Set Up to Succeed and Set Up to Play: Cooperative Games as a Pathway for Adolescent Girls in High-Achieving Schools to Be Well and Lead Well

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Advisor: Julia Pool

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Abstract

Adolescent girls are the future leaders of the world. They are desperately needed and increasingly in pain. Adolescent youth are facing a mental health epidemic caused by many complex factors. High-achieving settings are now considered a high-risk factor for adolescents, along with youth experiencing trauma, discrimination, and poverty. These students face immense pressure to excel, social isolation, and limited relationships. Positive Psychology provides a pathway for school environments to build structures that support adolescent well-being. Specifically, this paper will focus on how cooperative games and play are a pathway to increase well-being and build leadership competencies in adolescent girls.

Keywords: adolescent well-being, leadership, collaboration, cooperation, games, high-achieving, education, schools, mental illness, positive relationships, engagement, achievement

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Credits

A board game rulebook is not complete without a credits section to acknowledge the role of each person who contributed to the game design process. I am so grateful to each of these key players for sharing their insights, questions, and love with me.

Game Developer: Julia Pool

- Rule #1: Clearly define your terms.
    - Game Developers: The people who bring the game to life. They tweak until the game is perfected. They commission art, proofread, and play-test.
    - Julia Pool: Advisor, mentor, friend. Ultimate collaborator. Newly-minted gamer.
- Rule #2: Use precise language.
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Introduction

To Ms. Eloise - Thank you for helping me get ahead of the game.

It was a hectic Friday afternoon on the private all-girls Middle and High School campus. Classes were just dismissed for the weekend and the library was a hub of activity.

Ms. Eloise, the librarian, stood at the main desk sorting books to go back on the shelves. One student, distressed, entered the library with a searching glance. Her two friends followed close behind.

“Ms. Eloise,” asks the girl in distress, “Are the counselors still here? I *need* to see them.”

“The counselors left a bit ago.” replied Ms. Eloise, concerned about the students’ obvious state of nervousness but not surprised by her visit. “Everything OK?”

“It’ll be fine,” said the student.

Unable to provide the one-on-one counsel the student was accustomed to receiving, the librarian asked if she would be interested in playing a game while waiting to be picked up. She agreed, tentatively. As Ms. Eloise helped set up the game, the girl’s friends joined them at the table. The tense mood lifted as Ms. Eloise taught them how to play. She stepped back and let the girls work together to beat the game.

Ms. Eloise, the librarian in this story, is my colleague. Our school environment is the definition of high achieving: nationally-ranked test scores, numerous extra-curricular activities, and a history of graduates who attend elite universities. Our students are bright and motivated, and are fortunate to have an abundance of resources and opportunities. Typical of high achieving schools, they also feel the weight of their privilege in equal measures of stress and pressure, which manifests itself in higher than average rates of depression and anxiety, self-harm, and suicidality (Luthar et al., 2019).

I take pride in educating tomorrow's leaders. Parents send their students to our school because they want the best for their children and trust that we will help to set them up for success. The pathways to success are different than I expected, however. Ms. Eloise's intervention helped me see that sometimes a pathway toward our shared goal includes stepping back just enough so that students are set up to play.

I should not have been surprised. Based on all I have learned about leadership, well-being and today's high-pressure environment for young girls, the power of games makes sense. They are a playful way to experience well-being and practice leadership skills in a low-stakes environment.

When my San Francisco kitchen table isn't set up for dinner or covered in books by Angela Duckworth, Martin Seligman, or James Pawelski, it's usually set up to play a board game. Playing games is a process that helps me be better and lead better, especially when I am feeling down.

As you'll see in this paper, I've combined my insights as a gamer, educator, and positive psychology scholar-practitioner to promote a promising pathway for adolescent girls to be well and lead well.

I hope to help set the table for more frequent cooperative games in high achieving settings.

Components & Overview

All good board games start by listing the components of the game, such as the board, action cards, and tokens, to let the players know what to expect and how to proceed.

The following pages will contain these components:

- 1 introduction to positive psychology
- 14 terms listed in the glossary
- 1 introduction to key players: High-Achieving Adolescent Girls
- 1 description of High Achieving Schools (HAS)
- 3 sources of pressure in HAS
- 1 description of play
- 1 description of games
- 1 description of cooperative games
- 1 definition of leadership
- 3 buffers against the pressure in HAS that support well-being
- 2 skills practiced through cooperative games that promote leadership
- 1 example of play
- 1 end game

The introduction to Positive Psychology presents a framework for achieving well-being, the PERMA model. The **glossary** contains fourteen key terms and definitions to set the stage for what is to come. The **key players** in this game are **high-achieving adolescent girls**, who are poised to **lead** yet are subject to stress from the high-pressure environments found in **high-achieving schools** (HAS). HAS are characterized by **three sources of pressure**: pressure from global competition, pressure from technology, and pressure from people. In order for adolescent girls to succeed in these environments, they need pathways to cultivate well-being: more **play time** instead of more carefully designed school programming. **Cooperative games** help adolescent girls foster **well-being** (engagement, relationships, and achievement) and practice core **leadership skills** (collaboration and self-awareness). The **end game** is for adolescent girls to be equipped to lead well and be well.

Positive Psychology

Positive psychology, like many great things, started because of a game and flourished through collaboration. Martin Seligman, a high-achieving Bridge player, received an offer one night while checking email in-between the turns of his game. An organization wanted to collaborate to fund his most innovative idea–to pioneer a field he would later call Positive Psychology (Seligman, 2011, p.5).

Positive Psychology, the scientific study of human flourishing, was founded with the goal of "curing mental illness, making the lives of all people more productive and fulfilling, and identifying and nurturing high talents" (Seligman & Csikszentmihalyi, 2000, p. 6). Rather than a focus on diagnosing and improving weaknesses, as traditionally done in psychology, positive psychology takes an asset-based approach to identifying and building on the strengths of individuals, institutions, and communities (Seligman, 2002).

Seligman understood the value of collaboration; he built the field of Positive Psychology on collaborations with researchers in related but distinct fields, such as behavioral economics, human development, and community psychology. The construct of well-being is an example of successful collaboration; Seligman reached out to work with Ed Diener, a leading researcher on subjective well-being. As a result, subjective well-being became a core tenet of Positive Psychology, and their following collaborations continued to advance the field to examine characteristics of happy people, well-being implications for policy, and more (Diener & Seligman 2002; 2004).

An important and early assertion in the field is that well-being and happiness are not the same thing, though many popular Positive Psychology books include the term "happiness" in their title (Seligman, 2011). Aristotle outlined two different approaches to well-being, hedonia

and eudaimonia, in his original work, *Nicomachean Ethics* (Aristotle, 1985). The hedonic approach equates well-being to happiness, the presence of positive emotion and absence of negative emotion. The eudaimonic approach, on the other hand, focuses on developing the content of one's life and the processes for well-being (Ryan & Deci, 2001; Ryan, Huta, & Deci, 2008).

Many models within the field of Positive Psychology have developed to highlight processes for how individuals, institutions, and communities can improve their well-being. The predominant model was conceptualized by Martin Seligman. Named the PERMA Model of Well-being, it identifies five distinct ways to improve well-being: Positive emotion, Engagement, Relationships, Meaning, and Achievement (Seligman, 2011). For the purposes of this paper, I will be referring to the PERMA Model of well-being.

In keeping with the ethos of Positive Psychology, this paper will take an asset-based approach to identify the strengths of adolescence that can be used to help adolescent girls be well. Assets are individuals' strengths that can be identified and developed.

In addition to well-being, there are thirteen other terms that will be used consistently throughout this paper. I will turn to those next, before exploring the current conditions of adolescent well-being.

Glossary

1. **Achievement:** What we create for ourselves through attempting, engaging, and trying something different than what we already know how to do (Seligman, 2011).
2. **Adolescence:** The period between ages 10 and 19 (World Health Organization, 2019). Adolescents are the individuals in this time period. Youth and adolescents are used interchangeably throughout the paper.
3. **Collaboration:** Collaboration is working with others towards a shared goal. Communication is a crucial component of collaboration; to be an effective collaborator, you must know how to communicate. Collaboration and communication are used interchangeably in this paper.
4. **Cooperative games:** Games in which players work together to achieve a common goal, either winning or losing as a group. As the name suggests, cooperative games stress cooperation over competition.
5. **Engagement:** Engagement includes a loss of self-consciousness that happens when you are completely absorbed in an activity (Seligman, 2011).
6. **Games:** Games are a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome (Salen & Zimmerman, 2003, Ch. 22 p.4).
7. **Girls:** Adolescents who identify as gender female. (Richards et al., 2016).
8. **High-achieving schools:** School settings that tend to have high test scores, many extra-curricular activities, and a majority of graduates attending elite universities (Coley, Sims, Dearing, & Spielvogel, 2018; Luthar, Kumar, & Zillmer, 2019).

9. **Leadership:** The process of using one's strengths to communicate and engage with others towards a shared goal (Avolio & Gardner, 2005; Fairhurst & Connaughton, 2014; Northouse, 2018).
10. **Mental illness:** Mental illnesses are health conditions involving changes in emotion, thinking or behavior (or a combination of these). They are associated with distress and/or problems functioning in social, work or family activities (Parekh, 2018).
11. **Play:** An activity that is done for its own sake and is characterized by 'means rather than ends' (Smith, 2005).
12. **Well-being:** A model of well-being, consisting of five elements: positive emotion, engagement, positive relationships, meaning, and accomplishment - collectively known as PERMA (Seligman, 2000).
13. **Positive Relationships:** Positive relationships are those characterized by mutual empathy, respect and empowerment (Roffey, 2012).
14. **Self-awareness:** The direction of one's conscious attention inward (Duval & Wicklund, 1972) or a person's awareness of their internal states and mental processes (Nisbett & Wilson, 1977; Baumeister, 1987).

