COPING STRATEGIES, ANXIETY, AND TRANSITION READINESS: A TEST OF MEDIATION IN ADOLESCENTS WITH CHRONIC CONDITIONS

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ABSTRACT

Yunzhen Huang: Coping Strategies, Anxiety, and Transition Readiness: A Test of Mediation in Adolescents with Chronic Conditions
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The present study investigated the relationship between coping strategies, anxiety, and transition readiness (i.e., the readiness to transfer from pediatric to adult health care) in a sample of 185 adolescents with various chronic conditions and their parents recruited from the 2018 Victory Junction Camp. Campers and parents completed the child and parent versions of Kidcope, PROMIS anxiety subscale, and STARx through Qualtrics survey, respectively. Results showed that use of coping strategies was significantly correlated with transition readiness. Anxiety partially mediated the relationship between use of maladaptive coping strategies and self-reported transition readiness, but not the relationship between use of adaptive coping strategies and transition readiness. The use of coping strategies may be a direct influential factor for transition readiness, and anxiety may be more relevant to the relationship between use of maladaptive coping strategies and transition readiness. Implications for clinical rehabilitation and mental health counseling research and practice are discussed.

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LIST OF ABBREVIATIONS

ACS	Adaptive coping strategies
Kidcope	Kidcope Checklist
MCS	Maladaptive coping strategies
PROMIS-A	Pediatric Patient-Reported Outcomes Measurement Information System-Anxiety Scale
SMART	Social-ecological model of adolescents and young adults' readiness for transition
STARx	Self-Management and Transition to Adulthood with Rx = Treatment

CHAPTER 1: INTRODUCTION

In the United States, around 500,000 adolescents with chronic illnesses, ranging in age between 10 and 19 years of age (World Health Organization, 2014) transfer from pediatric to adult health care annually (American Academy of Pediatrics [AAP], American Academy of Family Physicians [AAFP], & American College of Physicians-American Society of Internal Medicine, 2002). Successful health care transition has been shown to have a positive effect on adolescents' health and development (Rosen, Blum, Britto, Sawyer, & Siegel, 2003). Transition readiness is a predictor of successful health care transition (Fegran, Hall, Uhrenfeldt, Aagaard, & Ludvigsen, 2014), and anxiety is an important psychological factor that may interfere with successful health care transition (Schwartz, Tuchman, Hobbie, & Ginsberg, 2011). However, no research to date has explored their relationship with coping strategies, to examine how it might influence transition readiness through anxiety. Previous studies have shown that adaptive coping strategies could effectively reduce anxiety in adolescents with chronic conditions (Compas et al., 2006; Compas, Jaser, Dunn, & Rodriguez, 2012; Meijer, Sinnema, Bijstra, Mellenbergh, & Wolters, 2002). By reducing anxiety, these coping strategies may also increase transition readiness. This study aimed to investigate the relationship between coping strategies, anxiety, and transition readiness, with the goal to identify effective coping strategies for adolescents with chronic conditions facing health care transition. This knowledge could shed light on possible interventional methods to increase well-being and transition readiness.

CHAPTER 2: TRANSITION READINESS

Transition readiness is the subjective or objective readiness for health care transition in adolescents with chronic conditions (Javalkar et al., 2016). Rather than a unidimensional construct, transition readiness consists of various components that define the construct: disease knowledge, self-management, and communication with medical providers (Ferris et al., 2015). Transition readiness is a relatively new concept that has not been studied until recently (AAP & AAFP, 2011). To facilitate a clear understanding of transition readiness, the next sections will characterize the relationship of health care transition, and transition readiness in the context of chronic health conditions.

Chronic Conditions, Health Care Transition, and Transition Readiness

Chronic conditions are disorders with biological and/or psychological symptoms that last for more than one year, leading to special needs for medical, psychological, or educational services, as well as limitations in function, activities, and social role (Stein, Bauman, Westbrook, Coupey, & Ireys, 1993). In the United States, at least 12% of adolescents have a chronic condition (Sawyer, Drew, Yeo, & Britto, 2007), and most youth with chronic conditions will experience health care transition (Javalkar et al., 2016; Sawyer et al., 2007; Scal, Evans, Blozis, Okinow, & Blum, 1999). An estimate of 500,000 adolescents with chronic conditions are expected to transfer from pediatric to adult health care each year (AAP et al., 2002).

