faculty/staff" category appeared multiple times in the group consensus as a negative in Q sort 1A, those statements failed to appear as a negative in Q sort 1B. This is likely due to the fact that the interdependent optimists ranked relationships with faculty and staff as highly as they did.

Reference Group Assignment

The second sub-research question aimed to understand what reference groups, if any, the students assigned to the novel that they read as part of their anticipatory socialization. Reference groups act like peer groups in that they influence a person's attitudes, beliefs, and behaviors based on what they see others do. Peer groups, however, educate a person who is already experiencing the phenomenon first-hand. Reference groups help a person fill in the blanks on a

phenomenon that they have not experienced themselves. The idea behind the study is that students who read the book would use the characters as reference groups to create an understanding of how one should act and behave in college. In addition to knowing whether or not they use the novel as a reference group, the reference group category helps to further analyze *what part* of the book they internalized the most. Every student likely derives a different message from reading the same book due to their different personalities, backgrounds, and values.

The entertained and educated group, comprised of the largest group of students, seemed to gain the most from the novel. The reference groups they assigned to the novel were spread out across all six reference group categories. They found the novel enjoyable but also believed they learned about college through the story. This was evident in both their follow-up interviews and through their groupings in Q sort 1B. The students in this group showed a positive progression in their group placement between Q sort 1A and Q sort 1B. Ryan, for example, identified as a questioning realist in Q sort 1A, but later identified as an interdependent optimist. Based on the distinguishing statements in both of those groups, it shows tremendous growth in his ability to be engaged in college. He started out nervous about going to college and unsure of what it would be like, only for him to later be more confident in his ability to succeed and make friends. As mentioned earlier, the interdependent optimist group seemed to form as a direct response to the characters and story found in the novel. Yet all the students in the interdependent group (Juan, Ryan, and Ruth) also belonged in the entertained and educated group. This suggests that enjoyment is a critical factor in the ability for students to assign a reference group to the novel. They learned from the characters in the story and internalized some of the messages from a variety of angles: from the cultural norms found in college (normative reference group) to the fairness of how people are treated (equity group) to the legitimacy of the students' actions in college (legitimator group). Most importantly, two of the three positive distinguishing statements belonged in the audience reference group category. The audience reference group describes how a source or phenomenon motivates a person to act. Having two audience group distinguishing

statements suggests that the students felt inspired and motivated after reading the book, further suggesting that they may have internalized the lessons learned.

The learning prioritized group found educational value in the story, based on their distinguishing statements and their follow-up interviews. The two reference group categories they focused on the most were the role model reference group and the normative reference group. Both of these categories deal with the direct lessons you can learn from the source. Unlike the other reference groups that focused on fairness, legitimacy, relationships, or motivation, these students cared more about what direct knowledge they could gain from the book and take with them. However, despite their interest in learning, little change was found between their Q sort groups. Three students were placed in the learning prioritized group. Two students, Collin and Azul, started out as independent realists and stayed as independent realists. Luke started out as a social optimist but changed to a social realist, which is a minimal change in viewpoint. This suggests that while the students found educational value in the novel that they read, they did not internalize those lessons into their personal viewpoints. This further suggests that enjoyment is an important factor in the retention of information and internalizing into one's values. Information being learned for the sake of education and nothing else may make it more difficult to incorporate the lessons learned into one's life.

This is further illustrated in the third group, no learning or engagement. Of the three students who belonged to this group, two of them failed to change viewpoints between the two Q sorts. Kayti and Taylor, both independent optimists in Q sort 1A (though for Kayti that was her secondary grouping), remained independent optimists in Q sort 1B. Neither student particularly enjoyed the story and both students mentioned in their follow-up interview that they didn't agree with the book's illustration of college. The book did not appear to do much for them at both a conscious and subconscious level. Caelan, however, did seem to show some personal growth after reading the book. Even though he didn't say he learned anything, his group placements told a different story. He initially identified as a questioning realist, similar to Ryan. After reading the

novel, he identified as a collegial academic. Whereas before he was unsure of his place in college and whether or not he would succeed, he became more aware of how collaborating with other students could help him reach his goals. Despite this, Caelan's growth was minimized due to his experience with his mother. His mother went to college, so she served as a reference group for Caelan to form his own vision of college. When lacking any other reference group, a student may assign it to a book or other piece of media. But a student with a strong relationship with a parent will most likely choose the parent as their source for internalization than any source of media.

The reference group category most prevalent with the no learning or engagement group was the accommodator reference group. Since the students were not engaged with the story, they seemed to focus most of their energy on their comparisons to the characters. They focused on what they liked about the characters, what they did not like about the characters, and looked for any characters to whom they could relate. Besides that, the other recurring reference group categories were role model and general. The role model reference group meant that they did look for any type of direct lesson they could learn from the book, but since the majority of the role model statements were in the disagree section, it means they did not find anything useful. The "general" category, as mentioned earlier, was a catch-all category that did not subscribe to any one reference group. This was an option that students could choose if they did not agree with any of the reference groups presented to them. The fact that three of the distinguishing statements fall into the general category suggests that the students struggled to find reference groups that applied to them.

The final group, personally invested, was most concerned with the normative lessons taught by the book. Three of the distinguishing statements were in the normative reference group category. This means the students were most interested in learning about the societal norms found on a college campus. *How does college fit into my life? How will I fit into the college environment?* These students were personally invested in how the story related to them, and how their personal experiences fit into the larger puzzle. Jeremy internalized the lessons learned from

the book because what he read fell in line with what his cousins, who were currently in college, taught him about college. His cousins were his reference group, and since they legitimized the information found in the book, he was able to assign the book as a reference group as well. Olivia took her feelings into account when deciding how much value she put into the book. She said that she learned a lot from the book, but still doubted its true educational value due to the serious situations the characters encountered. She was not sure the book was appropriate for students who had never entered college before because the situations were too depressing. Emotion was just as important a factor in assigning a reference group to the novel as the information provided by the novel.

The group consensus among all four groups was that the characters in the book were likable. Whereas the groups may have had varied opinions on the story, the story-telling method, the setting, and the realistic accuracy of the fictional college, they all seemed to agree that they liked the characters, whether or not they were able to relate to them. The accommodator reference group was the least common denominator among the four groups, suggesting that personal comparisons with college students may be the easiest and direct way to learn about college.

<center>**Limitations of Study**</center>

This study evaluated three Q sorts to understand how students use reference groups to better understand college engagement through the process of anticipatory socialization. Various links were found between the enjoyment of the novel and a broader definition of what it means to be engaged in college. However, due to the nature of a Q methodology study, a small sample size was used. This means that any personal changes between the students cannot be generalized to a larger population of students. The purpose of a Q methodology study is not to generalize changes in individual participants, but to generalize the potential effects of edutainment on the viewpoints of prospective first-generation students discorvered through the Q analysis process. The assumption behind Q methodology is that the viewpoints defined by a particular condition of instruction are all the possible viewpoints for the given topic. Given these viewpoints, Q

methodology provides a foundation on which to build future studies to further develop the viewpoints and understand how they relate to a broader population. It is expected that any person who shares one of the particular viewpoints described above would likely have similar characteristics to the students who also had that viewpoint. Despite this, the study has a few limitations that need to be addressed.

First, demographic information, while collected, was not taken into account in the analysis of this study. The only requirement was that the students were prospective first generation college students. The term "prospective first generation college student" was loosely defined to mean that the student did not live in a household where someone else in that household had attended college and had been involved in out-of-class engagement activities in a college or university. Although ethnic background information was collected, an analysis that took their background into account was beyond the scope of this study. Multiple grade levels were represented in the population. The high school students ranged from 9th to 12th grade. There is a possibility that reading level could have had an impact in the enjoyment or information retention of the students in the study.

Second, this study examines the viewpoints of students based on reading one book, written by one author, at one point in time. It is possible that using a different form of media could have produced different results. A television show or movie, for example, may have attracted students to the study who would not normally read a book, and therefore provided a viewpoint not seen here. The content of a different book or other form of media could also provide different viewpoints based on the different lessons that the students could internalize. A novel written by the researcher was chosen due to convenience. The study required fictional media that presented a variety of different engagement opportunities in college. Most forms of fictional media focused on one or two engagement opportunities and ignored the rest. The novel that was used was the best method to control the flow of information and depict the largest variety of college engagement opportunities possible.

A third limitation is the self-reporting nature of the study. The students ranked a set of statements based on what they believed at that time. The students were asked to complete a second, identical Q sort two weeks after the first one, after reading a novel. It is possible that their statement rankings could have changed due to the time span between the Q sorts, or other significant events that occurred in their lives during that time, not necessarily due to reading the book. The inverted factor analysis process helps to minimize this by removing most of the "noise" towards the middle of the Q sort grid and only focusing on a few, key statements at the extreme ends of the grid. Even if students made mistakes in their sorting/ranking, the larger ranking pattern would have more weight than any one individual statement in the wrong place.

A fourth limitation is researcher bias. I was the author of the book that the participants were asked to read, which could have had an impact on their feedback as well as my interpretations of the findings. Although the inverted factor analysis helps to standardize the process of operant subjectivity, the follow-up interviews were interpreted and applied to the shared viewpoints by me, the researcher. Personal biases can influence the selection of factors, the naming of the loadings, and the explanations for the shared viewpoints. This limitation was minimized by using multiple criteria to select the number of factors to retain, including strong theoretical justifications. The description of the resulting factors was validated through the help of a colleague experienced in educating high school students. The colleague was given the factor loadings with the distinguishing statements and asked to assign a short title and description to each "shared viewpoint" based on what the distinguishing statements were trying to say. Once she assigned a title and description to the four groups in all three Q sorts, I compared my titles and descriptions to hers. Our descriptions generally matched, strengthening the identification of the shared viewpoints. To minimize bias in the follow-up interviews, the students were given complete control to discuss what they wanted in relation to the Q sorts they completed. The students were able to point to the statements that they ranked the strongest on both ends of the grid and explain their justification for their ranking. Their comments were documented in

coordination with the Q sort they were describing so their own words would be used as much as possible in the description of their viewpoints.

Summary of the Chapter

The analysis phase of a Q methodology study consists of an inverted, by-person factor analysis that involves the use of various criteria to reduce the statement rankings in the Q sort into shared viewpoints held by the research participants. Three Q sorts administered to high school students were analyzed and presented through four shared viewpoints each. The first Q sort, relating to college engagement, resulted in four viewpoints: independent realists, questioning realists, academic optimists, and social optimists. The second Q sort, using the same statements as the first Q sort, resulted in four viewpoints: collegial academics, independent realists, social realists, and interdependent optimists. The final Q sort, relating to reference group theory as applied to the novel they read, resulted in four viewpoints: entertained and educated, learning prioritized, no learning or engagement, and personally invested. The students who found more enjoyment in the novel they read internalized more of the college engagement strategies than the students who did not enjoy the novel or saw it as simply an educational tool. Emotional attachment to characters or plot elements also played a big role in how students internalized college engagement.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The purpose of this study originated from the idea that college socialization begins before a

prospective college student sets foot onto a college campus. This type of socialization, called

anticipatory socialization, involved the use of reference groups instead of peer groups to develop

college perceptions and expectations. Reference groups can take many forms. A student can use a

parent, a guidance counselor, or even a college brochure as a reference group to develop an idea

of what college will be like. Fictional colleges, as depicted in various forms of media, can also

provide a reference group for students who are otherwise unfamiliar with college life. Movies,

television shows, and books that depict fictional colleges often highlight out-of-class college

engagement. High school students, particularly those who are prospective first generation college

students, may internalize the college engagement behaviors presented in the fictional narratives

and may influence their attitudes and beliefs as to how to "appropriately" engage oneself in

college outside the classroom. This type of learning is called educational entertainment, or

edutainment, defined as the ability to use something that entertains to encourage learning about a

particular topic.

This study utilizes a mystery novel depicting a fictional university as an edutainment

strategy to understand how high school students assign reference groups to better understand

college engagement. The study aims to answer the following research question: How do high school students who are prospective first generation college students conceptualize the reference groups depicted in a college-themed mystery novel as part of an edutainment strategy toward assisting with anticipatory socialization? This research question can be further divided into two sub-questions: 1) How do high school students develop their expectations of out-of-class engagement in college after reading a novel depicting various types of involvement in college activities? 2) What reference groups do high school students assign to fictional characters and settings in a college-themed mystery novel?

The first sub-question was addressed by having high school participants rank a series of statements relating to engagement in college. They were asked to rank the statements based on how likely they were to participate in a particular engagement activity in college. They ranked the statements twice: once before reading a college-themed mystery novel and once afterwards. The second sub-question was addressed by having the same students rank a series of statements relating to the novel. They were asked to rank the statements based on how strongly they agreed or disagreed with the statement. The statements consisted of comments about various aspects of the book retrieved from online reviews of the book and opinions from other high school students who read the book. The statements each belonged to a reference group category that prioritized different aspects of the book, such as the cultural norms depicted in the story, the fairness of the treatment of characters, comparisons to characters, educational aspects of the book, justification of the behaviors exhibited by the characters in the story, and the motivation derived from reading the story and its setting.

An analysis of the statement rankings by the participants allowed for the identification of shared viewpoints regarding college engagement and reference groups found in the novel. By evaluating and comparing the different groups consisting of the shared viewpoints, conclusions could be made determining how the students conceptualized college engagement based on the lessons they learned from the novel.

Synthesis of Findings

Completion of Q analysis of the three Q sorts revealed some notable findings about how the high school students conceptualize college engagement. At the initial phase of the study, the students had varied views of college engagement, ranging from academic engagement to social engagement. Overall, the students were unfamiliar with the role of student affairs professionals in a college setting nor understood the value of out-of-class engagement. Their viewpoints mainly highlighted the importance and value of college and their interest in performing well in their classes. Only one of the viewpoints emphasized the creation of social connections as an important part of university life.

After reading the novel, the viewpoints slightly shifted to include more peer interaction as a valuable form of college engagement. One viewpoint, the independent realist, had minimal changes compared to before the read. The rest of the viewpoints, however, placed greater emphasis on working with peers in a variety of capacities to be more successful in college. One of the recurring themes of the novel was the struggles that the first-year students faced and the bonds that they formed with each other that helped them get through the challenges. This idea was prevalent among the students as well, with both statement rankings and follow-up interviews emphasizing the use of peer relationships to provide support. In addition to getting help from peers, one of the viewpoints even placed higher value on discussing personal issues with a student affairs professional. While initially all the viewpoints strongly disagreed with this point, the interdependent optimists were more open to this idea after reading the novel. Some of the students were more willing to talk to a student affairs professional because they were not aware that such a resource existed in college. Others were less inclined to discuss their personal problems with anyone outside of family until they saw the fictional students do it in the novel. Even the independent realists, who did not plan to interact much with their peers, acknowledged that peer interaction was necessary for college success, at least some of the time.