The Players

High-achieving girls are the focus of this paper. The era of women empowerment is here: there are more women than men in medical school (Boyle, 2018), more women in Congress than ever before (Desilver, 2018), and more female athletes competing at the Olympics than years past (International Olympics Committee, 2020). Young women are primed to lead. That said, the research on adolescent girl well-being is alarming. To make this point, let's start by understanding the players: adolescent girls, mental illness, and high-achieving settings.

Adolescent Girls

Adolescence is both a time of hope, wonder, optimism AND a time of immense challenge. "These are supposed to be the years that kids wander around and pal around, without being faced with the pressures of the real world," according to William Damon, director of Stanford University's Center for the Study of Adolescence (Kantrowitz & Wingert, 2001, pp. 51–52). And yet, that is not the reality for today's youth. Adolescents are facing an unprecedented increase in mental illness; they are more likely to be diagnosed with depression or anxiety disorders than any other age-group (Twenge, Cooper, Joiner, Duffy, & Binau, 2019). Adolescent girls are at an increased risk, as evidenced by a greater increase in suicides and attempts at self-harm over the last ten years (Twenge et al., 2019).

Adolescence is defined as the period between ages 10 and 19, according to the World Health Organization (2019). Developmentally, this time period is marked by dramatic mood shifts and so it is normal for youth to feel varying levels of anxiety, sadness, fear, or anger (Newman & Newman, 1976). Extended periods of these feelings could indicate something more serious, however, such as an anxiety or depressive disorder or a *major* anxiety or depressive disorder, both of which are diagnosed based on the time, severity, and levels of symptoms

experienced (Petersen et al., 1993). While mental illnesses are treatable, adolescents who experience major depressive episodes are more likely to develop serious mental disorders in adulthood (Petersen et. al., 1993). It is important, therefore, to address mental health concerns early to avoid long-term consequences.

Girls, for the sake of this paper, are defined as adolescents who identify as gender female. There are many ways that one might identify their gender, either in a binary way, as either male or female, or in a non-binary way, as outside of the male/female binary (Richards et al., 2016). This paper focuses on the experience of adolescents who specifically identify as female because of the social norms and contexts specific to that gender identity.

The Rise of Mental Illness

More adolescents are experiencing mental illnesses. According to data from the 2018 Children's Mental Health Report from the Child Mind Institute, practitioners found a 17% increase in diagnoses of anxiety related disorders in children and young adults. Additionally, data from the National Survey on Drug Use and Health shows that major depressive episodes have increased 52% from 2005 to 2017 for youth aged 12-17 and 63% for young adults aged 18-25 (Twenge, Cooper, Joiner, Duffy, & Binau, 2019). Given the increases in anxiety disorders and depressive episodes, it is not surprising to see data that shows the rates of suicide-related outcomes (suicidal ideation, plans, attempts, and deaths by suicide) have also increased. According to the National Center for Health Statistics, the suicide rate in the United States has increased 24% from 2009-2014 across age and gender groups, with pace of greater increase after 2006 (Curtin, Warner, & Hedegaard, 2016). The rates of suicidal ideation have also increased 71% for young adults aged 18-25 (Child Mind Institute, 2018).

Specifically, the increase in anxiety, depression, and suicide-related outcomes has been markedly more dramatic for adolescent females. Twenge and colleagues (2019) reviewed data from a nationally representative survey of U.S. adolescents and adults, conducted by the National Survey on Drug Use and Health, to examine the cohort trends in mood disorders and suicide-related outcomes. Their findings suggest that girls have experienced a greater increase in mood disorders as compared to boys, which supports evidence from additional findings related specifically to adolescent girls and depression (Mojtabai et al., 2016; Twenge, Joiner, Rogers, & Martin, 2018). In addition, The National Electronic Injury Surveillance System—All Injury Program (NEISS–AIP) has recorded an 18.8% annual increase from 2009 to 2015 in Emergency Department visits for self-harm and self-inflicted injuries for females aged 10-14 (Mercado, Holland, Leemis, Stone & Wang, 2017). This data was corroborated by researcher Sally Curtin and her team; females aged 10-14 showed the greatest percent increase in suicide rates from 1999-2014 (Curtin, Warner, & Hedegaard, 2016).

The data is clear; adolescent girls are facing unprecedented levels of mental illness.

High-Achieving Settings

Within the classification of adolescent girls, certain pockets of the population are considered at higher risk than others. Populations are considered at high risk in research if, statistically, they show greater adjustment challenges compared with normative samples (Luthar & Eisenberg, 2017). Until recently, there were three factors that posed a high risk to adolescent's mental health: exposure to poverty, to trauma, and to discrimination. Recently, however, two new reports highlighted a fourth factor: excessive pressure to excel (Luthar & Kumar, 2018; Wallace, 2019). In 2018, the National Academies of Sciences, Engineering and Medicine published a report listing youth in "high-achieving schools" as high-risk populations (NASEM,

2019). The Robert Wood Johnson Foundation published a report in the same year naming "excessive pressure to excel" as one of the top environmental conditions that can harm adolescent wellness by causing elevated levels of chronic stress (Geisz & Nakashian, 2018).

For the purposes of this paper, therefore, the discussion will focus on developing well-being for youth in high-achieving settings (HAS). Who are these students? Youth facing excessive pressure to excel typically exist within affluent communities, but that is not always the case. For this reason, the literature has moved away from referring to these populations of students as "privileged or affluent" (Luthar & Latendresse, 2005) and towards referring to them as students or youth in high-achieving schools, or HAS youth (Luthar, Kumar, & Zillmer, 2019). The new terminology acknowledges that the stress originates from the environmental pressures of school settings that tend to have high test scores, many extra-curricular activities, and a majority of graduates attending elite universities (Coley, Sims, Dearing, & Spielvogel, 2018; Luthar et al., 2019). While many families in high-achieving schools tend to be affluent, a significant number are not, and their children still face the same mental health risks intrinsic to being present in predominantly affluent schools or neighborhoods. In fact, youth who identify as part of a minority group can be particularly vulnerable if they live and/or attend school in non-diverse settings, as they may face additional trauma caused by discrimination (Garcia Coll et al., 1996; Lewis & Van Dyke, 2018).

Data has confirmed that youth in high-achieving schools, and girls in particular, are experiencing mental illnesses at a disproportionate rate compared to peers. In one study, researchers analyzed data from nine high-achieving high schools in the United States from 2015-2019, a total of 7,500 students. The rates of clinically significant symptoms of anxiety and depression were elevated for both boys and girls, with a median value that was six to seven times

those of national norms; rates of more serious depressive disorders were also high amongst students, with median values 3.5–5 times the rate of nationally representative samples (Luthar, 2019). An additional study conducted by researchers Emily Lyman and Soniya Luthar (2014) looked at rates of serious anxiety and depressive symptoms for two distinct cohorts: students from an inner-city magnet school and students from an exclusive independent school. Findings from both cohorts reported higher than normal rates of anxiety and depression when compared to youth of a similar age in the United States (Lyman & Luthar, 2014).

The Current Pathway: Pressure to Excel

As we saw, girls are poised to be leaders yet they are facing a mental health epidemic. The pathway to achievement in high-achieving environments can be intense, further exacerbating mental health concerns. High-achieving environments are set-up with three sources of pressure, each of which undermines HAS student well-being: pressure from the global economy, pressure from technology, and pressure from people.

It is clear that mental illness is a rising concern for HAS youth, particularly girls. The question remains, why? And why now? There are three main factors that contribute to the increase in mental illness for HAS youth in the last decade: increased competition for elite colleges, increased pressure from technological advances, such as smartphones and social media, and increased pressure from close relationships (Luthar et al., 2019). Researchers Soniya Luthar, Nina Kumar, and Nicole Zillmer (2019) conducted extensive research examining how these factors combine to place immense pressure on HAS youth (see Figure 1). Using their model as a guide, we'll examine how this pressure negatively impacts three specific pathways to well-being

according to PERMA: engagement in the wrong activities for the wrong reasons, relationships that add instead of relieve pressure, and unhealthy achievement standards (Seligman, 2011).