As part of a longer life-course transition (van Staa & Sattoe, 2014), health care

transition plays an important role in the life of adolescents with chronic conditions. It has a profound effect on their physical and psychological health, and social development. Successful health care transition enhances adolescents' autonomy, sense of personal responsibility, and self-reliance (Rosen et al., 2003). In contrast, poor health care transition results in dissatisfaction with the health care transition experience (van Staa & Sattoe, 2014), fewer achievements in developmental milestones (Stam, Hartman, Deurloo, Groothoff, & Grootenhuis, 2006), and increased risk of morbidity (McDonagh, Southwood, & Shaw, 2007). Most adolescents with chronic conditions do not feel well-prepared for transition (Gray et al., 2015; McManus et al., 2013), which increases the risk of poor health outcomes (Lotstein et al., 2013; McDonagh et al., 2007).

Due to issues associated with poor health care transition readiness among adolescents with chronic conditions, recent research has intensified in this area. Previous studies have shown that transition readiness predicted successful transition (Fegran et al., 2014; Lorig et al., 2001). Interventions aiming at enhancing patients' transition readiness significantly improved transition outcomes (Crowley, Wolfe, Lock, & McKee, 2011; Lorig, Ritter, & González, 2003; Lorig et al., 2001; Vidal et al., 2004). For example, chronic disease self-management education programs, designed to increase disease knowledge and self-management skills, were found to increase health literacy, health behaviors, and self-efficacy (Crowley et al., 2011; Lorig et al., 2003; Vidal et al., 2004), and reduce emergency room/outpatient visits, complications, and health problems (Lorig et al., 2001; Vidal et al., 2004). In addition, the MD2Me, a technology-based disease management intervention for adolescents with chronic conditions that provides an additional health care

team communication portal, has shown to improve disease management skills, patient-initiated provider communications, and health-related self-efficacy (Huang et al., 2014).

The Social-Ecological Model of Transition Readiness

There are various factors that influence transition readiness. The social-ecological model of adolescents and young adults' readiness for transition (SMART; Schwartz et al., 2011) provides a comprehensive summary of these factors. According to SMART (Schwartz et al., 2011), two groups of factors affect transition readiness: pre-existing objective factors and modifiable subjective variables. Objective factors are factors that are less amenable to intervention. These include socio-demographic background, culture, access to pediatric and adult health care, medical status and health risks, and neurocognitive abilities including intelligence quotient (IQ). Females (Javalkar et al., 2016), non-Hispanic whites (Kane et al., 2009), and those from geographic areas with higher median income (Javalkar et al., 2016) tend to have higher transition readiness. Individuals with an adequate insurance coverage are more likely to utilize high-quality transition service (Kane et al., 2009), and have higher transition readiness (Reiss, Gibson, & Walker, 2005). Those without significant medical concerns that require specialty expertise (e.g., complex and severe medical condition) generally have higher transition readiness (Reiss et al., 2005). In addition, those with at least average IQ and cognitive ability have higher transition readiness (Binks, Barden, Burke, & Young, 2007; Reiss et al., 2005).

Subjective variables are factors that are amenable to interventions. These variables include developmental maturity, knowledge about the disease and the transition process,

skills/self-efficacy related to managing personal health and transition, beliefs/expectations related to transition, relationships among adolescents, parents, and providers, as well as psychosocial functioning. Developmental maturity, an indicator of autonomy and independency, was deemed more important for transition readiness than biological age (Fegran et al., 2014; Reiss et al., 2005). More knowledge about disease and transition, better skills and higher disease management self-efficacy (Crowley et al., 2011; Reiss et al., 2005; Vidal et al., 2004), trust in health care system, and positive beliefs about adult health care providers (Reiss et al., 2005; Wiener, Zobel, Battles, & Ryder, 2007) were also found to be associated with greater transition readiness. Furthermore, the collaborative relationship among adolescents, parents, and providers were essential for enhancing transition readiness (Reiss et al., 2005; Wiener et al., 2007).