Students appeared to be less optimistic about college engagement after reading the novel. Rather than seeing college in a positive or negative light, they seemed to have more realistic expectations about the college environment. Prior to reading the novel, both the academic optimists and the social optimists believed that their desired outcomes would be relatively easy to achieve. Academic optimists believed that their classes would be easy and they would have no problems excelling in their classes. Social optimists were excited about the idea of making friends with students who thought like them and behaved like them.

After reading the novel, one of the academic optimists became a collegial academic. This student realized that classes would not be as easy as they thought and were more willing to work with their peers to succeed in their classes together. The social realists, consisting of previous academic optimists and social optimists, became more aware of the diversity of a university setting. They realized that many of the students in college would have different backgrounds, cultures, and beliefs, and also acknowledged that the rules were not fair for everyone and that some students would be at a disadvantage due to their different backgrounds, cultures, and beliefs. The novel, which followed the first year of college of 21 students from diverse backgrounds, appeared to make an impact on the realistic expectations of college.

Although the views appeared to change between the two Q sorts, it was important to understand why the viewpoints changed. The final Q sort sought to understand how the students approached the novel and what impact it may have had on their anticipatory socialization. One of the notable findings involved the importance of enjoyment in the retention and internalization of information. The students who shared the entertained and educated viewpoint had the most drastic shifts in college engagement viewpoints before and after reading the novel. Some of the students who questioned their ability to be successful in college were more confident after reading the book. Others were more willing to use the available resources in college to succeed. The students who shared the no learning or engagement viewpoint, however, displayed very little change in their college engagement viewpoints. The majority of students in this group retained

the same viewpoint about college engagement that they held before reading the novel. Only one of the students shifted their viewpoint to one that had a higher value placed on collaboration with peers. The learning prioritized group, the third group, fell in between the first two groups. They valued and retained many lessons that they feel the book taught them. However, there was a lack of internalization of those messages, based on their responses to the Q sort after reading the novel. Their viewpoint changes were minimal, yet they acknowledged that they learned something. The final group, personally invested, reacted more strongly to some parts of the book than others based on their emotion and personal beliefs. They paid more attention to the parts of the book that meant more to them on a personal level, yet cared little about the rest. This suggests that to truly internalize something learned through edutainment, the student must find the subject matter enjoyable, or strongly relatable to their lives. In the case of the learning prioritized group, they treated the novel as a strict learning tool, but without the enjoyment aspect, little lasting impact was observed, at least at the subconscious level. For this reason, personal taste and interest serve as a strong precursory element to determine the lasting impact that a pedagogical tool can have on a student.

For a number of the students, internalization of the novel's messages was strengthened or weakened based on their knowledge of college obtained from other sources. Those with family members who attended college put more weight into what their family believed about college over what the novel illustrated. If the novel's depiction of college aligned with their family member's experience, they were more willing to invest themselves into the story. If the depictions of college did not match, they were more reserved in their conclusions. This illustrates an important point about reference groups. Not all reference groups are equal. While edutainment served as a valuable source of learning for the students with minimal insight into college life, those with alternate reference group sources valued those sources higher. Edutainment does not serve as a replacement for the reference groups provided by those with which students hold strong relationships.

Significance of the Study

Although the study focused on one fictional novel as the reference group for anticipatory socialization, edutainment can take form in numerous other ways. TV shows, movies, commercials, and social media are all valid sources of edutainment that prospective college students can use as reference groups for college. During the study, participants made comparisons of the novel to popular college-themed movies like *22 Jump Street* and *Monster's University*. The study showed that enjoyment of the subject matter made it easier to retain and internalize its messages about college engagement. This is consistent with the current literature on educational entertainment. The following section reviews the significance of the findings as it relates to current research on educational entertainment. Afterwards, the value of educational edutainment is discussed as well as its ability to improve college socialization.

Addition to Quantitative Literature

Although research on educational entertainment in a higher education context is relatively recent and limited (Reynolds, 2014), there have been a number of quantitative studies that have incorporated educational entertainment to teach a particular topic or concept. These studies all have a large sample size and attempt to generalize its findings beyond their specific program. One particular program used a radio program to determine its exposure effects on HIV prevention (Pappas-DeLuce et al., 2008). Positive associations were found between the radio program that promotes HIV prevention and various attitudes such as a stronger intention to have HIV testing and talking to a partner about testing. The longer the exposure to the program, the stronger the associations. Participants internalized the messages in the program to the point that they were willing to change their behaviors.

In addition to radio programs, video games were also a subject of study. One study used an instructional video game that simulated home visits for medical students (Duque et al., 2008). In this study, the students were tasked with inspecting the virtual home for dangerous safety

issues in a given time limit, all while being distracted by various things the game would present to the player during their tour of the house. Using pre- and post-test data, the researchers found that higher levels of engagement with the video game resulted in improvements in knowledge.

Engagement with the source of educational entertainment was a pivotal factor in the ability for the participant to gain knowledge or internalize a particular attitude or belief. This was also true with movies and TV shows. Using the TV shows *ER* and *Grey's Anatomy*, Hether et al. (2008) presented 599 participants with multiple breast-cancer themed episodes of the shows. Afterwards, the participants were surveyed on their attitudes towards breast-cancer. Results showed that the combined exposure to the storylines had a significant impact in the viewer's knowledge. However, exposure to just one episode or one storyline did not have a significant relationship. A study using the movie *Animal House* found that participants who viewed the movie were more likely to hold positive attitudes toward drinking alcoholic beverages and partying excessively, acts which were prevalent in the movie.

In these studies, engagement was not as important as the length of exposure with the source of educational entertainment. Participants who only watched one episode of the medical drama did not seem to hold any significantly-different views from participants who did not watch them. However, watching multiple episodes did appear to have a significant effect, suggesting that the length of exposure to different stories was enough to affect attitudes. The findings in this study support the current quantitative literature stating that engagement is an important factor in the retention and internalization of knowledge. The students who were more engaged with the book seemed to have stronger positive attitudes toward college engagement, such as collaborating with peers and seeking support from student affairs professionals. The length (and intensity) of exposure was not tested in this study, as all the students read the same book within the same period of time. The views held by the students after the study supported the quantitative literature that stronger engagement in a source of educational entertainment was related to stronger knowledge retention and internalization.

The study also extends the knowledge in this area. The available literature looked for any positive relationships between engagement and learning. However, the scope of the studies did not address the negative effects resulting from a lack of engagement. The mixed method nature of this study allowed for a broader analysis of different viewpoints which allowed for the non-engaged students to provide their perspective. The "no learning or engagement" group in Q sort 2 did not appear to enjoy the book due to personal tastes. This group was also less likely to change their viewpoint on college engagement by reading the novel. The majority of the participants in this group were "independent realists" before and after reading the novel. There did not appear to be any negative shifts in viewpoints by the students in this group, such as a stronger attitude towards partying or more reluctance to interact with peers. The viewpoints just failed to change. This can add to the current literature by acknowledging that the use of educational entertainment, depending on its content, might not have negative effects on the consumer. At best, they can learn something positive from the messages contained within the source. At worse, they learn nothing. This can be an encouraging reason to use positive sources of educational entertainment in any program where it could be incorporated, as the risks are minimal.

Addition to Qualitative Literature

Qualitative studies on educational entertainment ranged from using video games to theatre in an effort to educate various groups. Lee et al. (2004) interviewed teachers and students who used educational video games in the classroom to better understand their thoughts on their implementation. Both the teachers and the students described finding more enjoyment in classroom learning using the video games. The teachers also said that their students exceeded classroom expectations by using the video games to learn.

Theatre was a popular avenue for learning through educational entertainment. A case study revealed that by using improvisational theater to teach genetic concepts to nursing students, engagement with the program increased as the students more readily accepted the different teaching style (Newcomb & Riddlesperger, 2007). The students admitted that the improvisational

games helped them retain more information and motivated them to keep learning. Souto-Manning (2011) used theatre games to help White teachers view and understand their own power and privilege. The hands-on activities made the sensitive topics easier to digest than a traditional classroom lecture. Odenweller, Hsu, and DiCarlo (1998) found that students playing a card game based on gastrointestinal physiology were more engaged and found more ease in learning its concepts. Tobolowsky (2001) found that high school Latina students shaped many of their college expectations from college TV shows.

Similar to the quantitative studies, these studies found that engagement in the educational entertainment was a primary factor in the ability for a participant to retain knowledge about a subject. The qualitative nature of the studies was able to provide additional feedback from the participants as to *why* the engagement led to more learning. The students in the different studies (as well as the teachers) said that the activities kept them motivated and made them want to learn. Traditional classroom teaching can become monotonous after extended periods of time. By breaking up the teaching with these different types of programs, the students found more enjoyment in learning, which resulted in more engagement and retention. The educators also found more enjoyment in teaching, which may have had an impact in how the information was presented. In the current study, interviews with students revealed that their enjoyment of the novel was an important factor in their engagement and retention of knowledge. The students with the most drastic changes in viewpoints were also the students with the strongest comments about their enjoyment of the plot, the stories, and the characters. As the author of the book, I also found the experience enjoyable as the students discussed the aspects of the novel that meant the most to them. Although being the author of the book can be a limitation to the study, it also supports the other studies where the educators themselves created the edutainment programs they provided. The educators believed that the enjoyment by both the teacher and the student was a factor in the enhanced learning. Since the students were aware that I was the author of the book, many of them asked me questions about the making of the book after the study concluded and its parallels to

real colleges and universities. The informal conversations likely increased their engagement in the subject matter and could potentially aid in their internalization of the book's messages.

College Socialization through Media

When students enjoy what they are doing, whether through an innovative program, game, or activity that goes beyond a traditional lecture, they can learn and retain various concepts. The literature on college edutainment, as described above, suggests that students are learning from the material with which they are presented, regardless of whether or not they consume it for an educational reason. The students watching *Animal House* were not looking to learn from the movie, yet they managed to internalize messages about drinking and partying (Wasylkiw & Currie, 2012). What are other forms of edutainment teaching incoming college students? The novel's focus on peer relationships and social interactions seemed to develop viewpoints that were more focused on peer relationships and social interactions. Depending on the specific message that a particular form of edutainment chooses to focus on, students who consume it may be led to internalize those messages, positive or negative. Cirigliano, in a Q methodology study to understand student engagement with a custom cell biology graphic novel, stated that "passive exposure to information-enriched entertainment may prove beneficial as a method of making connections, recalling information, enhancing memory, and stimulating interest in academic subjects" (2012, p. 29). The readers of the novel in the current study appeared to experience all of these things. The novel, depicting the life stories of 21 students in their first year of college, provided a generous amount of information in a variety of college-related topics. The majority of students in the study managed to make connections between the story and real life, recalled information from the book, and showed more interest in the academic aspects of college.

Another important point to consider is the importance of family in these students' conceptualizations of college engagement. Cirigliano (2012) suggested that edutainment is a good supplement, but not substitute, to other forms of education. This was evident in the current study with the students' acknowledgement of family in the development of their viewpoints. A student

with a mother who was minimally engaged in college outside of the classroom was less likely to value out-of-class college engagement, even though he read a book where that was a focus. Another student put higher value on the contents of the book after his cousins' college experiences verified the validity of the messages contained within. Family serves as a powerful reference group for students that have not yet experienced college life. A novel about college life, even though the students admitted seemed realistic, was not enough to dissuade them from the lessons taught by their primary reference group consisting of family experiences and advice. If edutainment has a hard time "overwriting" the lessons learned from their primary reference group, what does that mean for other secondary reference groups? Orientation, for example, is a popular, mainstream reference group provided to students entering college. Through the programs contained within new student orientation, students are exposed to instructional materials, campus norms, and behavioral guidance. However, if these students already subscribe to a stronger, primary reference group, it may be more difficult for them to internalize the messages in the new student orientation program. For a few of the students in the study, the novel appeared to be their primary reference group. The lack of familial support and college knowledge led to these students internalizing the messages of the novel more easily. Had their initial exposure to college instead been a movie with heavy drinking, partying, and drug use, would that have served as their primary reference group? As observed in this study, once formed, a primary reference group is difficult to replace with a secondary reference group. For this reason, edutainment should be one part of a larger education strategy. No single source of edutainment can, on its own, educate a student for sufficient learning on a topic. There is a place for traditional education, additional edutainment, and alternative reference groups in the education of groups and individuals.

Colleges and universities are already incorporating edutainment into new and established programs to supplement student learning. Richard Daley College incorporated edutainment elements to a construction training program for high school students (Landt, 2001). The program combined traditional college-level courses with activities, hands-on projects, and student

incentives. John Hopkins University has supported multiple television series, radio dramas, and music videos to improve its edutainment curriculum (Piotrow, 1994). Professors at MIT and Carnegie Mellon University regularly research ways to incorporate edutainment and interactive technology inside and outside the classroom (Jenkins et al., 2003; Marinelli & Pausch, 2004). These programs are comprehensive and acknowledge that multiple strategies must be used to maximize student learning potential. This study supports the findings in that one book alone is not going to completely transform a student's perspectives of college. However, it can provide a promising start.

The Value of Educational Entertainment

The increasing use of technology in education is providing more ubiquitous use of educational entertainment in colleges and universities. Although initially used in early childhood education, educational technology is a rapidly-growing field in many other areas. Students are learning from many more sources than they had access to in years prior. Edutainment such as podcasts, infographics, viral videos, and social media, all facilitated through increased technology usage, is becoming a valuable pedagogical tool for college students and prospective college students. If educators fail to acknowledge and implement these evolving types of edutainment in their programs, they may fail to win over a student's attention in the battle to be the primary reference group. The lecture, traditionally known to be the dominant form of teaching, may no longer be enough on its own to educate students (Davis, 2011). Early childhood education has benefited greatly from educational entertainment by engaging the students in interactive learning, enhanced critical thinking, small group discussion, and problem-solving skills (Jenkins, Klopfer, Squire, & Tan, 2003; Odenweller, Hsu, & DiCarlo, 1998). It also has the capacity to promote social change (Cotwright et al., 2017; Igartua & Vega-Casanova, 2016; Obregon & Tufte, 2014) and even facilitate funding for scientific research (Singh, 2015).