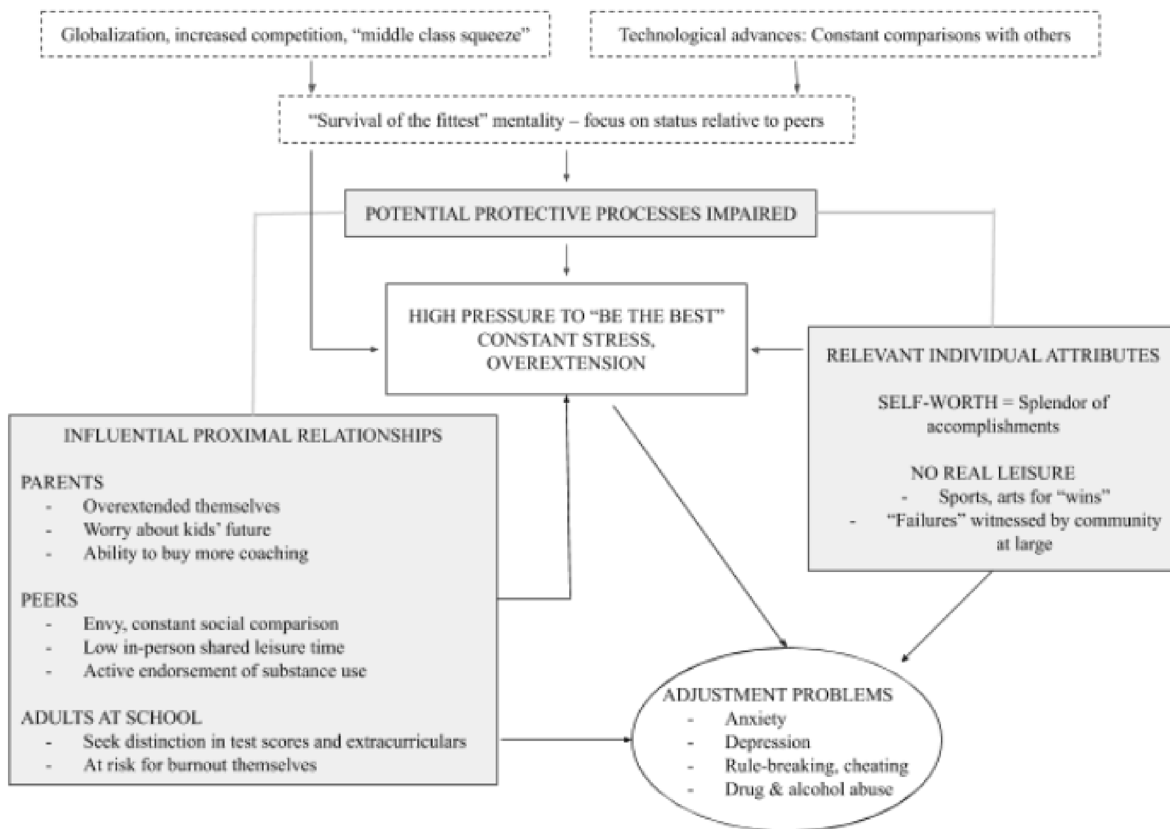

Figure 1. Conceptual of the confluence of forces implicated in elevated adjustment problems among high-achieving school students. Reprinted from *High-achieving schools connote risks for adolescents: Problems documented, processes implicated, and directions for interventions,* by Luthar, S. S., Kumar, N. L., & Zillmer, N. (2019).

Luthar, Kumar, and Zillmer's model (2019; see Figure 1) shows three main factors putting pressure on HAS youth: increased competition for elite spots, increased pressure from technological advances, such as smartphones and social media, and increased pressure from close relationships. The first two factors, competition and technology, combine to enable HAS youth to compare themselves to their peers in unprecedented ways and feel the pressure to do so in order to gauge their achievement. Youth achievement, then, becomes relative to the success of

one's peers, not one's own goals or past experience. The pressure to excel is felt by everyone involved in the high-achieving schools, and as a result teachers, parents, and peers internalize and perpetuate the culture for each other.

Another compounding factor outlined in Figure 1 is the absence of protective factors for HAS youth. Protective factors are components of one's life that buffer against the effects of adversity, such as stress or pressure. When functioning effectively, these protective factors can build resilience, or one's ability to bounce back from adversity (Masten, 2001). Protective factors can be internal, such as self-awareness, self-regulation, self-efficacy, mental agility, and optimism, or external, such as positive institutions or relationships with others (Masten, 2001; Masten & Reed, 2002; Ong, Bergeman, & Boker, 2009). Luthar, Kumar, and Zillmer's model (2019) identifies three protective factors that should support youth well-being: engagement in intrinsically-motivated activities, positive relationships, and self-worth. Instead, these protective factors not only are *absent* in protecting the youth from harm, they instead *exacerbate* the pressure on HAS youth by becoming conduits of pressure themselves.

According to the PERMA Model, these protective factors align with three elements of well-being: engagement, relationships and achievement (Seligman, 2011). We'll explore further how the current environment in high achieving schools' harms, instead of helps, adolescents build well-being.

Barriers to Engagement

Engagement, when in support of well-being, is pursued for the sake of the activity itself because of one's personal interest (Seligman, 2011). As we've seen, HAS youth engagement does not support their well-being in two ways: they engage in the wrong types of activities, such

as easy-to-access screen time instead of meaningful leisure time, for the wrong reasons, extrinsic achievement instead of intrinsic meaning.

Social media. HAS youth are often so busy with activities that they don't have much leisure time, and most leisure time they do have is spent online (Twenge et al., 2019). Technological advances such as smartphones and social media have created a compelling outlet for HAS youth to connect with others and decompress. Positive engagement is marked by a positive appraisal of the activity, usually determined retrospectively (Seligman, 2011). Screen time, however, is often equated with a "time suck," something that feels positive in the moment but leaves one feeling empty afterwards. In fact, screen time has been found to increase mental illnesses in adolescence (Twenge et al., 2019).

Screen time for adolescents has increased dramatically in the last decade. Adolescents now rely on phones, tablets, and computers for all types of activities, including time in class, homework, communicating with friends, and leisure time. In a newly released study, Media Use by Tweens and Teens 2019, Common Sense Media found that tweens spend approximately four and a half hours on devices each day, while teens spend approximately seven hours, not including schoolwork. In addition, the study found that nearly 60 percent of teens do homework on a computer each day, if they have access to one, or smartphones if they don't.

The rise of smartphones has been correlated with the rise in screen time for adolescents. Adoption rates have increased dramatically in the thirteen years since its release in 2007, with some calling smartphones the fastest adoption in this history of technology innovation (DeGusta, 2012). The Media Use by Tweens and Teens Report showed that 53 percent of children aged eleven and 84 percent of teens in the United States have their own smartphone (Common Sense Media, 2019), compared to only 37 percent of teens in 2012 (Lenhart, 2015).

Researchers have found that increased screen time is correlated with the rise in mental illness in adolescents. In one study, teens who spend more than three hours a day on electronic devices were 35 percent more likely to have at least one suicide risk factor (Twenge et al., 2019). In another recent study, drawing on data from over one million Eighth, Tenth, and Twelfth grade students between the years 1991-2012, researchers Twenge, Martin, and Campbell (2018) found that adolescents who spent more time engaging in screen-related activities, such as being on a smartphone or watching TV, reported lower self-esteem and psychological well-being than adolescents who spent more time on non-screen activities. Adolescents are clearly turning to screen time as a way to decompress, without realizing that it can be harmful instead of helpful.

Extrinsic motivation. Increased global competition for elite spots at four-year universities, the goal for many HAS youth, continues to grow more competitive (Steele, 2019), forcing students to find new ways of setting themselves apart from their peers for those coveted spots. As a result, extracurricular activities that are meant to represent an individual's area of interest instead become opportunities for youth to distinguish themselves from their peers. In addition, the increased accessibility of smartphones and presence of social media means that their participation in these spaces becomes publicly available. Non-academic activities become spaces where HAS need to prove their skills, rather than as low-stakes environments in which to build relationships and skills (Luthar et al., 2019). HAS youth’s motivation for engaging in these activities is driven by extrinsic rewards rather than their intrinsic interest (Twenge et al., 2010).

Research has shown that people are most at-risk if they are consistently guided by extrinsic over intrinsic goals (Tooby & Cosmides, 1996; Triandis, 1994). Those who pursue external rewards are more likely to suffer from anxiety and depression (Kasser & Ryan, 1996) because it undermines the satisfaction they receive from intrinsically motivated goals, which

promote competence, autonomy, and relatedness (Ryan & Deci, 2000). According to self-determination theory, the more intrinsically motivated an individual, the more their decisions are internalized and integrated into their selves, leading to a greater sense of autonomy. More autonomous behavior is linked with positive outcomes across domains, from relationships to work, but most importantly is linked to an increased sense of well-being.

Therefore, HAS youth are choosing the wrong activities, such as screen time, for the wrong reasons, to give them a leg up amongst their peers in the race for selective university spots. What these youth need, instead, are opportunities to engage in intrinsically-motivated activities.

Barriers to Relationships

According to the PERMA model, relationships are one of the most reliable ways to build well-being (Seligman, 2011). Positive relationships are marked by mutual empathy, respect and empowerment (Roffey, 2012). HAS youth, however, often lack meaningful relationships with individuals who create spaces of resilience and support; instead, their relationships reinforce the pressure to excel. Parents and caregivers' busy schedules and concern about their child’s future success results in additional pressure on youth; adults on school campuses aren’t given the resources to support students’ well-being *and* academic success; peer-to-peer connections are weakened by an overreliance on digital communication (Luthar & Kumar, 2018; Luthar et al., 2019).

Primary caregivers. Adolescents’ relationships with parents and primary caregivers have the single largest impact on their well-being, especially for youth in high-risk settings (Luthar & Eisenberg, 2017; Murray & Malmgren, 2005; Ungar, 2004). When functioning well, these relationships protect adolescents from the effects of stress that emanate from all other

aspects of their environment (Masten, 2001). For many HAS youth, however, relationships with parents and caregivers can have the opposite effect if parents and caregivers reinforce messages that youth are valued for their achievements. This messaging both perpetuates the high-pressure culture and removes a potential buffer against the stress.

One reason that adults may perpetuate the culture of stress is that they, too, face extraordinary pressures on their time and energy. The demands of parents' professional careers can detract from family time (Luthar & Becker, 2002; Luthar & D'Avanzo, 1999). As their children's activities increase, parents adjust their schedules and activities to enable their children's participation in these activities (Kalil, Ryan, & Corey, 2012). And, parents of HAS youth tend to be busier with work or social activities, or family responsibilities, resulting in HAS youth being left home alone more often. Researchers Luthar and Becker (2002) studied suburban 6th and 7th grade boys and girls to see if there was a correlation between adolescent well-being and literal or emotional disconnection with the adults in their lives. They found that adolescent girls, more than boys, were left home alone or unsupervised after school, which had a negative impact on their mental health.