Psychosocial functioning is also an important modifiable variable affecting transition readiness. Fewer psychological problems (Blum et al., 1993), better family functioning (Blum et al., 1993; Hislop, Mason, Parr, Vale, & Colver, 2016), fewer life stressors or acute crises (Reiss et al., 2005), and more positive emotions were related to the transition process (e.g., empowered, confident, proud; Wiener et al., 2007) and contribute to transition readiness. Several studies examined the impact of anxiety on transition readiness, as a factor amenable to interventions.

Transition Readiness and Anxiety

Anxiety is characterized by feelings of distress or uneasiness caused by anticipation of future threat (American Psychiatric Association, 2013). It is a common emotional experience in adolescents with chronic conditions (Sawyer et al., 2007), especially in those who are

facing health care transition (Blum et al., 1993; Hislop et al., 2016; Reiss & Gibson, 2002; Rutishauser, Sawyer, & Ambresin, 2014; Wiener et al., 2007). Adolescents with chronic conditions have to manage both typical developmental transition from childhood to adulthood and health care transition as well (Reiss & Gibson, 2002). Therefore, they usually have more stress and uncertainty during this period, resulting in higher levels of anxiety (Rutishauser et al., 2014). Due to elevated anxiety in adolescents with chronic conditions, many transition intervention programs use anxiety as an outcome measure (Chaudhry, Keaton, & Nasr, 2013; Gabriel, McManus, Rogers, & White, 2017; Wiener et al., 2007).

Anxiety has been linked to poor transition readiness (Schwartz et al., 2011). In a case study of a participant with acquired immune deficiency syndrome (AIDS), it was observed that transition was delayed due to anxiety (Miles, Edwards, & Clapson, 2004). Wiener and colleagues (2007) examined the relationship between transition readiness and anxiety in a sample of adolescents with AIDS. Participants were enrolled in a transition readiness program that helped with their transition from pediatric care to adult or community-based care. Transition readiness and anxiety were assessed at the first and last visit. Results showed that higher state anxiety was associated with lower transition readiness. Compared with the first visit, there was a significant increase in transition readiness and a significant decrease in anxiety by the last visit. In another cross-sectional study, Rutishauser et al. (2014) investigated the differences between perceptions of adolescents with chronic conditions who had not yet transferred from pediatric to adult health care (pre-transfer group) and those who had already transferred (post-transfer group). Both groups rated anxiety as one of the biggest barriers to successful health care transition. In addition, the pre-transfer group reported higher

levels of anxiety and preferred a slightly higher age of transfer than the post-transfer group, suggesting a negative correlation between anxiety and transition readiness.

Most transition readiness programs focused on enhancing disease knowledge and disease self-management (Chaudhry et al., 2013; Gabriel et al., 2017; Wiener et al., 2007), but few included interventions to reduce anxiety. Previous studies have shown that adaptive coping strategies can effectively reduce stress and anxiety in adolescents with chronic conditions (Compas et al., 2012; Meijer et al., 2002). These coping strategies might also alter the negative effects of anxiety on patient outcomes, such as transition readiness and eventually transition.

CHAPTER 3: COPING STRATEGIES

Coping strategies are the individual's behavioral and cognitive efforts to manage a stressful situation and/or emotional reactions to a perceived stressor (Folkman, Lazarus, Gruen, & DeLongis, 1986). According to Folkman et al. (1986), coping strategies are either problem-focused (i.e., used to deal with the problem that is causing stress) or emotion-focused (i.e., used to regulate emotions). Common coping strategies include problem solving, emotional expression, emotional regulation, distraction, acceptance, positive thinking, cognitive restructuring, avoidance, denial, wishful thinking, and others (Compas et al., 2006). Coping is particularly important for adolescents because they are confronted with managing various kinds of stressors of accelerated development experienced by this age group, and have to adopt coping strategies to manage these stressors. Moreover, coping style developed during adolescence defines one's coping style as an adult (Patterson & McCubbin, 1987). Therefore, it is beneficial to look at coping in adolescents and develop interventions to teach effective coping strategies to adolescents.