The novel used in this study, although limited in its use of technology, suggests that educational entertainment has a low barrier to entry. Educators with the means and resources to

incorporate edutainment technology are encouraged to do so, but even those without adequate resources have the ability to provide students with a book or a self-created improvisation game. Technology as a medium has become more accessible due to the availability of apps in cellular phones and the decreasing costs of computers, tablets, and other pieces of hardware. Both technology and education focus on the way to present and communicate information between people, making both fields compatible for merging and innovating (Marinelli & Pausch, 2004). The novel used in this study provided an innovative way for the students to read about and learn about college life, and their responses were overall positive and the learning that took place as shown through their viewpoints is encouraging. This brings the question of what could students learn about college by using a more advanced form of technology, especially one that is interactive and personalized to match a particular student's learning style. The emerging field holds promise, as indicated by the student responses to the novel.

Implications

The results of this study suggest several implications for practice, future research, and theory. These implications will be reviewed in the following sections.

Implications for Practice

Enjoyment appeared to be an important factor in the retention and internalization of messages contained in an edutainment resource. The students who lacked enjoyment in what they were reading were less likely to change their viewpoints, even those that were interested in the educational aspects of the resource. This is likely not restricted to educational entertainment. Learning occurs more naturally when a person is engaged and enjoys what they are doing. University staff should continue to provide educational programs that students will enjoy. This can require accepting that students have different tastes and interests. Feedback from students would serve important in determining what types of programs to provide. With the increasing workload of university staff, it is often easier to "go with what works" and implement tried-and-true programs that result in large attendance and that are cost-efficient. However, as seen in this

study, out of 14 students, a handful did not enjoy the novel. Student interests vary, and so a large selection of programs should be rotated throughout the year to appeal to different tastes and interests.

Practitioners should also understand the importance of primary reference groups in the socialization of incoming college students. The students who lacked a primary reference group for college expectations were more willing to value and accept the educational entertainment provided to them. However, the students who already had a primary reference group feeding them information about college life (whether intentionally or unintentionally), were more critical about the information provided in the novel. Educators should take into consideration the needs of both types of students: those with prior reference groups and those without. Both groups of students require different strategies for success. Students without college reference groups may be more susceptible to socialization programs, and may require additional support to answer any questions they may have. These students may also be more emotionally invested in the reference groups provided, such as orientation programs or college tours, so it is important to provide continued support as their expectations become concrete.

Students who already have a primary reference group, whether it is a family member or collection of college-themed movies they viewed as a child, may be more reluctant to adopt lessons from new reference groups if they counter the messages they have already internalized. Practitioners who work with these students may benefit from initial feedback from students asking what they already know about college and where they learned that information. Interviews would be a good way to achieve this. However, in larger groups, a short survey may suffice. By understanding the beliefs that students have already developed and the source of those beliefs, programs can be better tailored to suit those beliefs. Instead of countering the beliefs with completely contradictory information, it may be helpful to pull nuggets of truth from any stereotypes the students may already have and use them to guide them to a more realistic message. Although the story in the novel was fictional, some students were more willing to

accept the messages contained in the novel because they were similar to experiences they already knew about.

If an edutainment program is to be used for socialization or anticipatory socialization, discussion sessions are crucial to retain and internalize the information that was presented. The follow-up conversations with the students in the study provided a good medium for them to justify the reasoning for their beliefs and put them into words. It also helped me, the researcher, to better understand the experiences that led the student to hold those beliefs. Educators should not only strive to educate students about college, but to learn from the students' experiences to aid in the revision and development of new programs. This includes the use of edutainment *before* a student begins college. As seen in this study, the participants had already created an idea of what college would be like in their heads prior to reading the novel. Years of misinformation may be difficult to correct with a short program at the beginning of their freshman year of college. Collaborations with high schools are recommended to provide students additional exposure to college life. Edutainment programs can consist of college-themed movies, television shows, YouTube videos, novels, commercials, or even podcasts, and then discuss their portrayals of college so the students can better understand what is real and what is not real. Students who have limited anticipatory socialization into college would benefit from the entertaining exposure in a controlled environment where myths could be clarified and questions could be answered.

Another recommendation for practice includes the adoption of a looser definition for the term "first generation student." Traditionally, when referring to first generation students, the emphasis is placed on whether the parents went to and graduated college. These students are seen as more vulnerable if their parents did not go to college because they do not have the guidance to appropriately socialize into college life. As seen in this study, there were a few students who did not fall into the traditional classification of first generation student, yet still struggled to understand out-of-class college engagement. In their case, they had family members who went to college, but those family members were not engaged outside of the classroom. As a result, these

students may get support in coursework, but may be just as disadvantaged as traditional first generation students in navigating the educational landscape outside the classroom. These students may need guidance as to what organizations to join, how to get career advice, and who to talk to in the case of a personal problem, but may not be seen as at-risk because their parents went to college, even though their parents' college experience may not have been optimal for student growth. When creating programs for student support outside the classroom, educators should look beyond the traditional first generation criteria and acknowledge that many students with family members that went to college may still experience "first generation" challenges. These students may be even more at risk, because they may see their parents' college experience as the "right" college experience and may be less willing to get involved on campus due to the prevailing thought "if my parents didn't get engaged in college and finished just fine, why should I?"

Implications for Research

A recommendation for future research includes the evaluation of additional edutainment programs for their ability to serve as reference groups. This study showed the viewpoints created as the result of one fictional novel written by one author. It would be important to add to the literature how students receive the messages provided by other sources of edutainment and internalize them as reference groups for college. There are several studies that have done this with various types of edutainment programs, but it is still a relatively new field. Reference group theory should be applied to other socialization programs such as new student orientation and summer bridge programs to understand what students are retaining from those programs. If the purpose of the program is to teach a student the cultural norms of the college (normative reference group) but the students are more focused on how they are being treated (equity group), there may be a mismatch on reference groups. If a program aims to inspire a student to get involved outside of class (audience group), but the student cares more about the technical aspects of how to sign up for an organization (role model group), the learning capacity is diminished. Additional Q methodology studies using different edutainment programs may allow students to

rank what type of reference groups they are assigning to the particular program. Educators would also benefit from completing a Q sort for their program to see what type of reference group they are trying to reinforce in the program. A mismatch between what the educator is trying to teach and what a student wants to learn can suggest the reevaluation of the program's learning objectives.

Another recommendation includes the study of primary and secondary reference groups. Prior research on reference groups suggests the existence of reference groups and their combined impact on an individual. However, there is a gap in the literature on the strength of influence from competing reference groups. This study suggested that not all reference groups are equal, and that some reference groups were held to the standard of another reference group. A study examining the different levels of impact of reference groups, particularly for prospective college students, could be useful in developing a hierarchy of reference groups based on the value that students place on them. This may help educators provide support to students that are missing key reference groups in their college transition.

Using the initial findings of this study, a quantitative edutainment study is recommended. The results suggest that a student must be both entertained and educated to find value in an edutainment program. To generalize this finding, an experimental or quasi-experimental study would be helpful with a larger sample size where students are provided a source of edutainment to consume, then tested on their levels of enjoyment and retention of information from the program. Due to the increasing use of educational technology both inside and outside of college classrooms, educators and researchers should understand the importance of edutainment as it is becoming an increasing part of students' lives. Edutainment has been adopted in earlier childhood education and is being increasingly used in secondary education. In addition to programs that already exist, colleges and universities are encouraged to adopt new programs and evaluate them for their ability to entertain and educate.

Implications for Theory

The results of this study suggests implications for theory. Reference group theory is often mentioned as a source of knowledge to which a person can assign value as a method of socialization. However, the theory assumes that reference groups have different levels of impact and different groups can influence simultaneously (Kemper, 1968). This study supports that reference groups may have different levels of impact. However, some reference groups, or primary groups, may supersede other reference groups depending on how much value someone puts in them, making the secondary reference groups ineffective. Further study on reference groups is required to understand how different reference groups may conflict with each other.

The results also suggest that first generation status for a college student may have broader implications than what the traditional literature states. A few of the participants in the study, after learning the meaning of "first generation college student," believed themselves to fall within that category even though they had a family member attend college before them. Their knowledge on college engagement was as limited as their more traditional first generation peers. In addition, they were more resistant to the messages in the novel due to perceptions formed through observations of familial college experiences. These students may be at risk due to their tendency to be more resistant to college-related information that conflicts with what their parents experienced.

Summary of the Chapter

The purpose of this study was to understand how high school students who may be prospective first generation college students conceptualize college engagement before and after reading a college-themed mystery novel as part of an educational entertainment strategy. This would be done by analyzing the students' viewpoints on the reference groups they assign to the novel and how that impacts their viewpoints on college engagement through a Q methodology study. The results of the study suggest that enjoyment of educational material was important in determining not only the retention of information by participants, but in the internalization of the

messages in the novel as depicted in their viewpoints on college engagement. The students who enjoyed the book were more likely to hold viewpoints about college engagement that aligned with the contents of the book. However, students who had family attend college (regardless of whether it was immediate or extended family) referred to them as their primary reference group in forming their college engagement expectations. If the contents of the novel aligned with their family's college experience, they were willing to accept it as a pedagogical tool. However, if their family's experience was different than what was in the novel, they seemed to dismiss the parts of the novel with which they did not agree. These findings can have implications that extend to future research and practice. Q methodology studies are meant to form a foundation from which to build further studies. The viewpoints created in a Q methodology study can serve as possible variables to test out using quantitative studies or as vehicles for further exploration through qualitative studies. Although the results stemming from these participants cannot be proportionally distributed to a larger population, the viewpoints created by the participants help to identify a typology about individual characteristics that share that viewpoint. The viewpoints shared by the participants could help educators create new programs and adapt existing programs that cater to their needs. For example, the students who had family attend college as non-traditional students may not fit the traditional "first generation" label assigned to students who are the first in their families to go to college. However, their viewpoint of following in the footsteps of their relatives may dissuade them from participating in engagement activities despite being introduced to the benefits of college engagement. The existence of primary and secondary reference groups in the creation of college expectations is an important consideration when developing college transition programs. Educators should understand the preconceived notions that students bring with them to college, as well as the primary referenced groups that introduced them to those notions, in order to better help them evolved their expectations to better align with the university's goals.

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APPENDICES

APPENDIX A

Research Study Information and Recruitment Sheet

Title of Study: Exploring student attitudes toward college socialization using an edutainment college-themed novel

Thank you for your interest in participating in this study. The purpose of this study is to understand the meaning that high school students make from fictional college media as it applies to college student engagement. This involves reading a mystery novel set on a college campus.

Participation of this study will include the following:

- One initial group meeting to discuss the aims of the study, complete a Q sort survey and a short semi-structured interview, and receive a copy of the mystery novel *Halls of Ivy*. Estimated time of meeting is about 2 hours.
- Participants will be given two weeks, or 14 days, to read the book in its entirety. The book is 288 pages long, and can take approximately 6 hours to read.
- A second group meeting will take place on the 14th day where students will take a *Halls of Ivy* content quiz, complete two Q sort surveys, and a short semi-structured interview. Estimated time of meeting is 2 hours.
-

Total time for study completion will take approximately 10 hours to complete, depending on reading speed.

Participants who successfully complete the requirements of this study will receive a $100 gift card to Walmart, which averages out to $10 an hour. To receive gift card, participant must score a minimum of 70% in a 20-question content quiz to prove they read the book.

Participant Criteria

To qualify for the study, participants must be a current high school student who is not taking any dual enrollment courses on a college campus. The participant must also be a first-generation student. A first generation student, for the purposes of this study, is defined as an individual who would be the first in his or her household (i.e. parents, guardian, siblings) to attend and graduate college.

Students who believe they meet the criteria may contact the principal investigator, Roland Nuñez, at roland.nunez@okstate.edu. They will receive a demographic questionnaire to gauge whether or not they meet the criteria. If they do, they will be invited to an initial meeting to begin the study.

Participant Assent Form

ASSENT FORM
OKLAHOMA STATE UNIVERSITY

Dear Student,

We are interested in learning about student opinions on college-themed entertainment. If you choose to participate, you will be invited to attend two group meetings and read a mystery novel.

The novel you will be reading is called *Halls of Ivy*. The novel is about a researcher who attends a college campus and interviews a group of college students as they complete their first year of college. Meanwhile, a student death at the college spurs an investigation by the researcher that uncovers a larger conspiracy. The topics that will be covered in this novel are orientation to a college, the moving in experience, classroom struggles, and life in a college dorm.

Please understand that you do not have to do this. You do not have to answer any questions that you do not want to. You may stop at any time with no penalty. Students who successfully attend the two meetings, read the book, and pass a content quiz at the end with at least 70% will receive a $100 gift card to Walmart as a thanks for participation. Students who fail the quiz will be given one additional chance to retake it and pass.

Your name will not be shared with anyone else, and any information you provide in the study will remain confidential.

Sincerely,

Roland Nuñez
Graduate Student Oklahoma State University

John Foubert, Ph.D.
Associate Professor Oklahoma State University

I have read this form and agree to help with your project.

_____
(your name**)**

_____
(your signature)

_____
(date)

APPENDIX C

Parent Permission Form

PROJECT TITLE: Exploring student attitudes towards college socialization using an edutainment college-themed novel

INVESTIGATOR(S):
Roland Nuñez, Oklahoma State University
Dr. John Foubert, Oklahoma State University

PURPOSE:

The purpose of this study is to understand the meaning that high school students make from fictional college media as it applies to college socialization and engagement. The main topics that the mystery novel will cover include moving into college, making friends, taking classes, and adjusting to life in a dorm.

PROCEDURES:

Participation of this study will include the following:
- One initial group meeting to discuss the aims of the study, complete a Q sort survey and a short semi-structured interview, and receive a copy of the mystery novel *Halls of Ivy*. Estimated time of meeting is about 2 hours.
- Participants will be given two weeks, or 14 days, to read the book in its entirety. The book is 288 pages long, and can take approximately 6 hours to read.
- A second group meeting will take place on the 14th day where students will take a *Halls of Ivy* content quiz, complete two Q sort surveys, and a short semi-structured interview. Estimated time of meeting is 2 hours.

RISKS OF PARTICIPATION:

There are no known risks associated with this project which are greater than those ordinarily encountered in daily life. The subject matter of the novel being read by the participant are considered appropriate for a teenage audience. There are instances of suicide and sexual assault described in the novel, but they are not described in detail nor gratuitously, and are treated as serious issues not to be taken lightly.

BENEFITS OF PARTICIPATION:
There are no direct benefits to the child for participation. The data collected will assist in ongoing research on the effects of media on teenagers.