The mother-daughter relationship, in particular, is important for promoting well-being in adolescent girls (Luthar & Becker, 2002). Isolation or distance in relationships can negatively affect an adolescent's well-being, with particularly devastating effects for adolescent girls who report being distant from their mother-figure (Luthar & Becker, 2002). Mothers tend to face more stress as they are often the first line of defense for their children when in distress (Luthar et al., 2019).

Another compounding factor that strains the parent-adolescent relationships for HAS youth is that parents and caregivers overly and inadvertently send messages to their children

about what they value. Adolescents who believe that their parents value their achievements over other aspects of their personality, such as their prosocial behaviors, had lower performance in school and lower well-being (Ciciolla, Curlee, Karageorge, & Luthar, 2017; Twenge & Becker, 2002). The effects are particularly strong for adolescent girls if parents, particularly mothers, had a critical and harsh parenting style (Ciciolla et al., 2017).

Educators. Relationships with teachers and other adults at school could also protect against depressive outcomes; however, the achievement pressure that exists in high-achieving school settings affects the adults in the community too (Luthar, Kumar, & Zillmer, 2020). According to results from the 2017 Educator Quality of Work Life Survey, administered by the American Federation of Teachers, 61% of teachers indicate that work is *always* or *often* stressful, and 58% of teachers indicated that their mental health is low as a result of the stress. In addition to being responsible for their students' high test scores, educators are increasingly responsible for attending to students' mental health concerns (Leschied, Saklofske, & Flett, 2018; Wilson & Marshall, 2019). Educators often don't have the emotional resources available to develop the relationships that youth need, however, which can put undue strain on the educators and their relationships with students (Luthar et al., 2020).

Peers. HAS youth are often so focused on achievement that they don't prioritize relationships. As we've seen, leisure time is spent either trying to distinguish themselves from their peers through extracurriculars (Luthar et al., 2019) or trying to decompress from stress by playing on their phones (Twenge et al., 2019). As a result, today's adolescent youth often spend less time hanging out face-to-face; their social time happens primarily online through digital communications such as texting, social media, or online games (Twenge et al., 2018). In fact, adolescents born between the years 1995-2012, called iGen, spent more time communicating

electronically and less time with in-person interactions than previous generations at their same age (Twenge, 2017; Twenge et al., 2018). According to the 2018 Social Media, Social Life: Teens Reveal their Experiences Report from Common Sense Media, only 32 percent of teens aged 13-17 prefer face-to-face communication to digital, a decrease from 49 percent in 2012. As a result, adolescents tend to have more social connections and interactions online, but they are arguably shallower (Simmons, 2018). Time spent connecting in-person has powerful effects on well-being, as we will see later on.

Barriers to Achievement

When in support of well-being, achievement is pursued for its own sake (Seligman, 2011). Youth today don’t have that option. They are under pressure to prove themselves. As a result, achievement is tied to HAS youth’s sense of self-worth. They live in a high-stakes environment where failure is public and perceived to be harmful for one’s future.

Contingent self-worth. Research over the past 20 years has shown that the relentless pressure on HAS youth to achieve is the overarching cause for many of their individual stressors (Luthar & Kumar, 2018; NASEM, 2019). In their research, Luthar and Becker (2002) studied “achievement pressure” by dividing it into two separate categories: external pressures from parents and internal pressures of perfectionism. Both pressures, when maladaptive, perpetuate the message that the adolescents are valued for their achievements, not their character, values, or other aspects of their personalities. Their self-worth, therefore, can become tied to their external successes, leading HAS youth to try and avoid failure at all cost.

An exclusive focus on achievement can be harmful for one’s motivation towards learning and also for one’s understanding of self. Building on the theories of self, Carol Dweck’s research on self-theories highlights how students' beliefs about themselves could influence their learning

outcomes. Students with an "entity" self-concept believe intelligence and ability are fixed quantities and often strive for more performative outcomes, feeling the need to showcase their intelligence and abilities (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 2000; Dweck & Leggett, 1988). When adolescents receive messages that their worth is tied to their outcomes or performances, as they often do in HAS schools, it can serve to reinforce this unhealthy self-concept by promoting social comparison and discouraging failure (Dweck, 2000).

Failure, however, is not always bad. In fact, it is a meaningful part of the learning process; it is unrealistic and unhealthy to spend energy trying to avoid failure. For HAS youth, whose sense of self-worth is often derived from their sense of accomplishment (Miller, 1995) or their achievements (Luthar et al., 2019), failure can indicate a loss of self-worth. Girls in particular have been shown to have a negative relationship with failing compared to their male counterparts; oftentimes, they attribute their failures to lack of ability which can influence both their performance and their willingness to try things that might be perceived as "risky" (Dweck, Davidson, Nelson, & Enna, 1978).

On the other hand, adolescents with an "incremental" self-concept believe that intelligence and ability can be increased through ongoing efforts (Blackwell et al., 2007; Dweck & Leggett, 1998). This has also been called a mastery or learning goal orientation, which is marked by one's desire to increase their competence in a task, and, as a result, students are able to tackle more complex problems and learn material more thoroughly (Dweck, 2000; Dweck & Leggett, 1988). External messaging about one's ability was found to not have as large of an impact on students who were focused on mastery (Elliott & Dweck, 1988), which might provide helpful for students navigating high-stress environments. If achievement equates to success, there is little room for adolescents to experience failure as a natural part of the process of growth.

As a result, activities that should be fun and rejuvenating, such as athletics or arts, become another venue for public failure (Luthar et al., 2019).

To summarize, the current pathway to excel comes at a mental health cost resulting in engagement in the wrong activities for the wrong reasons, relationships that add instead of relieve pressure, and unhealthy achievement standards.

An Additional Pathway: Play through Games

Given that the pressure to succeed in high-achieving settings, for adolescent girls specifically, is undeniable, it is time to explore an additional pathway. Parents, teachers, and adolescent girls know and feel the pressure on the current pathway to success and they are asking for help. Often, the solution is to identify the source of pressure and try to mitigate it. But, as depicted by positive psychologists, like Martin Seligman, and educators, like Ms. Eloise, there is an additional pathway - play! Play can buffer against the pressure in HAS by promoting engagement, relationships, and achievement. For the purpose of this paper, I will focus specifically on cooperative games as the pathway to well-being.

Play

Play is a pathway to increase well-being and build leadership skills in adolescent girls. In fact, "we are built to play and built through play," according to Dr. Stuart Brown (2009), Founder of the National Institute for Play. There are many types of play, such as imaginative, rough and tumble, solitary, object, and physical (Smith, 2005; Sutton-Smith, 2009). To get us started, let's play.

First, imagine a quiet school hallway. On one side, a closed door reads "Counselor's Office" in bold letters. A student stands on the other side of the hallway, looking around

anxiously. The girl is clearly in distress, scrolling on her phone to soothe her nerves and glancing up at times to check the door. Her solution is to focus on her problem and to seek one-on-one support from a mental-health provider.

Now, imagine a different scenario. Instead of waiting in the hallway, the same girl decides to find a low-stakes positive distraction. No longer alone in her worries, she is leaning over a table in the library, frantically working together with her peers to save their island from sinking. The same level of care for her well-being is present, but the approach and her energy are different. Laughter, hard work, and collaboration are at play.

While this paper focused on play for adolescents, play has immense benefits for all age groups. At the youngest end of the spectrum, babies and toddlers explore their world and capabilities through play. As they get older, preschoolers and young children use play to practice skills, develop cognitive abilities, gain physical strength, and build social skills. Play continues to serve an important role in relationship-building, joy, and skill development through adolescence and beyond. At each developmental stage, play develops cognitive skills, social skills and relationships, and personal interests (Sutton-Smith, 2009).

For the sake of this paper, I will use the following definition of play:

> "Play is an activity that is done for its own sake and is characterized by 'means rather than ends.'" (Smith, 2005, p. 271)

This definition highlights two important aspects of play that relate to well-being and leadership:

- Activity done "for its own sake" indicates a sense of autonomy on the part of the player, which according to self-determination theory is a core psychological need for well-being (Deci & Ryan, 1995; Ryan et al., 2008). The sense of autonomy continues throughout the play experience.

- A “means rather than ends” characterization articulates that the process of playing is more important to the player than a specific outcome goal. As such, intrinsic motivation to play, not just to win, is a driving factor (Sutton-Smith, 2009). Intrinsically motivated action is consistently associated with greater well-being (Ryan et al., 2008). Play is integral to the academic environment (American Academy of Pediatrics, 2007).

As demonstrated by Ms. Eloise’s intervention, play can be particularly important for girls in high-achieving schools because it offers a space of intrinsic motivation in an environment dominated by extrinsic pursuits. The overwhelming pressure to excel encourages students to participate in extrinsically-motivated activities that support their overarching goals, such as being accepted into a premier college. In working towards their goal in HAS, students often don’t see the valuable learning or the incremental achievements that happen in the process of working towards that goal. Games, a specific type of play, can provide the structure to increase well-being for students, as we’ll see in the next section.

Games

Games are a type of structured play which create the environment for relationship building, engagement, and achievement. Structured play, as opposed to free play, includes specific rules that govern play behaviors (Barker et al., 2014; Smith, 2005). This can occur in formalized settings, such as structured athletics games governed by leagues, to more informal settings, like games of tag on the playground governed by group norms. Sometimes play is meant to push those boundaries or structures. Oftentimes, the structures imposed on a play environment allows one to step out of the existing social or cultural context and step into a space with different rules. In this case, structure is freeing rather than confining (Caillois, 1958).