CONFIDENTIALITY:

The records of this study will be kept private. Any written results will discuss group findings and will not include information that will identify you or your child. Research records will be stored on a password protected computer in a locked office and only researchers and individuals responsible for research oversight will have access to the records.

Data will be destroyed three years after the study has been completed.

Audio tapes will be transcribed and destroyed within 7 days of the interview.

COMPENSATION:

Compensation will consist of a $100 gift card to Walmart, which equates to about $10 an hour for participation in the study. To qualify for compensation, participant must complete all the requirements of the study and pass a content quiz with at least 70% as proof they read the entire book. Participant will be allowed a maximum of one retake to review the book and pass the quiz before compensation is forfeited.

CONTACTS:

You may contact any of the researchers at the following addresses and phone numbers, should you desire to discuss participation in the study and/or request information about the results of the study: Roland Nuñez, Willard Hall, Educational Leadership Program, Oklahoma State University, Stillwater, OK 74078, (405) 274-4680 or John Foubert, PhD, Willard Hall, Educational Leadership Program, Oklahoma State University, Stillwater, OK 74078, john.foubert@okstate.edu. If you have questions about your rights as a research volunteer or parent, you may contact the IRB Office at 223 Scott Hall, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu

PARTICIPANT RIGHTS:

I understand that my child's participation is voluntary, that there is no penalty for refusal to participate, and that I am free to withdraw my permission at any time.   Even if I give permission for my child to participate I understand that he/she has the right to decline.

CONSENT DOCUMENTATION:

I have been fully informed about the procedures listed here. I am aware of what my child and I will be asked to do and of the benefits of my participation. I also understand the following statements:

I have read and fully understand this permission form. I sign it freely and voluntarily. A copy of this form will be given to me. I hereby give permission for my child _____
to participate in this study.

_____   _____
Signature of Parent/Legal Guardian   Date

I certify that I have personally explained this document before requesting that the participant sign it.

_____   _____
Signature of Researcher   Date

Demographic Questionnaire

Thank you for completing this survey. Your participation is voluntary, and individual responses will not be shared with anyone.

1. What is your classification? □ Freshman   □ Sophomore   □ Junior   □ Senior

2. What is your current age? _____ years

3. Please indicate your race or ethnicity (Check all that apply.
    □ Asian American/Pacific Islander   □ Native American/American Indian
    □ Caucasian   □ Hispanic/Latino
    □ African American   □ Other

4. Please indicate your gender.
    □ Male   □ Female
       □ Nonbinary

5. What is your current GPA?
    □ 1.99 or below   □ 3.0 – 3.49
    □ 2.0 – 2.49   □ 3.5 or above
    □ 2.5 – 2.99

6. Approximately how many hours per week do you work?
    □ Do not work   □ 21 - 30 hours per week
    □ Less than 10 hours   □ 31 - 40 hours per week
 per week   □ Over 40 hours per week
    □ 11 - 20 hours per
 week

7. Would you be the first in your household (i.e. parents, siblings, guardian) to attend a college or university?
    □ Yes   □ No

8. Would you be the first in your household (i.e. parents, siblings, guardian) to graduate from a college or university?
    □ Yes   □ No

9. What is your estimated household income?
    □ < $30k/year   □ $30k - $50k/year
    □ $50k-80k/year   □ > $80k/year

10. How many school or community organizations are you currently actively involved in?

       ☐ 1-3   ☐ 7-9

       ☐ 4-6   ☐ 10+

11. From the following list of movies, please select all the movies you have seen:

__ Animal House   __ Neighbors

__ Pitch Perfect   __ Van Wilder

__ Accepted   __ Old School

__ The House Bunny   __ Monsters University

__ Admission   __ Rudy

12. From the following list of TV shows, please select all the shows you have seen:

__ Community   __ A Different World

__ Greek   __ Blue Mountain State

__ Saved by the Bell: The College Years   __ Resident Advisors

__ Undeclared   __ Veronica Mars

__ Felicity   __ Gilmore Girls

13. From the following list of novels, please select all the novels you have seen:

__ Gossip Girl

__ Joe College

__ The Rules of Attraction

__ The Magicians

__ On Borrowed Wings

14. In the last 5 years, how many movies have you seen that took place in a college or used college as a large part of the story?

       ☐ 0-2   ☐ 6-8

       ☐ 3-5   ☐ 9+

15. In the last 5 years, how many TV shows have you seen which for at least one season took place in a college or used college as a large part of the

story?

       ☐ 0-2   ☐ 6-8

       ☐ 3-5   ☐ 9+

16. In the last 5 years, how many fictional novels have you read that took place in a college or used college as a large part of the story?

       ☐ 0-2   ☐ 6-8

       ☐ 3-5   ☐ 9+

APPENDIX E

Engagement Scale Reliabilities and Validities

National Survey of Student Engagement
Temporal reliability ranges between .63 and .92 as of 2014
Litwin (2003) suggest correlations of at least .70 are reasonable
All correlations except first-year learning strategies are above .70

Internal consistency has Cronbach's alphas ranging from .758 to .896 (2016)
Results suggest they are reliable NSSE scales
"It is a measurement of how well the different items complement each other in their measurement of different aspects of the same variable or quality" (Litwin, 2003 p. 22)

Response process validity determined through cognitive interviews and focus groups
Content validity determined through expert consultation

Wabash National Study of Liberal Arts Education 2006 - 2012
The Center of Inquiry led the Wabash National Study of Liberal Arts Education, a large-scale, longitudinal study to investigate critical factors that affect the outcomes of liberal arts education.
49 institutions participated in the study
Ryff Scales of Psychological Well-Being- Internal consistency, test-retest reliability all above .80
Political and Social Involvement
Openness to Diversity and Challenge

Small Group Socialization Scale
Cronbach's alpha for 14-item SGSS was .88, meeting acceptability standards
Concurrent validity was established through investigating cohesion, consensus, communication satisfaction, and loneliness

Hammond's Socialization Scale
Survey items based on Cardenas' (2005) questionnaire designed to measure doctoral student involvement
Reported reliability of instrument was .93

Student Engagement Scale
Internal consistency was .957 for total scale, .815 for valuing, 868 for sense of belonging, .909 for cognitive engagement, .815 for peer relationships, .871 for relationships with faculty members, .812 for behavioral engagement

College Media and Involvement Survey
College media influence reliability was .928, social expectations was .789, difficulty expectations was .623, party expectations was .814

APPENDIX F

Student Engagement Concourse of Communication

Student Engagement Scale

1. The extent R agrees that non-classroom interactions with faculty have had a positive influence on personal growth, values, and attitudes
2. The extent R agrees that non-classroom interactions with faculty have had a positive influence on intellectual growth and interest in ideas
3. The extent R agrees that non-classroom interactions with faculty have had a positive influence on career goals and aspirations
4. The extent R agrees that since coming to this institution, R has developed a close, personal relationship with at least one faculty member
5. The extent R agrees that R is satisfied with the opportunities to meet and interact informally with faculty members
6. Faculty Interest in Teaching and Student Development
7. Most faculty with whom R had contact are genuinely interested in students 0.850
8. Most faculty with whom R had contact are interested in helping students grow in more than just academic areas
9. Most faculty with whom R had contact are outstanding teachers
10. Most faculty with whom R had contact are genuinely interested in teaching
11. Most faculty with whom R had contact are willing to spend time outside of class to discuss issues of interest and importance to students
12. Frequency of Interactions with Faculty During current school year, how often has R discussed grades or assignments with an instructor
13. During current school year, how often has R talked about career plans with a faculty member or advisor
14. During current school year, how often has R discussed ideas from readings or classes with faculty members outside of class
15. During current school year, how often has R worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)
16. Degree of Positive Peer Interactions R has developed close personal relationships with other students 0.871
17. The student friendships R has developed at this institution have been personally satisfying
18. Interpersonal relationships with other students have had a positive influence on Rs personal growth, attitudes, and values
19. Interpersonal relationships with other students have had a positive influence on Rs intellectual growth and interest in ideas
20. Rs quality of relationships with other students
21. It has been difficult for R to meet and make friends with other students (reverse-coded)
22. Few of the students R knows would be willing to listen to and help R with a personal problem (reverse-coded)
23. Most students at this institution have values and attitudes different from R (reversecoded)
24. Cooperative Learning In Rs classes, students taught each other in addition to faculty teaching
25. Faculty encouraged R to participate in study groups outside of class

26. R participated in one or more study group(s) outside of class
27. During current school year, how often has R worked with other students on projects outside of class
28. Number of hours per week R spends participating in co-curricular activities
29. Frequency of Interactions with Student Affairs Staff
30. How often R discussed a personal problem or concern with student affairs professionals
31. How often R worked on out-of-class activities (e.g., committees, orientation, student life
32. activities) with student affairs professionals
33. How often R talked about career plans with student affairs professionals
34. How often R discussed ideas from readings or classes with student affairs professionals
35. How often R discussed grades or assignments with student affairs professionals

National Survey of Student Engagement

36. Attended an art exhibit, play, dance, music, theater, or other performance
37. Exercised or participated in physical fitness activities
38. Participated in activities to enhance your spirituality (worship, meditation, prayer, etc.)
39. During the current school year, about how often have you done each of the following?
40. Examined the strengths and weaknesses of your own views on a topic or issue
41. Tried to better understand someone else's views by imagining how an issue looks from his or her perspective
42. Learned something that changed the way you understand an issue or concept
43. Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)
44. Study abroad
45. Independent study or self-designed major
46. Foreign language coursework
47. Community service or volunteer work
48. Practicum, internship, field experience, co-op experience, or clinical assignment
49. Participate in a learning community or some other formal program where groups of students take two or more classes together
50. Work on a research project with a faculty member outside of course or program requirements

Hammonds Socialization Scale

51. My relationship with my advisor has had a positive influence on my intellectual growth.
52. My relationship with my advisor has had a positive influence on my career goals.
53. My relationship with my advisor has had a positive influence on my personal growth.
54. My advisor advises me effectively.
55. My advisor cares about how I do in the program.
56. My relationship with my advisor is very positive
57. I have a poor relationship with my advisor.
58. Met outside of class with other students in your program for a meeting, discussion, or study group.
59. Met with fellow students to talk about your research.
60. Attended workshops on career development/opportunities.
61. Attended professional conferences or meetings.

62. Participated in an outreach or extension project.
63. Attended research seminars in yours or others disciplines.
64. Participated in departmental colloquium or brown bags.
65. Since starting this program I have developed close personal relationships with other students.
66. The student friendships I have developed during this program have been personally satisfying.
67. It has been difficult for me to meet and make friends with other students.
68. My interpersonal relationships with other students have had a positive influence on my intellectual growth and interests in ideas.
69. Few of the students I know would be willing to listen to me and help me if I had a personal problem.
70. My interaction with peers contributed greatly to my progress in this program.
71. Most students at this university have values and attitudes different from my own.
72. My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes, and values.
73. During most of my graduate program I felt socially isolated from my fellow graduate students.
74. There is a sense of solidarity among the students in this program.
75. If I have a problem, it's easy to find someone here to help.
76. My non-classroom interactions with faculty have had a positive influence on my personal growth, values, and attitudes.
77. My non-classroom interactions with faculty have had a positive influence on my intellectual growth and interests in ideas.
78. Since starting this program I have developed a close, personal relationship with at least one faculty member.
79. I seldom meet and talk with faculty members.
80. Faculty are very accessible.
81. My interaction with faculty contributed greatly to my progress in this program.
82. I feel very comfortable in approaching faculty.
83. Faculty care about how I do in the program.
84. My relationships with faculty are very positive.
85. Faculty here have little interest in me.
86. I am satisfied with the opportunities to meet and interact informally with faculty members.
87. Attended departmental social events with other fellow students.
88. Attended informal dinners and get-togethers with other fellow students.
89. Attended graduate student associations' socials.
90. Participated in campus clubs, student organizations, or student government.
91. Met with students to talk about course work, plans of work, and faculty.
92. Participated in other social activities involving graduate students and/or faculty.
93. I question whether I made the right decision to engage in graduate study.
94. I am confident I made the right decision to enroll in this program.
95. I intend to earn my graduate degree either here or at another university.
96. I doubt that I can successfully complete requirements for this program.
97. I am sure that I will complete this degree program.

Small Group Socialization Scale

98. I understand what was appropriate dress for group meetings
99. I understood the authority the group had for doing its work
100. I did not see myself as an effective group member (R)
101. I understand the "group talk" the group used to do its work
102. I found someone in the group who could provide me with emotional support
103. It was clear what was expected of me in this group
104. I found someone in the group with whom I could talk about career plans
105. It was not at all clear what was expected of me in this group (R)
106. I depend on other group members for support in the group
107. I found someone in the group who could help me adjust to the group
108. I found someone in the group on whom I could depend for support
109. I had no clear idea of what this group was to accomplish (R)
110. I found someone in the group with whom I could discuss personal matters
111. There was no one in the group on whom I could depend for support

Wabash National Study of Liberal Arts Education

112. I believe university is beneficial for me Finn
113. University is of great importance in my life
114. I think the rules at university are fair for everybody
115. I try not to damage anything that belongs to the university Interviews
116. I give importance to university education and take it seriously
117. I feel myself as a part of the campus
118. Campus is an entertaining place Sutherland
119. I enjoy the activities carried out in campus Sutherland
120. I feel happy in campus Fredricks et al.
121. I like spending time in campus
122. I have close friends in campus
123. I feel secure in campus
124. My friends in campus are always near me when I need them
125. I like communicating with other students in campus
126. Campus staff help me when I need them Interviews Participation
127. I take part in campus activities (sports activities, cultural activities, club activities etc.)
128. I go to campus willingly
129. I benefit from the facilities in campus (canteen, library, sports arenas and so on)
130. I follow campus rules
131. I look forward to going to campus
132. I motivate myself to learn
133. I determine my own learning goals
134. I try to do my best during classes
135. Besides doing my lessons, I further study for my lessons
136. What I learn in class is important for me
137. I discuss what I have learned in class with my friends out of class
138. I attend classes by geting prepared in advance
139. I try to do my homework in the best way
140. I enjoy intellectual difficulties I encounter while learning
141. I spend enough time and make enough effort to learn

142. I have close friend(s) in my class.
143. My teachers are always near me when I need them
144. I give importance to studying together with my classmates (in a group)
145. My teachers respect me as an individual
146. I like my teachers
147. My classmates respect my thoughts/ views
148. I think my teachers are competent in their fields
149. I think my courses are beneficial for me Handelsman et al.
150. I respect my classmates
151. I have teachers that I can share my problems with Appleton et al.
152. My classes are entertaining
153. I respect my teachers
154. I am interested in my courses
155. I like doing something for my classmates I feel myself as a part/member of a student group
156. I like communicating my teachers
157. I feel anxious when I don't attend classes
158. I like seeing my friends in class
159. I am an active student in class
160. My teachers behave fairly to all my friends
161. I carefully listen to my teacher in class
162. My teachers interact/communicate with me Kahu
163. I follow the rules in class
164. I do my homework/tasks in time
165. I carefully listen to other students in class
166. I try to do my best regarding my responsibilities in group work
167. I share information with my classmates

College Media and Involvement Survey

168. Movies about college helped me understand what college is like.
169. TV shows about college helped me understand what college is like.
170. Fictional college novels helped me understand what college is like.
171. I think that college was presented realistically in movies about college.
172. I felt that college is just like they show it in the movies.
173. Making friends are an essential part of the college experience.
174. I had an easy time making friends when I started college.
175. Before I attended college, I expected college was going to be fun.
176. Now that I'm in college, I feel that college was a lot of fun.
177. On the first day of college, I felt like I didn't know what I was doing.
178. Now that I'm in college, I feel that college was very difficult.
179. Before I attended college, I expected college was going to be very difficult.
180. I attended many college parties during my first semester.
181. My friends attended many college parties during my first semester.
182. College parties are an essential part of the college experience.

APPENDIX G

Student Engagement Q Sample

Valuing

1. Most students in college will have values and attitudes different from my own.
2. I will likely question whether I made the right decision to engage in undergraduate study.
3. I am sure that I will complete a college degree program.
4. I believe university is beneficial for me
5. I think the rules at university are fair for everybody
6. I give importance to university education and take it seriously
7. The college campus is an entertaining place
8. I will like spending time in a college campus
9. I look forward to going to college

Sense of Belonging

1. It will be difficult for me to meet and make friends with other students.
2. There will be a sense of solidarity among the students in this program.
3. I do not see myself as an effective group member
4. I will find someone in a group who could provide me with emotional support
5. I will find someone in a group who could help me adjust to the group
6. I will find someone in a group with whom I could discuss personal matters
7. I can see feel myself feeling as a part of the college campus
8. I will feel secure in a college campus
9. I will benefit from the facilities in college (canteen, library, sports arenas and so on)

Cognitive Engagement

1. Interpersonal relationships with other students will a positive influence on my intellectual growth and interest in ideas
2. I will examine the strengths and weaknesses of my own views on a topic or issue
3. I will try to better understand someone else's views by imagining how an issue looks from his or her perspective
4. I will learn something that changes the way I understand an issue or concept
5. I will meet outside of class with other students in my program for a meeting, discussion, or study group.
6. My interaction with peers will contribute greatly to my progress in this program.
7. I will meet with students to talk about course work, plans of work, and faculty.
8. My classes will be entertaining
9. I expect college is going to be very difficult.

Peer relationships

1. The student friendships in college will be personally satisfying
2. Interpersonal relationships with other students will have a positive influence on my personal growth, attitudes, and values
3. Few of the students I will know would be willing to listen to and help me with a personal problem
4. I will develop close personal relationships with other students.
5. If I have a problem, it will be easy to find someone to help.
6. I will have close friends in college
7. My friends in college will always be near me when I need them

8. I will like communicating with other students in a college campus
9. Making friends are an essential part of the college experience.

Relationships w/ Faculty Member
1. I will likely discuss a personal problem or concern with a student affairs professional
2. I will work on out-of-class activities (e.g., committees, orientation, student life activities) with a student affairs professional
3. I will talk about career plans with a student affairs professional
4. I will discuss ideas from readings or classes with a student affairs professional
5. I will discuss grades or assignments with a student affairs professional
6. College staff will help me when I need them
7. I will participate in social activities involving faculty and/or staff.

Behavioral Engagement
1. I will participate in one or more study group(s) outside of class
2. I will attend an art exhibit, play, dance, music, theater, or other performance
3. I will exercise or participate in physical fitness activities
4. I will participate in activities to enhance my spirituality (worship, meditation, prayer, etc.)
5. I will attend workshops on career development/opportunities.
6. I will attend departmental social events with other fellow students.
7. I will attend informal dinners and get-togethers with other fellow students.
8. I will participate in campus clubs, student organizations, or student government.
9. College parties are an essential part of the college experience.

APPENDIX H

Student Engagement Q Sort Grid

Most Disagree   Most Agree

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

APPENDIX I

Reference Group Concourse of Communication

1. This book is overall pretty great.
2. I really enjoyed how three different storytelling methods all helped uncover the mystery of the suicides.
3. The story has a slow start, explaining the university setting and the characters.
4. Being a high school graduate that's about to start college, it gave me insight into college life and told me what to expect.
5. The book does a great job in keeping you guessing which of the students is suicidal.
6. As an upcoming college freshman reading a book about college freshmen, this book was informative, and also kept me on my toes with the darker, more complex mystery toward the later chapters.
7. I actually really loved the way that everything was presented through the alternating narration and interview transcripts.
8. I just think that sometimes things could have been a little more subtle and give the reader a bit more credit for figuring things out on their own.
9. The character of Cheyenne was relatable and likable.
10. I found myself wanting her to be successful and expose the problems within this fictional university.
11. It took me a very long time to read this book.
12. The writing style was a little confusing.
13. It made it very difficult to follow the sequence of events.
14. Because of the way it is written, it did not have any deep character development
15. the reader not being able to really connect with any of them
16. there are some we like and some we just can't warm to
17. The suspense was too sparse, too little, too late.
18. I found this book to be a meandering tale of university life.
19. it does contain an interesting look at the first challenging year of university life
20. It is probably more likely to be a book that students planning to enter a university might like to read
21. It might also serve as a caution to patents to thoroughly research universities and associated personnel before enrolling any children.
22. A great book about a woman, Cheyenne Winters, doing a dissertation about college life at Sun Valley University who stumbles upon a suicide trend.
23. The story, including the notes and interviews of Cheyenne, was very well written and really kept me intrigued.
24. An interesting story with an in depth character study of Freshmen (Mavericks, in this case) that is very intriguing and held my interest throughout.
25. Now and then, the story will mention problems that a lot of students encounter when going to university for the first time.
26. This book is an enormous jigsaw puzzle.
27. The characters weren't so bad, but they are nothing special,
28. This book does exactly what it claims the 'corrupt officials' of its story does- not care about its students.

29. Halls Of Ivy takes readers inside the lives of 21 college students, their problems, fears and an administration so corrupt that one young researcher would risk it all in order to protect so many others.
30. gives readers an upfront look at the inside of a college that makes readers wonder whether this is fact or fiction.
31. One novel that will give you much pause for thought and encourage parents to research colleges for more than just their academic standings before enrolling their high school graduates as freshman.
32. It had a good premise and concept, but very poor execution.
33. I feel like the story of the book was poorly executed and there was a lot of fat and filler to be found in the story.
34. Perhaps an experienced reader would have figured out the twists, but I was left rather shocked when they were revealed.
35. I could see some of the storylines in this book making a good series on TV
36. it does read a bit like a piece of academic writing with a storyline woven in.
37. The opening prologue really draws you in.
38. With a mystery set out and the main character voice set out in a concise and frustratingly general way.
39. This leads to a very rounded, if piecemeal storyline.
40. It certainly kept me guessing, with a gradual build up throughout the book.
41. Although I did come to like all of the students, I felt that I didn't really know them all that well.
42. So overall, it is a good read and a worthwhile addition to your library.
43. However, the author does a good job of presenting a mystery that becomes more and more complicated and convoluted as time progresses.
44. Halls of Ivy was very different from any book I've read before.
45. I really liked the idea of this book, and the way it was presented.
46. It was a thriller, but it also presented real issues that I'm sure effect college students all around.
47. A lot of interactions in this book I feel would be realistic to the college experience.
48. This book was written in a different style than what I'm accustomed to
49. Most of the characters presented in this book were likable.
50. I feel like this book would make an amazing mini-series or television show,
51. this book shows what can happen within one year and how devastating (and amazing) it can be.
52. I feel it's a good representation of how different college is from anything you've ever experienced before.
53. This book would be better suited for someone who is currently in college or has been apart of the college atmosphere.
54. All in all a good plot, good characters, and a must read for college students who like a mystery.
55. This is a well constructed mystery that was fun to read and yet kept me guessing until the very end.
56. The characters are well defined and the story is full of twist and turns.
57. i didn't really connect with the characters
58. I felt the character of Detective Sawyer was undeveloped.
59. I loved at the twists and turns, it was brilliantly executed.

60. I really enjoyed reading this, especially being a college student.
61. There seemed to be a lot of conflict in the story and a lot of things going on.
62. It was easy to see the world the author created.
63. The setting seemed both believable and clear.
64. I had no problem picturing Sun Valley University at all!
65. The story was very controversial.
66. So many characters I couldn't keep my investment in one.
67. I could instantly attach a face to the character.
68. I really liked the Title and the cover art is very eye catching and fitting to the book!
69. I think the characters could have been described in more detail.
70. Halls of Ivy was very different from any book I've read read before.
71. I really liked the idea of this book, and the way it was presented.
72. I feel that the book could use a little editing.
73. Depression, in particular, is a large part of this book, but it's never really addressed.
74. My view of college hasn't changed much since I knew the general jist of college was since the beginning.
75. There are some parts that show the general idea of college.
76. Whenever I read a character's situation in the book, I'm like "this is me".
77. At least one character's situation is something that would happen with me if I was ever a college student.
78. I really connected with at least one character over everyone else.
79. The book was a lot more realistic than a college-themed TV show.
80. And it did show that kids do get depressed whenever they get faced with struggles.
81. It all basically centers around the fact that you need to try something new.
82. It really does represent that but... college isn't gonna be just partying and drinking all the time
83. you're really gonna have to socialize
84. To be a college student, you have to have effort.

Reference Group Q Sample

Normative Group

Educational aspects

1. The book gave me insight into college life and told me what to expect.
2. The book contains an interesting look at the first year of university life.
3. Now and then, the story will mention problems that a lot of students encounter when going to university for the first time.
4. The book gives readers an upfront look at the inside of a college that makes readers wonder whether this is fact or fiction.
5. It really does represent that college isn't gonna be just partying and drinking all the time.
6. I feel it's a good representation of how different college is from anything you've ever experienced before.
7. This book would be better suited for someone who is currently in college or has been a part of the college atmosphere.

Comparison Group

Equity Group

Fairness of treatment

1. I was concerned over the fairness of the fates of at least one character.
2. I found myself wanting the protagonist to be successful and expose the problems within this fictional university.
3. This book does exactly what it claims the 'corrupt officials' of its story does- not care about its students.
4. The story presented was very controversial.
5. I think the characters could have been described in more detail.
6. Depression, in particular, is a large part of this book, but it's never really addressed.

Legitimator Group

Legitimacy of behavior

1. I was concerned with whether the students' actions were justified.
2. The characters weren't so bad, but they are nothing special.
3. A lot of interactions in this book I feel would be realistic to the college experience.
4. The book was a lot more realistic than a college-themed TV show.
5. The book showed that kids do get depressed whenever they get faced with struggles.
6. The setting seemed both believable and clear.

Role Model Group

Instructional capacity

1. I learned how to do something because of a character in the book.
2. I think that sometimes things could have been a little more subtle and give the reader a bit more credit for figuring things out on their own.
3. The book teaches you that to be a college student, you have to put a lot of effort.
4. My view of college hasn't changed much since I knew the general gist of college before reading this book.
5. It all basically centers around the fact that you need to try something new.
6. The book teaches you that you're really gonna have to socialize in college.
7. The story might serve as a caution to parents to thoroughly research universities and associated personnel before enrolling any children.

Accommodator Group

Comparison to characters

1. There are some characters in the book I liked and some I just can't warm up to.
2. Most of the characters presented in this book were likable.
3. I didn't really connect with the characters.
4. There were so many characters I couldn't keep my investment in one.
5. Whenever I read a character's situation in the book, I'm like "this is me".
6. I really connected with at least one character over everyone else.
7. Although I did come to like all of the students, I felt that I didn't really know them all that well.

<u>Audience Group</u>

Engagement/motivation

1. This story has encouraged me to change my view on college
2. I found this book to be a meandering tale of university life.
3. It is a book that students planning to enter a university might like to read
4. An interesting story with an in depth character study of freshmen that is very intriguing and held my interest throughout.
5. I feel like this book would make an amazing mini-series or television show,
6. It was easy to see the world the author created.

General

Other Comments

1. I really enjoyed how three different storytelling methods all helped uncover the mystery of the suicides.
2. The writing style was a little confusing.
3. The story was very well written and really kept me intrigued.
4. I feel like the story of the book was poorly executed.
5. It reads a bit like a piece of academic writing with a storyline woven in.
6. This is a well-constructed mystery that was fun to read and yet kept me guessing until the very end.
7. The characters are well defined and the story is full of twists and turns.