In trying to identify elements of a game structure that create boundaries between reality and a game-space, I selected a definition that focuses on the specific parameters of games.

> Games are identified as a system in which players engage in artificial conflict, defined by rules, that results in a quantifiable outcome (Salen & Zimmerman, 2003, Ch. 22 p. 4)

This definition has a few components that promote intrinsically motivated learning environments (Malone, 1981). As we've seen, intrinsic motivation is one pathway to well-being. These include:

- Conflict is a necessary condition of life, therefore overcoming conflict is a way to build up one's sense of competence and well-being (Malone, 1981; Ryan & Deci, 2000). An *artificial* conflict in a game provides a non-threatening way to practice conflicts that might occur in real life (Roberts, Arth, & Bush, 1959).
- Rules create the structure for play by limiting player behavior and creating clear boundaries. They do not, however, limit player autonomy. The structure provides the opportunity to take self-motivated action within those constraints (Caillois, 1958).
- A quantifiable outcome, or goal, provides a sense of purpose that motivates players. Well-designed games are fun to play because they create the sensation of progress towards a goal, regardless of the outcome (Zagal, Rick, & Hsi, 2006).

Gameplay, therefore, is the interaction that occurs when players follow the rules of a game and experience its system through play (Salen & Zimmerman, 2003). An intentionally chosen game can promote well-being by targeting specific pathways to well-being, in particular engagement, relationships, and achievement, as we'll see later.

Cooperative Games

Play is a fun, intrinsically-engaging activity and games provide a structure to support play. Cooperative games further set up the conditions for playing with others, rather than against others.

Oftentimes, the idea of a game–a board game, specifically–brings to mind well-known games such as Monopoly, Chess, or Battleship. These are classified as *competitive* games and are defined by the fact that only a percentage of the players (typically only one) are able to win. As a result, players form strategies independently, follow goals that directly oppose each other, and seek individual outcomes (Jones, 2000; Zagal et al., 2006). A more modern example of a competitive game is Settlers of Catan; imagine up to four players trying to claim valuable resources such as wood and brick in order to build the most powerful and wide-reaching civilization. The resources are limited, as is valuable space, and so the players must out-strategize their opponents in order to win.

Cooperative games, in contrast, require that players work together in order to win; they either win or lose *as a team*. Competition still exists as a motivating factor, but instead of pitting players against each other, it unites them towards a shared goal of defeating a common enemy.

As an example, let's revisit the girl from earlier who joined her friends in the library to play a game. Imagine they were playing Forbidden Island, a collaborative game where the objective is to save a sinking island by using each player's unique talents to help the team. In order to win, the players must communicate to develop a plan that meets the ever-changing needs of the game, and they need to be willing to take the lead or the backseat depending on what will further the team's goals.

If you haven’t heard of cooperative games before, it could be because they are relatively new to the entertainment game market. Cooperative board games were originally introduced in the 1950’s as educational tools (Lyons, 2014) but it wasn’t until the year 2000 when they became popular in more main-stream markets. The field gained popularity in the entertainment game sector with the release of Lord of the Rings in 2000, and more recently Pandemic, released in 2007 (Chabris, 2015). Since then, the industry has seen a rise in the popularity of cooperative board games both in the entertainment and educational sectors (Sedano, Carvalho, Secco, & Longstreet, 2003).

One reason that cooperative games might be gaining popularity is their ability to build well-being and leadership skills, such as collaboration (Lyons, 2014), as we’ll discuss in the next sections.

Name of the Cooperative Game

Games always start with a description of what it takes to win, often referred to as the *name of the game*. When it comes to high-achieving schools, the name of the game is to educate the leaders of the future. And, when it comes to high-achieving schools, the need to simultaneously prioritize well-being is required for players to win. In this section I’ll elaborate on how cooperative games are an ideal pathway for high achieving girls to be well and lead well.

So far, I have identified that youth in high achieving settings lack meaningful engagement, relationships, and achievement as a result of being in an environment steeped in immense pressure to excel. Leadership development programming, a key component of many HAS, can exacerbate that pressure to excel by reinforcing traditional ideas of leadership. By broadening the concept of leadership to focus on a collaborative, asset-based approach, schools

can build pathways that support healthy engagement, relationships, and achievement. I will explore the history behind traditional theories of leadership and why they don't support girls' leadership specifically, and will conclude by proposing a broader definition of leadership, underpinned by concepts from the Shared Leadership and Authentic Leadership Development Theories that might better support adolescent girl's well-being.

Leadership

Developing leadership skills in students has become an increasingly important goal of education, and therefore must be done in an inclusive way so as to support student well-being instead of harm it. According to some estimates, over half a million high school students participate in leadership development programs each year (Woyach, 1992). Several states have included leadership standards as part of their core curriculum, and many independent educational institutions list leadership development as core to the mission of their educational goals. By building specific leadership skills and competencies in students, schools are setting students up for success in the real world (Trilling & Fadel, 2019). Yet many girls still only see themselves as leaders if they hold positions of power within their schools, teams, or organizations.

The traditional concept of leadership doesn't serve girls today because it wasn't based on them; as a result, girls' voices are being unnecessarily silenced instead of celebrated. In the United States, and much of the Western world, the concept of leadership is a reflection of the values of primarily Caucasian, upper middle-class men who created power structures for their own benefit (Hoyt & Kennedy, 2008). Some scholars point to feudal times, and the construct of war, as the origins of this culturally perpetuated model of an individual, charismatic leader inspiring a group of followers to a heroic goal (Barker, 1994). In the literature on leadership, this has been referred to as a traits approach to leadership, in which an individual's innate traits, such

as physical features, personality traits, or other factors, differentiate leaders from followers (Bass, 1990; Northouse, 2018). Some of the traits traditionally associated with great leaders, such as intelligence, dominance, confidence, and masculinity (Lord, DeVader, & Alliger, 1986), have been reinforced in Western culture and still influence modern conceptualizations of leadership (Chin, 2004; Northouse, 2018).

Scholars have since discarded the idea that specific innate traits determine who should lead, looking for other ways to define leadership. During the second half of the 20th century, over 65 classifications emerged to try and define leadership (Fleishman et al., 2001). While there are too many to mention here, the main classifications differ around hierarchy of power and influence (i.e.: top-down vs bottom-up), the nature of interactions between leaders and followers (i.e.: task-oriented vs interpersonally-oriented), and decision-making processes (one-person vs shared power), to name a few (Northouse, 2018).

While some of these new ideas broadened the scope of what leadership could look like, the traditional concept of an individual leader influencing others still dominates Western culture. Existing structures, such as hierarchical business models, make it hard to create the actual shifts necessary to include more diverse leadership styles (Fletcher, 2003). Although more women and non-White individuals hold leadership roles, it is often because they have conformed to existing structures and norms of behavior, rather than the systems and structures changing to honor their leadership style.

These examples of leadership that exclude adolescent girls harm their well-being rather than support it. Adolescent girls must already reconcile their own personal growth against pervasive messages about female beauty standards, the role of women in society, and feminine behaviors, to name a few; this experience can cause girls to close down and suppress their voice

and self-confidence (Castelli, 1996; Gilligan 1990). Contrast that with an asset-based approach to leadership, teaching girls to use their strengths to build up their self-confidence and voice. As we'll see, broadening the definition allows girls an additional, asset-based pathway to well-being.

Leadership as a Collaborative Process

For the reasons listed above, it is time to adopt a new concept of leadership. Broadening the definition of leadership can improve the well-being for adolescent girls by empowering them to lead according to their own strengths, thereby claiming their identity as leaders and setting them up for success (Hoyt & Kennedy, 2008). Building on literature exploring women's leadership, youth leadership, Shared Leadership and Authentic Leadership Development Theories, I offer this definition for the purposes of this paper:

> Leadership is the process of using one's strengths to communicate and engage with others towards a shared goal (Avolio & Gardner, 2005; Fairhurst & Connaughton, 2014; Northouse, 2018).

Process-Oriented. Youth, in particular, benefit from a focus on the *process* of leadership development instead of specific outcomes, such as achievements (Kirshner, 2004). As I have outlined, the pressure to excel is one of the factors contributing to the current mental health epidemic, especially for youth in high-achieving settings (Luthar et al., 2019). Adolescence is a time of personal identity development (Newman & Newman, 1975), driven by experimentation and experience; the process of leadership development, too, is a time of transformation and change (Hoyt & Kennedy, 2008; Kirshner, 2004; van Linden & Fertman, 1989). As such, it is important to acknowledge the social context of adolescents and to create an understanding of

leadership that both includes them and honors the process of transformational change they are already undergoing.

Asset-Based. Authentic Leadership Development Theory contributes to our definition by promoting an asset-based model of leadership, based on one's *strengths* and underpinned by deep *self-knowledge* (Avolio & Gardner, 2005). In line with positive psychology, a strengths-based approach honors adolescent well-being by making the concept of leadership available to youth based on their own individual strengths, rather than asking them to conform to the cultural standards of leadership. In this context, one aspect of leadership development focuses on leader self-awareness, helping youth to understand their values, identity, emotions, and goals (Gardner et al., 2005).

Though the field of authentic leadership development still promotes a relatively traditional leadership model, one leader in front of a group of followers, as compared to a more shared leadership model, the concept of authenticity in leadership is valuable for making the connection between leadership and well-being. Well-being happens when one is fully engaged in an activity that is aligned with one's values, morals, and strengths; therefore, introspection or reflection is essential for well-being (Ilies, Morgeson, & Nahrgang, 2005). Authentic leadership sets high-achieving girls up for success.