APPENDIX K

Reference Group Q Sort Grid

Most Disagree   Most Agree

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5

APPENDIX L

Halls of Ivy Content Quiz

Halls of Ivy Content Quiz

1. Which character was a football player for Sun Valley University?
A) Samuel Park
B) Zachary Myers
C) John Mattic
D) Mason Cook

2. Which character was studying to be a pilot?
A) Jessica Evans
B) Luca Palmer
C) Amy Caldwell
D) Alia Atieno

3. Which character left SVU after only their first year?
A) Miyu Kaneko
B) Ben Blake
C) Grace Collins
D) Lisa Perez

4. Why did Cheyenne Winters originally come to Sun Valley University?
A) To look for a job
B) To complete her dissertation
C) To enroll in the university
D) To solve a mystery

5. What was the name of the organization identified as a cult?
A) Second Wind
B) Restitution
C) Second Chance
D) Blood Brothers

6. Which two friends were notorious for causing trouble at Sun Valley University?
A) Lisa and Gabriella
B) Ben and Tobias
C) Zachary and Dylan
D) Luca and Sam

7. What was the biggest problem the university was dealing with in the spring?
A) Students were failing classes
B) A student threatened to commit suicide
C) Their football team was losing
D) They needed to remodel a new building

8. Which term was used at SVU to mean "freshman"?
A) Vanguard
B) Trailblazer
C) Pathfinder
D) Maverick

9. What was Maverick Madness?
A) A university pep rally
B) A party by the university's sorority
C) A term for a sickness used by the students
D) A type of drink

10. Whose class did Cheyenne Winters use to complete her interviews?
A) Dr. Garcia
B) Dr. Giles
C) Dr. Lopez
D) Dr. Jones

11. Which term was used at SVU to mean "sophomore"?
A) Pathfinder
B) Maverick
C) Trailblazer
D) Vanguard

12. What was a defining feature of Renzo Moretti?
A) He liked sports
B) He was smart
C) He liked video games
D) He was rich

13. What was the most noticeable feature of Sun Valley University?
A) The food
B) The tower
C) The staff
D) The mascot

14. In what city was SVU located?
A) Sun Valley
B) Orlando
C) Daytona Beach
D) Clearwater

15. What happened to Ben towards the end of the academic year?
A) He failed a test
B) He left the college
C) He got a girlfriend
D) He got into a car accident

16. What was Sarah Holmes' religion?
A) Baptist
B) Catholic
C) Seventh-Day Adventist
D) Jehovah's Witness

17. Which character was a cheerleader for SVU?
A) Susan Price
B) Rachel Davis
C) Grace Collins
D) Prachi Deval

18. Why did Dr. Giles have a problem with Cheyenne?
A) She reminded her of someone she didn't like
B) She thought of Cheyenne as an inexperienced know-it-all
C) Cheyenne hurt her once in a previous job
D) Dr. Giles just hates everyone

19. Who intervened during Cheyenne's tense confrontation with Spencer?
A) Mattic
B) Dr. Giles
C) Detective Sawyer
D) Dr. Garcia

20. How many total suicides took place at Sun Valley University that year?
A) 2
B) 3
C) 4
D) 5

APPENDIX M

Q Sort 1A Factor Rotations and Communalities

3-Factor Rotation

	Component		
	1	2	3
Azul	.753		
Jeremy	.691		
Kayti	.679		
Ruth	.599		
Nicholas	.579		
Zoey	.479	.406	
Daniela	.456		.448
Caelan		.784	
Ryan		.599	
Olivia		.559	
Juan	.459		-.689
Luke			.584
Collin	.450		.530
Taylor		.437	.460

Extraction Method: Principal Component
Analysis.
 Rotation Method: Varimax with Kaiser
Normalization.
a. Rotation converged in 8 iterations.

Communalities

	Initial	Extraction
Zoey	1.000	.402
Nicholas	1.000	.462
Luke	1.000	.403
Kayti	1.000	.469
Caelan	1.000	.696
Ryan	1.000	.387
Collin	1.000	.483
Taylor	1.000	.488
Olivia	1.000	.421
Daniela	1.000	.453
Azul	1.000	.618
Ruth	1.000	.395
Juan	1.000	.795
Jeremy	1.000	.531

Extraction Method: Principal
Component Analysis.

4-Factor Rotation

	Independent Realists	Questioning Realists	Academic Optimists	Social Optimists
Juan			.756	
Jeremy			.688	
Nicholas			.679	
Kayti	.445		.517	
Zoey			.439	
Ruth	.415		.416	
Collin	.892			
Azul	.651			
Taylor	.590	.531		
Luke				.875
Daniela				.535
Olivia				.493

Communalities

	Initial	Extraction
Zoey	1.000	.404
Nicholas	1.000	.517
Luke	1.000	.767
Kayti	1.000	.472
Caelan	1.000	.717
Ryan	1.000	.477
Collin	1.000	.821
Taylor	1.000	.655
Olivia	1.000	.510
Daniela	1.000	.498
Azul	1.000	.641
Ruth	1.000	.398

Caelan	.818	
Ryan	.631	

Juan	1.000	.799
Jeremy	1.000	.607

Data in italics signifies secondary loading onto a factor.

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 19 iterations.

5-Factor Rotation

	Component				
	1	2	3	4	5
Nicholas	.782				
Kayti	.731				
Jeremy	.642	.437			
Azul	.570		.528		
Zoey					
Ruth		.821			
Daniela		.711			
Collin			.868		
Taylor			.629	.500	
Caelan				.843	
Ryan				.584	
Olivia		.457		.458	
Luke					.793
Juan	.482				-.684

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 49 iterations.

Communalities

	Initial	Extraction
Zoey	1.000	.409
Nicholas	1.000	.648
Luke	1.000	.793
Kayti	1.000	.664
Caelan	1.000	.740
Ryan	1.000	.554
Collin	1.000	.830
Taylor	1.000	.720
Olivia	1.000	.533
Daniela	1.000	.634
Azul	1.000	.677
Ruth	1.000	.750
Juan	1.000	.811
Jeremy	1.000	.607

Extraction Method: Principal
Component Analysis.

APPENDIX N

Q Sort 1B Factor Rotations and Communalities

3-Factor Rotation

	Component		
	1	2	3
Azul2	.681		
Collin2	.658		
Ruth2	.656		
Kayti2	.533	.376	-.376
Juan2	.352		
Zoey2		.757	.320
Nicholas2		.749	
Luke2	.344	.679	
Taylor2	.327	.369	
Jeremy2			.765
Daniela2			.701
Olivia2	.514		.526
Caelan2		.318	.471
Ryan2			.301

Extraction Method: Principal Component
Analysis.
 Rotation Method: Varimax with Kaiser
Normalization.
a. Rotation converged in 8 iterations.

Communalities

	Initial	Extraction
Caelan2	1.000	.333
Luke2	1.000	.590
Collin2	1.000	.566
Ryan2	1.000	.239
Zoey2	1.000	.698
Olivia2	1.000	.560
Nicholas2	1.000	.683
Ruth2	1.000	.503
Jeremy2	1.000	.624
Daniela2	1.000	.492
Azul2	1.000	.469
Juan2	1.000	.221
Taylor2	1.000	.247
Kayti2	1.000	.566

Extraction Method: Principal
Component Analysis.

4-factor rotation Q sort 1B

	Component			
	Collegial Academics	Independent Realists	Social Realists	Interdependent Optimists
Azul2		.668		
Kayti2		.647		
Collin2		.647		
Taylor2		.461		
Nicholas2			.776	
Zoey2			.753	
Luke2			.610	
Daniela2	.739			
Jeremy2	.710			
Olivia2	.551			

Communalities Q sort 1B

	Initial	Extraction
Caelan2	1.000	.378
Luke2	1.000	.601
Collin2	1.000	.640
Ryan2	1.000	.421
Zoey2	1.000	.707
Olivia2	1.000	.573
Nicholas2	1.000	.686
Ruth2	1.000	.557
Jeremy2	1.000	.628
Daniela2	1.000	.551
Azul2	1.000	.479

Caelan2	.493			
Juan2				.879
Ryan2				.601
Ruth2				.529

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 9 iterations.

	Initial	Extraction
Juan2	1.000	.776
Taylor2	1.000	.415
Kayti2	1.000	.615

Extraction Method: Principal
Component Analysis.

5-Factor Rotation

	Component				
	1	2	3	4	5
Azul2	.752				
Collin2	.567	-.327			.520
Olivia2	.558			.451	
Taylor2	.533	.398			
Ruth2	.533		.507		
Nicholas2		.812			
Zoey2		.731			.337
Luke2	.324	.594	.304		
Juan2			.856		
Ryan2			.654		.365
Jeremy2				.790	
Daniela2				.580	.459
Kayti2	.482			-.579	
Caelan2					.827

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 8 iterations.

Communalities

	Initial	Extraction
Caelan2	1.000	.766
Luke2	1.000	.603
Collin2	1.000	.709
Ryan2	1.000	.575
Zoey2	1.000	.715
Olivia2	1.000	.615
Nicholas2	1.000	.718
Ruth2	1.000	.560
Jeremy2	1.000	.774
Daniela2	1.000	.557
Azul2	1.000	.596
Juan2	1.000	.777
Taylor2	1.000	.494
Kayti2	1.000	.684

Extraction Method: Principal
Component Analysis.

APPENDIX O

Q Sort 2 Factor Rotations and Communalities

3-Factor Rotation

	Component		
	1	2	3
Nicholas	.782		
Ryan	.778		
Ruth	.745		
Zoey	.740		
Daniela	.712		
Juan	.690		-.435
Azul	.595		
Jeremy	.573		
Collin		.843	
Luke		.741	
Olivia		.520	
Taylor			.716
Caelan			.715
Kayti			.477

Extraction Method: Principal Component
Analysis.
 Rotation Method: Varimax with Kaiser
Normalization.
a. Rotation converged in 5 iterations.

Communalities

	Initial	Extraction
Caelan	1.000	.582
Luke	1.000	.632
Collin	1.000	.781
Ryan	1.000	.724
Zoey	1.000	.668
Olivia	1.000	.282
Nicholas	1.000	.664
Ruth	1.000	.612
Daniela	1.000	.510
Juan	1.000	.671
Azul	1.000	.434
Jeremy	1.000	.382
Taylor	1.000	.575
Kayti	1.000	.285

Extraction Method: Principal
Component Analysis.

4-factor rotation for Q sort 2

	Component			
	Entertained and educated	Learning prioritized	No learning or engagement	Personally invested
Daniela	.820			
Zoey	.795			
Ruth	.771			
Nicholas	.741			
Ryan	.730			
Juan	.600		-.453	
Collin		.885		
Luke		.788		
Azul		.536		.454
Caelan			.718	
Taylor			.695	

Communalities

	Initial	Extraction
Caelan	1.000	.620
Luke	1.000	.667
Collin	1.000	.825
Ryan	1.000	.729
Zoey	1.000	.743
Olivia	1.000	.557
Nicholas	1.000	.670
Ruth	1.000	.663
Daniela	1.000	.679
Juan	1.000	.672
Azul	1.000	.618
Jeremy	1.000	.578

Kayti		.489	
Olivia			-.695
Jeremy			.677

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

5-Factor Rotation

	Component				
	1	2	3	4	5
Daniela	.848				
Zoey	.808				
Ryan	.773				
Ruth	.730				
Nicholas	.728				
Collin		.893			
Luke		.818			
Azul	.396	.496		.474	
Taylor			.770		
Caelan			.708		
Juan	.537		-.542		
Olivia				-.721	
Jeremy				.587	.436
Kayti					.886

Extraction Method: Principal Component Analysis.
 Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

Communalities

	Initial	Extraction
Caelan	1.000	.620
Luke	1.000	.703
Collin	1.000	.836
Ryan	1.000	.749
Zoey	1.000	.762
Olivia	1.000	.620
Nicholas	1.000	.674
Ruth	1.000	.667
Daniela	1.000	.749
Juan	1.000	.684
Azul	1.000	.643
Jeremy	1.000	.744
Taylor	1.000	.773
Kayti	1.000	.817

Extraction Method: Principal
Component Analysis.

Engagement Q Sort 1A Groups

(P < .05 ; Asterisk (*) indicates significance at P < .01)

GROUP 1   **Independent Realists**

Collin, Taylor, Azul, (Ruth), (Kayti)

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
29*	Cognitive Engagement	5	1.87	I expect college is going to be very difficult.
43*	Behavioral Engagement	4	1.55	I will attend an art exhibit, play, dance, music, theater, or other performance
28*	Peer Relationships	3	1.5	Few of the students I will know would be willing to listen to and help me with a personal problem
9*	Valuing	3	1.5	I look forward to going to college
All Disagree				
2*	Valuing	-5	-2.12	I will likely question whether I made the right decision to engage in undergraduate study.
48*	Behavioral Engagement	-4	-1.79	I will attend workshops on career development/opportunities.
20*	Sense of belonging	-1	-0.78	I will benefit from the facilities in college (canteen, library, sports arenas and so on)

GROUP 2   **Questioning Realists**

Caelan, Ryan, (Taylor)

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
2*		4	2.01	I will likely question whether I made the right decision to engage in undergraduate study.
21*	Valuing Cognitive Engagement	3	1.47	My interaction with peers will contribute greatly to my progress in this program.
All Disagree				
1*	Valuing	-5	-2.55	Most students in college will have values and attitudes different from my own.
19*	Sense of belonging	-4	-2.01	I will feel secure in a college campus
15	Sense of belonging	-4	-1.47	I will find someone in a group with whom I could discuss personal matters

GROUP 3 Academic Optimists

Zoey, Nicholas, Kayti, Ruth, Juan, Jeremy

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
9*	Valuing	5	2.77	I look forward to going to college
18	Cognitive Engagement	3	1.85	I will learn something that changes the way I understand an issue or concept
13*	Sense of belonging	3	0.96	There will be a sense of solidarity among the students in this program.
All Disagree				
10*	Sense of belonging	-5	-2.74	It will be difficult for me to meet and make friends with other students.
29*	Cognitive Engagement	-4	-1.7	I expect college is going to be very difficult.
2*	Valuing	-3	-0.95	I will likely question whether I made the right decision to engage in undergraduate study.

GROUP 4 Social Optimists

Luke, Olivia, Daniela

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
47*	Behavioral Engagement	5	1.93	I will participate in activities to enhance my spirituality (worship, meditation, prayer, etc.)
17	Cognitive Engagement	4	1.83	I will try to better understand someone else's views by imagining how an issue looks from his or her perspective
30	Peer Relationships	3	1.25	The student friendships in college will be personally satisfying
40	Peer Relationships	3	1.22	Making friends are an essential part of the college experience.
50*	Behavioral Engagement	2	0.92	I will attend informal dinners and get-togethers with other fellow students.
All Disagree				
43*	Behavioral Engagement	-5	-2.23	I will attend an art exhibit, play, dance, music, theater, or other performance
22*	Cognitive Engagement	-4	-1.97	I will meet outside of class with other students in my program for a meeting, discussion, or study group.
28*	Peer Relationships	-3	-1.38	Few of the students I will know would be willing to listen to and help me with a personal problem

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description

All listed statements are non-significant at P>.01, and those flagged with an * are also non-significant at P>.05.

ALL GROUPS AGREE

4	Valuing	2,3,3,2	+	I give importance to university education and take it seriously
5	Valuing	4,4,4,3	+	I am sure that I will complete a college degree program.

ALL GROUPS DISAGREE

33*	Relationship w/ Faculty	-2,-3,-3,-3	-	I will likely discuss a personal problem or concern with a student affairs professional
45	Relationship w/ Faculty	-3,-2,-1,-2	-	I will participate in social activities involving faculty and/or staff.
52*	Behavioral Engagement	-3,-3,-3,-2	-	College parties are an essential part of the college experience.

Engagement Q Sort 1B Groups

(P < .05 ; Asterisk (*) indicates significance at P < .01)

GROUP 1	Collegial Academics			

Daniela, Jeremy, Olivia, Caelan

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
9*	Valuing	5	2.32	I look forward to going to college
44*	Behavioral Engagement	4	1.79	I will exercise or participate in physical fitness activities
25*	Cognitive Engagement	3	1.21	I will meet with students to talk about course work, plans of work, and faculty.
21*	Cognitive Engagement	3	0.96	My interaction with peers will contribute greatly to my progress in this program.
All Disagree				
52*	Behavioral Engagement	-5	-3.04	College parties are an essential part of the college experience.
43*	Behavioral Engagement	-4	-1.94	I will attend an art exhibit, play, dance, music, theater, or other performance
30	Peer Relationships	-3	-1.26	The student friendships in college will be personally satisfying
40*	Peer Relationships	-2	-0.69	Making friends are an essential part of the college experience.

GROUP 2	Independent Realists			

Azul, Kayti, Collin, Taylor

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
6*	Valuing	5	2.8	I believe university is beneficial for me
8*	Valuing	4	1.52	I will like spending time in a college campus
29*	Cognitive Engagement	3	1.49	I expect college is going to be very difficult.
All Disagree				
33*	Relationship w/ Faculty	-4	-1.65	I will likely discuss a personal problem or concern with a student affairs professional
25	Cognitive Engagement	-3	-1.38	I will meet with students to talk about course work, plans of work, and faculty.
22	Cognitive Engagement	-3	-1.19	I will meet outside of class with other students in my program for a meeting, discussion, or study group.

GROUP 3   Social Realists

Nicholas, Zoey, Luke

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
1*	Valuing	4	1.81	Most students in college will have values and attitudes different from my own.
35	Peer Relationships	3	1.67	I will have close friends in college
39*	Peer Relationships	3	1.34	I will like communicating with other students in a college campus
All Disagree				
52*	Behavioral Engagement	-4	-1.93	College parties are an essential part of the college experience.
3	Valuing	-3	-1.31	I think the rules at university are fair for everybody
44*	Behavioral Engagement	-3	-1.18	I will exercise or participate in physical fitness activities

GROUP 4   Interdependent Optimists

Juan, Ryan, Ruth

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
11*	Sense of belonging	3	1.41	I will find someone in a group who could provide me with emotional support
15	Sense of belonging	2	1.03	I will find someone in a group with whom I could discuss personal matters
33*	Relationship w/ Faculty	2	0.75	I will likely discuss a personal problem or concern with a student affairs professional
All Disagree				
10*	Sense of belonging	-5	-2.29	It will be difficult for me to meet and make friends with other students.
24*	Cognitive Engagement	-3	-1.43	I will examine the strengths and weaknesses of my own views on a topic or issue
1*	Valuing	-3	-1.14	Most students in college will have values and attitudes different from my own.
43*	Behavioral Engagement	-2	-0.87	I will attend an art exhibit, play, dance, music, theater, or other performance

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description

*All listed statements are non-significant at P>.01, and those flagged with an * are also non-significant at P>.05.*

ALL GROUPS AGREE				**Peer relationships have become more important**
4*	Valuing	3,4,3,4	+	I give importance to university education and take it seriously
23*	Cognitive Engagement	1,1,1,1	+	Interpersonal relationships with other students will a positive influence on my intellectual growth and interest in ideas
27	Peer Relationships	2,0,0,1	+	Interpersonal relationships with other students will have a positive influence on my personal growth, attitudes, and values
18*	Cognitive Engagement	0,1,1,1	+	I will learn something that changes the way I understand an issue or concept
ALL GROUPS DISAGREE				
26*	Cognitive Engagement	-1,-1,-2,-2	-	My classes will be entertaining
48*	Behavioral Engagement	-1,0,-2,0	-	I will attend workshops on career development/opportunities.

Reference Group Q Sort 2 Groups

(P < .05 ; Asterisk (*) indicates significance at P < .01)

GROUP 1   Entertained and educated

Ryan, Zoey, Ruth, Daniela, Juan, Nicholas

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
37*	Audience	5	1.47	An interesting story with an in depth character study of freshmen that is very intriguing and held my interest throughout.
45	General	4	1.41	This is a well-constructed mystery that was fun to read and yet kept me guessing until the very end.
34*	Audience	2	1.15	This story has encouraged me to change my view on college
All Disagree				
19	Legitimator	-4	-1.71	The characters weren't so bad, but they are nothing special.
15*	Equity	-3	-1.44	Depression, in particular, is a large part of this book, but it's never really addressed.
6	Normative	-3	-1.4	This book would be better suited for someone who is currently in college or has been a part of the college atmosphere.
31*	Accommodator	-2	-1.32	Although I did come to like all of the students, I felt that I didn't know them all that well.

GROUP 2   Learning prioritized

Luke, Collin, Azul

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
All Agree				
24*	Role Model	4	1.62	The book teaches you that to be a college student, you have to put a lot of effort.
9	Normative	2	1.26	I feel it's a good representation of how different college is from anything you've ever experienced before.
All Disagree				
32*	Accommodator	-5	-2.29	There were so many characters I couldn't keep my investment in one.
30*	Accommodator	-4	-1.78	I really connected with at least one character over everyone else.
36*	Audience	-2	-0.9	It is a book that students planning to enter a university might like to read
8*	Equity	-2	-0.88	I was concerned over the fairness of the fates of at least one character.

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
GROUP 3	**No learning or engagement**			
Caelan, Kayti, Taylor				
All Agree				
22*	Role Model	3	1.61	My view of college hasn't changed much since I knew the general gist of college before reading this book.
32*	Accommodator	3	1.38	There were so many characters I couldn't keep my investment in one.
26*	Accommodator	2	0.85	There are some characters in the book I liked and some I just can't warm up to.
29*	Accommodator	2	0.72	I didn't really connect with the characters.
39*	General	2	0.64	The writing style was a little confusing.
All Disagree				
27*	Role Model	-4	-1.78	The story might serve as a caution to parents to thoroughly research universities and associated personnel before enrolling any children.
21	Role Model	-3	-1.69	I think that sometimes things could have been a little more subtle and give the reader a bit more credit for figuring things out on their own.
45*	General	-3	-1.36	This is a well-constructed mystery that was fun to read and yet kept me guessing until the very end.
38*	General	-2	-0.65	I really enjoyed how three different storytelling methods all helped uncover the mystery of the suicides.

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
GROUP 4	**Personally invested**			
Olivia, Jeremy				
All Agree				
36*	Audience	5	2.05	It is a book that students planning to enter a university might like to read
25*	Role Model	4	1.83	It all basically centers around the fact that you need to try something new.
6*	Normative	3	1.23	This book would be better suited for someone who is currently in college or has been a part of the college atmosphere.
All Disagree				
22	Role Model	-5	-2.07	My view of college hasn't changed much since I knew the general gist of college before reading this book.

Statement Number	Engagement Category	Q-Sort Value (Q-SV)	Z-Score (Z-SCR)	Statement Description
5*	Normative	-4	-1.76	It really does represent that college isn't gonna be just partying and drinking all the time.
26	Accommodator	-3	-1.48	There are some characters in the book I liked and some I just can't warm up to.
9*	Normative	-3	-1.26	I feel it's a good representation of how different college is from anything you've ever experienced before.

*All listed statements are non-significant at P>.01, and those flagged with an * are also non-significant at P>.05.*

ALL GROUPS AGREE

2*	Normative	1,1,0,0	+	The book contains an interesting look at the first year of university life.
28	Accommodator	1,2,0,1	+	Most of the characters presented in this book were likable.

ALL GROUPS DISAGREE

14	Equity	-1,0,0,-1	-	I think the characters could have been described in more detail.
23	Role Model	0,0,-2,0	-	The book teaches you that you're really gonna have to socialize in college.

APPENDIX S

Participant Interview Quotes

	Student Engagement		Reference Group	
	+	-	+	-
Ryan	University is beneficial	The staff wasn't very present throughout book	I liked the story	My college views changed
	I want a good job as a college professor		It was the best mystery novel I ever read	I thought the book was well-executed
	College parties are important, need to be social		I related to a lot of the characters	
	I read a lot and research using the library		I related to Ben the most	
	I love visiting new places		It was easy to see the world	
	Going to college is beneficial for my family		Everything was well-explained	
Zoey	Friends are important in college	Parties can get you into trouble	I enjoyed the twists and turns	It was not about trying something new
	There are a variety of people in college	I plan to have friends in college	It was a well-constructed mystery	Depression was addressed a lot
	You go out with your friends in college	College will be easy and boring	It was a good book on freshman standards	The story was well-executed
	I like to communicate with other people	Rules may be tipped in favor of some people	There were many problems other than parties	
	I'm a social person	I don't plan to hang out with faculty		
	Making friends is important to complete college	I see myself as an effective group member		
Collin	There should be more security on campus because of school shootings	I don't know what solidarity means.	This book represents college	There were a good amount of characters
	I might like school.	I don't know what a student affairs professional is	I will put forth effort in college	I didn't find much insight into college life.
	I think I will make friends	College is hard	I enjoyed the storytelling methods	I didn't really connect with the characters
	When everyone is a part of the college campus, learning is successful	My friends will be in a different class	It was a believable setting	I was not concerned with the student's actions.
	I look forward to an interesting experience.	I don't like plays or theater		I didn't see myself in the characters

	Everyone needs an education	I'm not a people person I won't go to a library because I use E-books		
Nicholas	I am big on completing things	I don't expect college to be hard	I enjoyed the different angles in the story	The characters are well-developed
	I've been on a college campus before	I don't do fitness or parties	I wanted the protagonist to be successful	The story is not controversial
	I am always about "getting it done"	I don't talk about my personal issues	It was an interesting story	I felt like I knew the characters
	I like to make friends	I'm not big on social events	It was a good mystery in a believable universe	It did not feel like academic writing
	There are different attitudes in college			I connected with the characters
				The story was well-executed
Juan	It is important to go to college	People are important	I liked the storytelling method	I had a connection to the characters Ben and Grace
	I plan to get help with college	College is not difficult	I liked Cheyenne's personal relationships with the students	I enjoyed learning about the characters
	Friend support is important	I see myself as an effective group member	The problems are very real	Each character was special
Ruth	College will help with my career	My personal info is personal	The story is relatable	My views of college did change
	I will fit in with friends	I don't feel secure going to college	I felt like I was actually there	College is difficult
			I enjoyed the way the story was written	The story was straightforward
				The story is for everyone
Jeremy	There is no point in quitting college	Parties aren't that important	I knew more about college after reading the book	I have cousins in college
	You must pass your classes	Meeting people won't be hard	I found the multiple ways of telling the story cool	My cousins have never been to a college party
	I will play sports	People will not be there for me	It would make a cool TV show	The book is similar to what I've been told
Azul	I heard that college is hard	Friends are focused in college	The mystery was interesting	The characters were treated fairly
	I need lots of exercise because I want to be a fitness trainer	I keep my problems to myself	Colleges sometimes don't care about students	All the characters were special
	You have to finish what you started	I don't want to put the weight on my friends	The story was simple to follow	

		I only talk about things with family		
		I only talk to people to finish projects		
Daniela	My family doesn't think I am going to make it	I don't like to party	I didn't know much about college	The writing style wasn't confusing
	I will have more freedom in college	I will already know what to do in college	I was concerned over the fairness of the characters	I liked the story backgrounds
	I will use the facilities and play cross-country	I don't like art or theater	I worried a lot about Sarah	I thought the characters sounded like me
			The story kept my interest	
Luke	I go to church	I will talk to my dad about any problems	I enjoyed the different perspectives	I was invested in all the characters
	I may find something outside of campus	Talking to people is important	I understood the whole story	Not much feeling for college
	I have different views than liberals	My parents went to college		
	I plan to finish college			
Caelan	I am secure with my choice in college	I will be too busy studying	I know what to expect from college	I could see what was happening in the story
	I don't want to get behind	I don't drink or party	I hate corruption	Watching family who went to college, I see there is more than what is in the book
	I need reminders to be nice	I will complete things in classes	I feel the book would make a good show	I think the community will help you succeed
	I need people to do things with	I don't talk about my issues	Depression is not addressed	You don't have to socialize
		I don't make friends easily	I didn't connect with the characters	I only related to the protagonist
			Good realism in not being "22 Jump Street"	The story was well-executed
Taylor	People in college do better in life	I am a very private person	There is lots of imagery and detail in the setting	It is not easy to find out problems in college
	I want to do well in life and have a good lifestyle	I keep problems to myself	There are problems in college other than parties	Lots of detail into the characters
	I want to excel in the arts	The dangers in school do not make me feel comfortable in open places	It shows that officials care more about themselves	I didn't like Cheyenne
		I am very private		I didn't feel it was her place to intervene
Kayti	I like to socialize	I am not a social person for small groups	I liked Miyu	I wanted more hints!

	I want to experience other perspectives in college	My friendships are more selective	I agree that depression is a continuing thing	I still have my own idea of college compared to what was in the book
	I have a vision of college	No counseling or engagement with faculty and staff	There was a lot of information to process in the background.	I did think students will be there more for me than I initially thought
	I look forward to having independence	I am introverted	The book would be better as a show	I don't think you have to socialize but notice that was a goal of the book
		My classes will not be entertaining depending on subject	I loved the character development and backstories	The pacing of the book was too slow in the beginning
		Everyone is opinionated and there will be no "solidarity"	I wanted more detail	It wasn't very realistic to college- it was too fictionalized
		No partying	There were too many characters, it was hard to keep up	I loved Miyu and hated Renzo
Olivia	To get a good job and good pay, having an exceptional degree is important	I feel like there is nothing to gain from parties.	I like how the book states all the groups you can join and how versatile college is. I didn't expect it to be so different	It did not make me want to do something new, so I did not feel that it was the main focus of the book.
	If I want to finish school with good grades and recommendations, you have to take school very seriously	I feel like I am a good learner. I know that, especially if it is something I am passionate about, I will be an effective group member.	I thought college was all about studying	I would say reading it after college would be better than reading it before because it was a bit depressing.
	Involving yourself in college and joining clubs can help meet people to connect with for study purposes		It definitely set the state for what a college experience could be and put in bits of storyline and dialogue. It really does give a look into what college could be.	People were committing suicide because they were depressed.
			There is parts in the book with motorcycle racing, cheating on significant others, and graffiti. I don't think any of those things were justified.	