Shared. Feminist Leadership Theory contributes to our definition by highlighting the process of moving a group of individuals toward a shared goal. Feminist Leadership is a new area of scholarship, and though women often need to conform to the traditional male construct of leadership in order to be accepted (Fletcher 2003), recent research is finding that women's leadership styles tend to be more collaborative and relational than traditional male models (Chin, 2004; Fletcher 2003). Women tend to have more of a shared leadership approach, which

highlights leadership as a social process that occurs through interactions, thereby putting the emphasis on the group experience of leadership rather than the individual. Leadership is seen as accessible to everyone, built on relationships, and as creating the conditions for collective learning (Pearce & Conger, 2002).

Of course, this is an overgeneralization and does not apply to all women's preferred leadership style; however, it is meant to broaden the definitions of leadership to include a more collaborative approach that might resonate with different adolescents. Shared leadership, like authentic leadership, sets high-achieving girls up for success.

As seen here, communication is the common thread that runs through the three leadership theories (Fairhurst & Connaughton, 2014; Northouse, 2018). I will continue to discuss how collaborative communication sets high-achieving girls up for success, specifically through cooperative games.

Set up to Play

As discussed, adolescent girls attend high-achieving schools because they want to be set up to succeed. Just like play was a pathway to successful leadership for the founder of positive psychology and for the Board Game club that meets in the library each week, I will show how, if we set up girls to play in the midst of today's pressure, they will be set up to engage, relate and achieve while also becoming effective leaders. This section will explore the research that supports this claim.

Set up to Play and Engage

Engagement is defined as the loss of self-consciousness that happens when you are completely absorbed in an activity (Seligman, 2011). Engagement, also known as the

psychological state of "flow," improves well-being (Csikszentmihalyi & Csikszentmihalyi, 1988). Games create optimal conditions for flow because they are structured and designed to intrinsically motivate participation.

Like Seligman's journey to Positive Psychology, researcher Mihaly Csikszentmihalyi's journey to flow also began with games. He wondered why games are more enjoyable than other everyday activities, such as work (Csikszentmihalyi, 1990). His interest in understanding intrinsically motivated desire to excel led to many years of studying experts in game-like activities, such as chess, dancing, sailing, and rock-climbing. Through individuals' accounts of these experiences, Csikszentmihalyi developed the Theory of Optimal Experience to say that flow is the optimal experience of "becoming one" with an activity, marked by *complete absorption*, *total engagement*, *lack of emotion*, and *focus on the activity at hand* (Csikszentmihalyi, 1990; Schmidt, Shernoff, & Csikszentmihalyi, 2014).

He further defined flow as "a psychological state that can occur when people are able to meet the challenges of their environment with appropriate skills, and accordingly feel a sense of well-being, a sense of mastery, and a heightened sense of self-esteem." (Csikszentmihalyi, 1990, p.4). Experiencing flow, therefore, can boost one's well-being by offering intrinsically rewarding experiences.

Achieving a state of flow can happen organically, but it happens most reliably as the result of a structured activity. Csikszentmihalyi identified four specific qualities that perpetuate a state of flow: rules that encourage skill acquisition, achievable goals, feedback loops, and a sense of control. These four qualities, acting together, create a clear boundary between the activity and reality (Csikszentmihalyi, 1990, p. 72).

The four qualities of flow closely resemble the qualities of games, which was defined earlier as a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome (Salen & Zimmerman, 2003, Ch. 22 p.4). Both place an emphasis on rules, with feedback loops that guide individuals toward achievable goals. In fact, Csikszentmihalyi stated that “games are an obvious source of flow, and play is the flow experience par excellence” (1975, p. 206).

The game Pandemic is a perfect example of what healthy engagement looks like. Pandemic is a cooperative game that relies on a team of players with distinct roles to save the world from the spread of infectious disease. When players are engaged, they are leaning over board to examine their next move. They are high-fiving when they have a good turn. They’re present to the people around them, not the devices around them.

Games create a flow state that is intrinsically motivating, meaning that players choose to engage because the experience of playing is a means unto itself, regardless of the outcome (Ryan et al., 2008). Cooperative games are particularly conducive to promoting a flow state because they shift the focus of the experience away from the end goal of winning and towards the process of playing. Cooperative games, when well designed, offer an optimal level of competition; enough to keep players focused on the game at hand and not too much to disrupt a players’ state of deep absorption in the activity (Csikszentmihalyi, 1990).

Not all games will create a state of flow for everyone, however. Players must be intrinsically motivated to engage with the game, meaning it must align with their interests on some level (Deci, 1992; Hektner & Csikszentmihalyi, 1996). For this reason, it can be challenging to use games in educational settings when you’re trying to engage many people’s interests. Games must also provide an optimal level of difficulty, one that is challenging but

within one's abilities (Csikszentmihalyi, 1975; Csikszentmihalyi, 1990). The sense of achievement that comes from overcoming challenges can build one's sense of self-esteem and continue encouraging the players to engage. If these two conditions are met, games will be most likely to create a sense of flow for the players.

Engagement in games that create a state of flow is one way to improve students' well-being in high-achieving academic settings. The gameplay experience itself has positive benefits on well-being, and experiences of flow have well-being benefits beyond just the experience of the game.

Pertinent to our focus on adolescent girls in high-achieving schools, studies have shown that experiences of flow for adolescents can improve intrinsic motivation, self-esteem, time spent on school work, and relevance of activities in other domains (Hektner & Csikszentmihalyi, 1996). These flow experiences are particularly meaningful for our key players. These students are less likely to engage in activities for the sake of the experience, since high-achieving settings tend to be so outcome oriented (Luthar et al., 2019). Games can also create meaningful connections to others, as we'll see next.

Set up to Play and Relate

Along with engagement, positive relationships are another core element of well-being (Seligman, 2011). Positive relationships are relationships characterized by mutual empathy, respect and empowerment (Roffey, 2012). Relationships that are not positive, in contrast, might be characterized by negative emotions, such as isolation, or unequal power dynamics, such as domination (Roffey, 2014). As discussed above, positive relationships for youth can serve two purposes - increasing resilience and increasing connection. Relating well buffers against the negative effects of adversity by building resilience (Masten, Cutuli, Herbers, & Reed, 2009) and

it builds well-being by creating moments of high-quality connection (Stephens, Heaphy, & Dutton, 2012) and positivity resonance (Fredrickson, 2013).

Resilience is multi-dimensional, including both internal factors, such as self-regulation, self-esteem, and self-efficacy, as well as external factors, such as positive relationships and connections to others (Masten, 2001; Masten & Reed, 2005; Ong et al., 2009). Positive relationships can build resilience, or one's ability to bounce back from adversity (Masten et al., 2009). Adolescent girls who have positive relationships tend to have deeper positive experiences, more support in times of adversity, and greater efficacy in learning environments (Hromek & Roffey, 2009).

Positive relationships also build well-being through high quality connections, or positive interactions between two or more individuals (Stephens et al., 2012). High-quality connections are felt in three ways: increased positive emotions, a sense of being loved and respected, and a sense of shared mutuality, or movement in the connection between people (Quinn & Dutton, 2005; Rogers, 1951; Miller & Stiver, 1997). Moments of high-quality connection have also been described as having a positivity resonance, when two or more people share a momentary sense of oneness marked by positive emotions, biobehavioral synchrony, and mutual care (Fredrickson 2013). The "resonance" happens as these emotions move between individuals, causing physiological and chemical changes in one's body and brain. People's minds and bodies naturally begin to mimic each other, eventually syncing to the same rhythm, indicating on a deeply unconscious level an investment of care in each other's well-being (Fredrickson, 2013).

Think back to the concerning research on a lack of relationships among today's adolescent girls. It is clear that setting up these moments of connection is crucial for HAS youth, who too often receive the message that their worth is tied to their output. When set up to have

positive connections, HAS youth can feel worthy, loved, and respected for qualities inherent to their personality, not their achievements (Luthar et al., 2019). It is also important that these moments of connection happen within the school setting; since as we've seen, youth are now building relationships online instead of in-person due to their busy calendars (Twenge et al., 2019). Research suggests that relationship-building is most effective in person, around a cooperative game, for example. These in-person moments allow for eye contact and physical touch–both crucial biological elements that enable feeling connected to others (Fredrickson, 2014).

While in-person connections help build stronger relationship, the world is currently experiencing a global pandemic caused by COVID-19. As a result, relationships are necessarily being built and maintained online to minimize person-to-person contact and stop the spread of disease. People are re-defining how to meaningfully build relationships over digital platforms. And, many people are turning to games to help facilitate this process. Video games and mobile game downloads, play time, and sales have increased significantly since populations went into lockdown in early 2020 (Hall, 2020). Board games are also becoming available online: some platforms, such as Tabletop Simulator, offer spaces for people to play traditional board games together. Other board games companies, such as Codenames, are creating their own digital versions of their most popular games.

Not all online games enhance relationship-building, however; video and mobile games in particular can be individual experiences that do not promote interaction between individuals. Online games that build relationships are structured to encourage collaboration between players; they interact with each other to achieve the goals of the game. Instead of relying on physical

cues, such as eye contact and body language, players communicate with each other through auditory cues or online chats.

The rules of the game, whether online or in-person, provide a clear distinction between reality and the game space, creating an in-game environment that mirrors reality but with lower perceived interpersonal risk. In part, this works because of psychological safety. Psychological safety is, at the core, about reducing interpersonal risk in a specific context (Edmondson & Lei, 2014). When the perceived risk is low, individuals are more likely to contribute ideas, speak up, and engage with the larger group. Environments that promote psychological safety are built on norms of trust and respect at the group level; games provide those norms through the rules and structured gameplay built into the system (Salen & Zimmerman, 2003). A sense of psychological safety is particularly in cooperative games, as players must communicate effectively as they work towards a shared goal (Zagal et al., 2006).