APPENDIX T

Q Sort 1A Individual Statement Rankings

	Daniela	Azul	Ruth	Juan	Jeremy	Zoey	Nicholas	Luke	Kayti	Caelan	Ryan	Collin	Taylor	Olivia
-5	43	2	10	10	10	35	9	17	5	6	9	10	5	4
-4	45	36	34	14	14	6	18	20	16	5	6	28	29	6
-4	26	14	12	29	25	40	41	47	9	2	5	29	43	51
-3	32	10	19	50	29	4	4	1	17	21	2	9	4	5
-3	38	31	23	47	34	9	37	32	21	4	18	8	44	47
-3	19	11	41	12	36	31	1	30	38	41	20	3	18	40
-3	52	30	21	16	52	47	17	40	34	31	10	43	26	21
-2	11	15	26	27	20	5	6	12	24	29	21	6	28	44
-2	37	45	13	31	21	16	8	31	6	47	22	5	6	12
-2	14	27	40	32	27	18	38	5	19	42	35	39	24	9
-2	40	48	14	1	33	19	3	27	29	3	28	4	32	50
-2	22	33	29	8	41	44	12	50	25	7	27	16	12	22
-2	13	23	32	30	45	50	13	16	18	36	39	24	17	48
-1	16	32	52	36	11	11	31	4	20	18	4	22	10	24
-1	10	37	36	48	28	20	5	42	47	32	31	27	9	1
-1	7	44	45	2	37	26	20	24	1	49	36	30	3	45
-1	33	46	50	3	38	27	43	35	32	43	30	32	1	27
-1	2	51	33	21	40	28	42	48	4	12	40	47	31	25
-1	46	38	44	26	42	30	24	2	8	46	8	44	7	49
-1	34	41	38	19	43	41	32	51	23	22	17	51	45	46
-1	49	35	28	7	49	43	34	36	41	48	26	1	2	13
0	35	42	35	38	2	7	47	37	42	24	3	18	39	18
0	21	13	37	17	15	8	19	6	35	25	7	35	16	26
0	24	26	11	28	26	21	26	8	37	20	32	31	27	10
0	44	21	7	15	30	22	27	3	3	35	25	26	47	3
0	36	18	2	51	31	23	30	19	7	37	37	25	35	39
0	23	4	48	23	35	37	21	21	49	28	16	37	25	16
0	28	47	46	35	39	38	23	23	26	14	38	38	40	35
0	50	19	25	24	46	39	15	7	28	30	13	34	50	30
0	31	28	17	40	48	42	46	49	43	40	34	12	49	37
0	48	50	31	25	51	49	33	29	11	10	33	11	41	42
1	12	34	43	39	1	3	35	9	12	16	41	36	22	7
1	27	3	22	42	7	12	40	13	50	38	42	40	30	2
1	51	52	30	52	16	15	50	26	51	8	12	17	51	41
1	30	40	4	33	23	24	7	25	45	23	46	7	37	36
1	41	49	47	46	24	32	49	45	15	50	14	42	36	23
1	25	12	42	22	32	34	25	44	46	27	23	15	42	34
1	17	8	18	43	44	46	48	10	14	44	45	19	21	20
1	20	20	20	11	47	51	45	52	22	13	11	50	46	19
2	18	43	8	45	3	1	16	18	30	17	47	20	8	29
2	42	7	51	18	6	17	44	41	40	26	48	21	38	32
2	29	24	5	37	8	25	28	38	27	51	44	13	15	31
2	4	22	15	20	12	29	22	34	48	45	51	33	13	8
2	9	9	24	49	22	36	10	15	36	39	52	23	33	15
2	47	16	49	44	50	48	2	39	44	52	15	49	23	33
3	6	6	27	4	4	10	51	46	31	34	29	41	34	28
3	39	39	6	34	5	13	29	33	2	11	43	46	20	17
3	8	29	3	9	13	33	36	28	13	15	24	45	14	38
3	3	25	1	41	19	52	14	14	39	33	19	52	48	14
4	5	1	39	13	17	2	39	43	10	9	50	14	11	43
4	15	17	16	5	18	45	52	11	52	19	1	48	52	11
5	1	5	9	6	9	14	11	22	33	1	49	2	19	52

Q Sort 1B Individual Statement Rankings

	Caelan2	Luke2	Collin2	Ryan2	Zoey2	Olivia2	Nicholas2	Ruth2	Jeremy2	Daniela2	Azul2	Juan2	Taylor2	Kayti2
5	9	5	4	9	40	5	5	6	5	9	29	5	6	6
4	23	40	9	16	5	51	4	9	4	8	44	11	5	8
4	40	1	6	20	35	4	19	16	44	20	5	40	43	16
3	41	7	12	52	50	9	1	7	1	36	40	42	17	17
3	27	6	16	31	39	29	24	51	3	44	6	15	44	43
3	26	16	8	35	1	47	9	49	2	25	24	41	26	47
3	19	47	19	6	31	6	35	4	27	41	4	4	4	49
2	50	27	24	5	6	22	43	5	31	50	52	20	9	5
2	48	24	3	36	17	44	31	27	15	21	47	16	7	7
2	47	39	37	44	24	48	40	20	25	35	3	33	1	18
2	24	51	29	40	36	20	13	18	6	23	23	31	24	19
2	35	34	48	27	4	25	39	22	21	51	1	6	20	40
2	16	15	1	46	9	40	17	8	9	11	32	37	35	42
1	36	30	44	43	47	35	46	1	33	46	49	2	18	10
1	17	35	18	2	20	39	6	48	11	37	43	45	14	12
1	15	20	23	4	25	16	14	37	18	24	51	23	51	30
1	12	17	42	47	12	3	36	45	48	39	30	51	10	35
1	1	32	35	50	23	7	50	35	35	22	8	9	27	36
1	10	8	52	19	18	12	32	17	24	4	37	27	29	37
1	31	23	51	49	37	38	21	23	19	19	42	46	36	45
1	44	31	11	51	43	21	22	40	20	18	46	18	30	51
0	38	2	41	45	7	1	34	31	29	7	13	52	28	3
0	37	33	38	37	16	13	25	11	50	5	12	47	13	9
0	29	18	27	32	30	24	18	33	17	26	27	7	8	14
0	11	14	2	41	44	50	42	30	38	15	17	44	41	15
0	5	12	40	26	27	2	20	50	22	47	18	48	12	24
0	2	45	10	33	2	37	11	39	13	6	20	3	25	28
0	21	36	28	48	13	8	45	46	41	10	7	34	42	29
0	39	4	31	30	49	19	7	15	12	3	9	8	16	32
0	6	19	49	23	8	27	41	21	34	33	16	30	31	38
0	43	48	47	38	38	45	23	38	23	29	48	49	23	41
-1	46	10	22	34	34	10	26	36	39	27	39	50	34	1
-1	7	28	32	25	11	30	15	42	30	14	10	28	3	2
-1	49	41	21	24	51	41	3	3	8	42	21	25	46	4
-1	18	26	17	11	33	46	16	44	37	38	34	22	32	20
-1	25	9	30	18	19	49	8	14	16	34	45	12	49	22
-1	33	50	26	17	32	31	27	52	42	1	15	19	33	23
-1	8	49	15	15	42	18	33	32	46	16	19	21	38	27
-1	13	11	25	29	46	32	48	29	47	12	50	17	37	50
-2	32	44	14	28	10	23	38	47	32	13	26	43	47	11
-2	3	29	33	7	26	36	30	2	36	28	35	32	48	21
-2	20	3	39	13	41	28	51	28	51	31	31	36	22	25
-2	4	22	46	12	48	15	2	25	7	17	11	13	11	34
-2	51	46	50	21	22	34	37	10	45	45	2	1	40	39
-2	45	42	7	22	21	26	47	26	26	49	14	26	21	48
-3	28	52	43	3	28	11	28	43	43	40	38	39	45	26
-3	30	43	45	10	29	42	12	24	40	2	41	35	52	31
-3	42	38	36	8	52	33	49	12	49	30	22	38	50	33
-3	22	25	20	14	15	17	10	13	14	32	33	24	2	46
-4	14	21	5	42	45	14	44	41	10	48	28	29	39	13
-4	52	13	34	39	3	43	52	34	28	43	25	14	19	52
-5	34	37	13	1	14	52	29	19	52	52	36	10	15	44

APPENDIX V

Q Sort 2 Individual Statement Rankings

	Caelan	Luke	Collin	Ryan	Zoey	Olivia	Nicholas	Ruth	Daniela	Juan	Azul	Jeremy	Taylor	Kayti
5	22	46	5	37	46	9	38	3	34	45	45	36	41	32
4	7	38	24	33	16	44	7	41	42	38	10	38	5	14
4	40	41	9	41	5	18	37	38	8	3	38	40	10	44
3	15	7	38	17	45	3	4	30	3	12	34	17	15	15
3	5	28	16	8	37	41	45	42	37	46	36	4	9	26
3	29	12	17	13	17	22	2	17	33	36	40	41	40	40
2	30	10	46	16	33	26	46	34	46	4	13	42	2	7
2	18	24	31	32	34	35	35	9	45	30	17	12	29	16
2	46	17	42	4	42	5	13	2	12	13	24	1	26	24
2	8	42	3	28	1	7	10	16	16	31	28	11	36	33
2	32	16	41	12	41	1	42	45	30	27	46	31	37	36
1	19	31	45	45	3	11	36	46	24	28	9	24	22	1
1	25	35	2	30	38	46	16	1	17	23	5	33	39	5
1	37	14	28	25	18	43	12	28	38	40	16	35	42	28
1	14	15	10	9	36	45	40	12	23	34	42	25	32	35
1	39	5	35	40	2	24	41	13	13	9	3	45	3	38
1	10	22	7	5	13	29	28	36	40	8	12	9	23	39
1	11	21	21	36	7	19	17	5	18	24	1	13	25	42
0	13	19	43	38	4	16	1	35	27	26	27	27	46	2
0	44	3	26	7	10	20	33	37	26	1	23	7	6	8
0	26	4	4	34	12	27	9	40	35	35	29	16	8	9
0	12	45	19	10	9	13	24	11	1	21	37	15	13	11
0	34	6	14	44	27	38	3	44	41	7	33	30	45	17
0	31	37	22	23	40	2	34	27	28	2	25	46	17	22
0	41	2	23	3	23	32	8	4	9	33	2	2	11	25
0	4	13	37	35	35	37	32	8	22	14	6	6	44	27
0	28	18	34	42	20	23	30	33	2	18	41	20	16	41
0	17	9	13	46	28	39	5	7	11	20	15	23	24	45
-1	16	11	12	21	8	4	26	29	20	11	26	44	12	6
-1	42	43	15	15	30	42	27	14	25	5	31	3	28	10
-1	35	27	44	6	24	14	18	21	10	42	18	8	31	18
-1	3	23	40	24	11	12	23	20	32	10	11	10	21	19
-1	38	34	8	2	22	10	22	32	14	16	22	28	18	30
-1	9	26	6	26	26	30	15	24	5	41	44	18	34	31
-1	36	20	11	1	21	17	20	43	4	37	21	21	4	46
-2	27	33	29	18	39	31	25	18	36	17	43	39	33	3
-2	24	8	27	27	29	33	14	26	31	15	35	37	30	4
-2	6	25	20	14	6	40	6	19	7	44	39	29	19	12
-2	2	40	25	11	14	36	39	31	19	6	7	19	35	20
-2	20	44	36	20	32	28	21	25	44	25	30	32	38	37
-3	23	30	18	29	19	8	44	15	15	39	20	14	20	21
-3	43	36	39	19	44	34	43	23	21	43	4	43	1	23
-3	33	29	33	31	31	21	29	10	6	22	32	26	43	34
-4	21	39	1	43	25	15	31	6	29	32	14	22	7	13
-4	1	32	30	39	15	6	11	39	43	19	19	5	14	43
-5	45	1	32	22	43	25	19	22	39	29	8	34	27	29

APPENDIX W

IRB Approval Letter

Oklahoma State University Institutional Review Board

Date: 03/08/2018

Application Number: ED-18-7

Proposal Title: Exploring student attitudes toward college socialization using an edutainment college-themed novel

Principal Investigator: ROLAND NUNEZ
Co-Investigator(s):
Faculty Adviser: John Foubert
Project Coordinator:
Research Assistant(s):

Processed as: Expedited

Status Recommended by Reviewer(s): Approved
Approval Date: 03/07/2018
Expiration Date: 03/06/2019

The IRB application referenced above has been approved. It is the judgment of the reviewers that the rights and welfare of individuals who may be asked to participate in this study will be respected, and that the research will be conducted in a manner consistent with the IRB requirements as outlined in section 45 CFR 46.

The final versions of any recruitment, consent and assent documents bearing the IRB approval stamp are available for download from IRBManager. These are the versions that must be used during the study.

As Principal Investigator, it is your responsibility to do the following:

1. Conduct this study exactly as it has been approved. Any modifications to the research protocol must be approved by the IRB. Protocol modifications requiring approval may include changes to the title, PI, adviser, other research personnel, funding status or sponsor, subject population composition or size, recruitment, inclusion/exclusion criteria, research site, research procedures and consent/assent process or forms.
2. Submit a request for continuation if the study extends beyond the approval period. This continuation must receive IRB review and approval before the research can continue.
3. Report any unanticipated and/or adverse events to the IRB Office promptly.
4. Notify the IRB office when your research project is complete or when you are no longer affiliated with Oklahoma State University.

Please note that approved protocols are subject to monitoring by the IRB and that the IRB office has the authority to inspect research records associated with this protocol at any time. If you have questions about the IRB procedures or need any assistance from the Board, please contact the IRB Office at 223 Scott Hall (phone: 405-744-3377, irb@okstate.edu).

Sincerely,

Hugh Crethar, Chair Institutional
Review Board

VITA

Roland Nuñez

Candidate for the Degree of

Doctor of Philosophy

Dissertation: EXPLORING STUDENT ATTITUDES TOWARD COLLEGE
SOCIALIZATION USING AN EDUTAINMENT COLLEGE-THEMED NOVEL

Major Field: Educational Leadership and Policy Studies

Biographical:

Education:

Completed the requirements for the Doctor of Philosophy in Educational Leadership and
Policy Studies at Oklahoma State University, Stillwater, Oklahoma in December, 2018.

Completed the requirements for the Master of Science in Educational Leadership at
Oklahoma State University, Stillwater, Oklahoma in 2012.

Completed the requirements for the Bachelor of Science in Applied Meteorology at
Embry-Riddle Aeronautical University, Daytona Beach, Florida in 2010.

Experience:

Campus Director, South Florida Campuses   June 2018-Present
Embry-Riddle Aeronautical University

Director of Student Development   June 2012-June 2018
University of Science and Arts of Oklahoma

Graduate Research Assistant   Aug 2015-May 2018
Oklahoma State University

Owner/General Manager   May 2014-May 2018
Zippety's Lazer World