Play is one pathway towards building high-quality connections (Stephens et al., 2012). The skills needed to play together are the same skills needed for managing interpersonal relationships, such as regulating emotions, taking turns, respecting other players' decisions and opinions, to name a few (Hromek & Roffey, 2009). Conflict is one of the defining features of games, whether it be conflict amongst players competing against each other or conflict uniting players to work together against the game (Salen & Zimmerman, 2003). Conflict, along with other intrinsic features such as role-playing, taking turns, shared decision-making, teach adolescents meaningful ways to interact and, assuming they follow the rules, can model how to build effective interpersonal relationships through interactions that mirror gameplay.

Games are also fun and encourage a sense of play and exchange of positive emotion amongst players. The positive feelings that come from playing can help individuals connect with

others they may not know (Stephens et al., 2012) and create a sense of group belonging (Ayers et al., 2005). Positive emotions can also help to “undo” the effects of stress (Fredrickson & Tugade, 2004) and help facilitate creativity and problem-solving two important skills for gameplay (Fredrickson, 1988). HAS youth desperately need these experiences of positive connection to their peers, and even the adults on their campus, in order to build well-being.

As we have seen, positive relationships are one of the protective factors that adolescent girls, in particular, are missing from their daily experiences. Girls in high-achieving schools have limited time in their busy schedules to experience true leisure with friends, missing out on these moments of potential playfulness. As a result, relationships are maintained online, now more than ever due to the global pandemic. While in-person connection is ideal for building and maintaining relationships, meaningful interpersonal connection can still happen in virtual spaces. Games, both in-person and virtual, can facilitate those connections by creating moments play and positive emotion, leading to high-quality connections and the feelings of resonance between two people.

Set up to Play and Achieve

According to the PERMA model of well-being, achievement is one of the five pathways for improving well-being. Students in high achieving settings, however, already experience immense pressure to achieve and as a result they report feeling overwhelming levels of stress and anxiety related to their performance. Stress is not necessarily a bad thing; rather, stress plays an important role in human evolution and performance-oriented tasks (Crum, Salovey, & Achor, 2013). Games can create space for adolescents to develop a more nuanced understanding of

stress by practicing how stress can work in their favor to support achievement. In short, games can help adolescents develop a healthy stress mindset.

What, exactly, is stress? At a most basic level stress is “the experience of encountering or anticipating adversity in one’s goal-related efforts” (Carver & Connor-Smith, 2010). In moments of anticipated or imminent adversity, the body has a physiological response of increasing cortisol levels and mental response to focus attention. From an evolutionary perspective, the body’s stress response is necessary for survival, priming the body for optimal performance against adversity.

An “optimal” level of stress is just enough stress to prime the mind and body for peak performance but not enough to cause the body to shut down entirely. Researchers have described this as an inverted-u relationship, with stress on the x-axis and performance on the y-axis. Stress and relationship are positively related until they hit that optimal zone, the “top” of the inverted-u, after which point performance decreases as stress continues to increase (Grant & Schwartz, 2011; Yerkes & Dodson, 1908). Anything beyond that optimal zone is considered too much stress. Too much stress can be caused by life events, trauma, chronic adversity, or heightened stress over extended periods of time (Carver & Connor-Smith, 2010). While these unpleasant experiences can have real negative impacts on the mind and the body it will not be discussed here, as that is outside of the scope of this paper.

Adolescents sometimes have a hard time understanding the difference between healthy and unhealthy levels of stress. For some, the idea of mental well-being can be conflated with feeling “good,” when in reality mental well-being is actually about having appropriate emotional responses to given stimuli. Therefore, helping teens understand the positive effects of stress on their performance and the possibility of growth in the wake of stress can potentially shift their

mindset from a “stress is bad” approach to a “stress is enhancing” mindset (Crum el al., 2013; Le Fevre, Matheny, & Kolt, 2003; Selye, 1975).

One’s stress mindset, or evaluation of the nature of stress in a given context, is an important variable in the way one responds to adversity (Crum el al., 2013). For example, if a student who is stressed about an upcoming test has a “stress is bad" mindset, they might spend time focusing on the experience of stress itself - why it appeared and how it might harm them. On the other hand, a student with a “stress is enhancing” mindset might *feel* the same level of stress but instead channel their heighted physiological response to help them focus on studying for the test. The students’ beliefs about the role of stress and their ability to respond informs their actions and, ultimately, their performance (Crum el al., 2013).

The research on stress helps show how cooperative games are a pathway for girls to lead well and be well.

Games help adolescents explore their relationship with stress in an environment that mirrors reality but with fewer consequences or lower risk. Games have inherent adversity built into them; remember that conflict is one of the defining features of a game (Salen & Zimmerman, 2003). Adversity in games is often not overwhelming for players; if it is, they will opt-out in favor of a more appropriate level of challenge. Instead, appropriate levels of adversity set up players for enhanced performance by activating their physiological systems.

These dynamics set girls up to have a different stress mindset within a game than outside of a game. One reason for this could be the role of failure as an outcome of performance. In a game, failing is accepted as part of the process. Well-designed games are engaging to play *even if you lose*, which changes one’s idea of achievement, and therefore one’s experience of stress (Zagal et al., 2006). Instead of thinking of achievement as winning, achievement can also mean

improving your skill, leveling up a character, or advancing your team to the next level. Games are designed to reward different types of success, which give players indication that they are still "successful" even if they are not necessarily winning.

In a more high-stakes environment, such as an HAS classroom, it is harder for students to value the process of learning. Instead, the "win" condition is often equated with the highest level of performance, such as the outcome of the college admission process. In many ways, this view is perpetuated by the structure that exists in schools. For example, deductive grading styles, where students are docked points for mistakes, communicates a sense of failure for anything less than perfect, not achievement. Interpersonal interactions have also become more high-stakes with the recent rise in social media; interactions that were once handled in-person now have the potential to be dealt with on a public platform (Twenge et al., 2019).

Stress is a natural and important part of life and it is not going away any time soon, especially for youth in high-achieving settings. Games provide an additional pathway for girls to practice engaging with stress to learn how it can improve, instead of harm, their performance. By introducing games in a school-setting, educators are showing that they value the game experience and can help students realize the many ways they already facing and overcoming adversity. Hopefully, over time, students' stress mindsets can transfer out of the game experience into their classroom experience.

Games are a pathway to engagement, relationships, and healthy achievement. As we'll see in the next section, in addition to building well-being, games also build leadership skills.

Set up to Lead

As we have seen, games and gameplay can increase well-being for HAS youth by creating opportunities for meaningful engagement, relationship building, and a healthy stress mindset towards achievement. Games are also an ideal place to build the skills to lead well, which we've identified as communication and self-awareness, based on our definition of leadership. In this section, we'll discuss why communication and self-awareness are so important to youth leadership development, and how cooperative games are suited to teaching these skills in a structured low-stakes environment.

Youth leadership development highlights specific skills that adolescents need to help them lead well (Conner & Strobel, 2007). For the sake of this paper, I will focus on two skills for youth leadership development: collaboration and self-awareness. These two skills are prevalent across leadership literature and play a central role in building relationships and an authentic approach to leadership, both of which can promote well-being in adolescents.

Set up to Lead and Collaborate

Effective communication skills enable leaders to support collaboration amongst individuals working towards a shared goal and across different contexts. Though technically communication is separate from collaboration, they are interrelated. Communication is a crucial component of collaboration; to be an effective collaborator, you must know how to communicate. The term communication can mean many things depending on the specific context, but at the most basic level it has been defined as "the discriminatory response of an organism to a stimulus" (Stevens, 1950, p.1) based on the idea that "information is transmitted from one part of a system to another" (Krauss & Fussell, 1996, p.10). In the context of leadership, transmission occurs through interpersonal communication, defined as processes that

cause participants simultaneously to affect, and to be affected by, one another (Krauss & Fussell, 1996). Research on leadership refers to communication both as an interpersonal skill (Connor & Strobel, 2007; Ricketts & Rudd, 2002; Ruben & Gigliotti, 2017; Zedlin & Camino, 1999) and an integral part of the relational process (Fairhurst & Connaughton, 2014; Uhl-Bien, 2011).

Effective leaders must be able to change their communication style to match the needs of the social context, which plays a large part in determining appropriate types of communication to achieve a specific outcome. In their model of social context of communication, researchers Eddo Rigotti and Andrea Rocci (2006) highlight how interpersonal communications are subject to two contexts: the personal (made up of relationships and stories shared between two individuals) and the communal (including the larger cultural contexts surrounding those entities). Both the personal and communal contexts are present for each interpersonal interaction, which adds to the layers of communication that youth leaders need to navigate.

Cooperative games help HAS youth practice communication skills to unify individuals to take collective action towards a shared goal; therefore, they need to understand the contexts present at both the personal and communal levels of interaction (Rigotti & Rocci, 2006). In the safe space, youth can practice using their voice to influence group decisions, play different roles within the group, and utilize different forms of communication (i.e. verbal vs nonverbal) to achieve their goals.

Set up to Lead and Be Self-Aware

Self-awareness capacities help youth leaders develop a deeper understanding of themselves and act in accordance with that knowledge (Wicklund, 1975). Self-awareness also underpins many of the key skills young people need to succeed as individuals, citizens and workers in the 21st century (Trilling & Fadel, 2009).

Self-awareness is defined as the direction of one's conscious attention inward (Duval & Wicklund, 1972) or a person's awareness of their internal states and mental processes (Nisbett & Wilson, 1977; Baumeister, 1987). Developing the capacities for internal awareness can help students become more authentic leaders by developing deep knowledge of their internal values, emotions, goals, and identity (Gardner et al., 2005). In turn, this knowledge informs how they engage with the world (Harter, 2002).

Self-awareness has recently been identified as one of the key skills adolescents will need to be successful in the 21st century. Though not explicitly named, the concept of self-knowledge underpins many of the 21st Century Skills, such as critical thinking & analysis (reflect critically on learning experiences and processes), initiative & self-direction (reflect critically on past experiences in order to inform future progress) and social & cross-cultural skills (know when it is appropriate to listen and when to speak) (Trilling & Fadel, 2009).

Cooperative games are a space where players can practice using these skills in an interpersonal context. Players need self-awareness to figure out how and when to use a specific skill to help the team achieve their goals. They receive feedback about their self-awareness skills through the feedback loops built into the structure of the game and through responses from teammates.

Skills are learned through practice over time (Zagal et al., 2006). Well-designed cooperative games are an ideal environment for practicing the skills of communication and self-awareness because they create a structure that is intrinsically engaging, which helps continue the cycle of practice, and facilitates collaboration towards a goal, our definition of leadership.

Example

Throughout this paper, I've discussed how cooperative games provide an alternate pathway to be well and lead well. In this section, I'll show how this might look in-action with a specific game: Lord of the Rings (2000). Facilitating this cooperative game is one way for high-achieving girls to be set up to succeed and set up to play on a pathway well-being and leadership.

Set up the Game

The game loosely follows the storyline of the Lord of the Rings trilogy, authored by J.R.R. Tolkien. You and your teammates are hobbits on a journey to destroy a powerful, evil ring in the volcanic fires of Mount Doom. Each hobbit is equipped with unique abilities and autonomy to use those abilities. Along the path, your team, or fellowship, will encounter many challenges that threaten your progress. In order to win, you need to balance your team's well-being with your own character's aspirations and strengths. Regardless of whether they win, your team receives points along the way to mark their progress. At the end of the game, all players receive the same score, the mark of a collaborative game.

Play the Game

Games that build well-being need to be engaging enough to motivate people to want to play. Lord of the Rings (LOTR) is one of the most highly-regarded cooperative board games in large part because it does just that. Its structure supports intrinsic engagement, the opportunity to build positive relationships, and healthy pressure to achieve.

As we saw, games are defined by their structure, which includes rules, an artificial conflict, and a quantifiable outcome (Salen & Zimmerman, 2003). A well-structured game leads to players' self-motivated engagement in the game (Csikszentmihalyi, 1990; Ryan et al., 2008).

What makes LOTR so engaging? Zagal and colleagues (2006) identified four aspects of the LOTR game structure that promote effective collaboration: tension between individual and team goals, individual autonomy, feedback loops, and roles with unique abilities (Zagal et al., 2006). These four qualities create an engaging experience that encourages respectful interpersonal dynamics and gives players a sense of achievement.

Tension between individual and team goals. *It's your turn: do you draw cards to build up your character's strength* *or* *play cards to advance your team's position?*

At each point in the game, you are faced with decisions that require you to evaluate your life against your team's progress. What you choose depends on where you are in the game, which means that your experience will be different each turn and each time you play. As you progress, the decisions get harder, keeping you in an optimal zone of challenge (Csikszentmihalyi, 1990).

Your choices affect your teammates outcomes, not just your own. Communication is key for helping players understand each other's thought processes, decision-making strategies, perspectives, and goals. Players must be in tune with each other's goals as well as their own so they can strategically decide when to prioritize their own well-being or their team's.

Individual autonomy. *You consult with your teammates. They think it's best for you to play cards so you can move the team out of the dangerous land of Moria. You are worried about your hobbit's health, and so decide to draw cards instead.*

Collaboration is most effective when individuals can make decisions for themselves. Often referred to as "quarterbacking" in the board game world, dominant play styles can undermine collaboration when one individual takes over and makes decisions for the team. Players who don't have decision-making power often disengage from the experience or turn to

less constructive communication styles. The negative emotions that come from feeling disempowered and disengaged can undermine a player's sense of achievement.

Individual autonomy allows players to be empowered to make their own decisions. Players must rely on their awareness of their own strengths and their role on the team to inform their decisions and actions. This is where the feedback loop comes into play.

Feedback loop. *Because you drew cards, your team is still stuck in a dangerous spot. Your teammate, up next, draws a "bad event" tile which requires all players to discard two specific cards. Your teammate doesn't have the designated cards in her hand and, as a penalty, must suffer corruption damage. The damage is enough to eliminate her from the game.*

Effective collaboration relies on a system that provides feedback to individuals so they can understand the outcome of their decisions. The feedback is often delivered through interpersonal communication. In the example above, the player that gets eliminated will likely be upset over the turn of events and communicate that anger to you, her teammate. The lower-stakes environment enables this type of direct feedback by putting the focus on the action taken, not necessarily the person taking it. Players also need to be willing to recognize the impact of their actions, which can lead to more self-aware actions and proactive communication in the future.

In addition to interpersonal feedback, the game itself is set up to provide feedback. As players make more selfish decisions, the game will often become more difficult for the team. This reinforces that players need to make decisions to support their shared goal in order to win.

Unique abilities. *Your teammate's character had a unique ability to move your team through challenges more quickly. Without that ability, your team's pace of advancement will be significantly impacted, putting you at risk of reaching your goal.*

Each character is designed to have strengths that add to the team's overall abilities. Players who collaborate effectively recognize each person's individual strengths and utilize them for the team's benefit. This can encourage selfless actions; players might be more willing to die or face risk if they know that their teammate is uniquely positioned to help the team advance. Selfless actions, done of their own volition, can help a player feel empowered because their action is purpose-driven, improve interpersonal relationships by highlighting mutual care, and promote a sense of achievement if the action is successful.

Debrief the Game

The example above illustrates how one decision can have a significant impact on the outcome of the game. The player could have avoided the situation if they had communicated more effectively with their teammates and been more aware of their own role on the team. This experience is an example of encountering conflict, or adversity, in a game. Even though the outcome of the conflict has lower stakes, the consequences are powerful enough to encourage players to remain engaged and try to make the best decisions possible. Players were encouraged to build healthy relationships by recognizing each other's strengths and putting team utility above their own. The game encouraged a healthy pressure to achieve by allowing both communication around decision-making yet allowing for individual autonomy.

Games are, at the core, interpersonal experiences that can create positive emotions with lasting benefits on one's ability to learn. As we've seen, the structure of games creates constraints that help individuals practice skills such as communication and self-awareness. The interpersonal nature of the game makes it a dynamic environment (Hromek, & Roffey, 2009). Team success, especially for cooperative games, depends on how well individuals can understand themselves, their teammates, and, ultimately, how well they can "sync" to each other.

These moments could be described as a sort of positivity resonance, in which players' behaviors and brains begin to mimic each other, creating a sort of synchrony between teammates (Fredrickson, 2013). These moments of connection are moments of positivity, and while they can reinforce the intrinsic nature of cooperative games, they can also enhance the learning that occurs within games (Fredrickson, 2009).

Game End

> People say, you can't play with each other—you have to play against each other, otherwise there's nothing to do. Of course, that's not true. I actually believe that playing with each other and really facing a common opponent in the game makes a much richer playing experience. My challenge was to create an atmosphere in the game that pushed people together and made them naturally want to stay together. … The players realize after the first few turns that they get hit so quickly with so many bad things that if they want to just go off by themselves they have no hope. (Reiner Knizia, in Glenn, 2002)

Back in the school library, the table is set for two different games. The group is split; two girls want to play Uno while the other two hope to play Pandemic. As the group is caught in a standstill, one girl stands up: "I have an idea."

Producing a pile of notecards, she asks each person to write down the top three reasons they want to play. After synthesizing the results, she asks Ms. Eloise for a game recommendation based on the new set of guidelines she discerned from the notecards.

"I have the perfect game!" exclaims Ms. Eloise, producing a newly packaged box from behind the desk. "We just received this yesterday. The instructions are inside - let me know what you think."

Proud of herself for devising a solution, the girl brings the new game back to her group of friends. Hesitant at first, they agree to give it a try once she explains her selection process. Maybe they can play Uno tomorrow, she suggests?

Leadership happens in informal moments. As defined, leadership is the process of using one's strengths to engage with others towards a goal. It is known that leadership skills, the skills involved in facilitating these processes, are essential for adolescents' success in the future. What is really meant by success? Is it an individual runner, crossing the finish line alone? Or, is it a group of girls laughing in a library?

Success, for adolescent well-being, means having reliable ways to engage in activities that they love, build positive relationships with parents, peers, and trusted adults, and learn how to value achievement, and failure, as part of the learning process.

Games are one way for adolescent girls to achieve those goals. These moments of play can produce a sense of flow, a high-quality connection with another player, or a feeling of pride for one's achievements.

Cooperative games, in particular, offer the structure to teach girls how to collaborate with each other towards a goal. Successful board game structures set high-achieving girls up to collaborate outside of the game, and they offer players a chance to practice their communication skills and develop self-awareness.

Just like Martin Seligman, the founder of Positive Psychology, was set up to succeed when he was set up to play, adolescent girls are set up to succeed if they, too, are set up to play.

In the end, I hope this paper inspires all of us to include cooperative games on the pathway to being well and leading well. I like to imagine all the good that will happen when we set our students up to play like high-achieving girls. That, after all, is the end game.

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