Coping Strategies in Adolescents with Chronic Conditions

Many studies have looked at coping strategies in typical adolescents. Refocusing on planning, and positive refocusing, putting into perspective, and acceptance are the most commonly used cognitive strategies (Garnefski, Legerstee, Kraaij, van den Kommer, & Teerds, 2002), while avoidance is a less frequently used coping strategy (Seiffge-Krenke, 1993). However, the patterns of utilization of these strategies may be different in adolescents

with chronic conditions. Under the great pressure of dual transitions (i.e., developmental transition and health care transition), they tend to use more maladaptive coping strategies. For example, van der Zaag-Loonen et al. (2004) found that adolescents with inflammatory bowel disease (IBD) used more avoidant coping strategies than their healthy peers. Smith et al. (2013) found that resignation was one of the most frequently used coping strategies in adolescents with spinal cord injury (SCI). Similarly, Hocking et al. (2011) found that adolescents with functional abdominal pain (FAP) used more disengagement such as denial, avoidance, and wishful thinking than secondary control such as acceptance and cognitive restructuring.

Alike general population (Folkman & Lazarus, 1985), adolescents with chronic conditions endorse a combination of adaptive and maladaptive coping strategies. Although they use more maladaptive coping strategies, they also endorse a variety of adaptive coping strategies. In the van der Zaag-Loonen et al. (2004) study, adolescents with IBD commonly used active problem handling and social support seeking as their coping strategies. In Smith et al.'s (2013) study, cognitive restructuring was also one of the most frequently used coping strategies in adolescents with SCI, and it was rated as one of the most effective coping strategies. Jaser and White (2011) found that adolescents with type 1 diabetes used more primary control coping strategies (e.g., problem solving, emotional expression, social support seeking) and secondary control coping strategies (e.g., acceptance and distraction) than disengagement coping strategies. These studies suggest that adolescents with chronic conditions can successfully adjust regardless of their illness.

Coping Strategies and Anxiety in Adolescents with Chronic Conditions

Many studies have reached a consensus that certain coping strategies are maladaptive. For instance, self-blame, rumination, and catastrophizing are associated with higher levels of depression and anxiety (Garnefski et al., 2002). In addition, disengagement is more frequently found in people with mental disorders (Seiffge-Krenke, 1993). These strategies are also destructive to the psychological health of adolescents with chronic conditions, leading to depression and anxiety (Jaser & White, 2011; van der Zaag-Loonen et al., 2004).

Coping strategies have been found to alter anxiety in adolescents with different chronic conditions. Studies have consistently shown that avoidant coping strategies (e.g., distraction, blaming others, wishful thinking, resignation, negative emotion regulation) were highly correlated with anxiety in adolescents with cancer (Campbell et al., 2009; Frank, Blount, & Brown, 1997) and spinal cord injury (Smith et al., 2013). Moreover, avoidant coping strategies significantly predict anxiety in adolescents with chronic pain (Compas et al., 2006). On the contrary, adaptive coping strategies such as social support seeking (Eccleston, Crombez, Scotford, Clinch, & Connell, 2004; Meijer et al., 2002; Smith et al., 2013), problem solving (Meijer et al., 2002), emotional regulation (Smith et al., 2013), and cognitive restructuring (Hocking et al., 2011; Smith et al., 2013) are important predictors for positive psychological adjustment and lower levels of anxiety.

The relationship between coping strategies and anxiety in adolescents with chronic conditions provides important implications for clinical interventions to promote transition readiness. Using adaptive coping strategies may help reduce anxiety, thereby increasing transition readiness. The purpose of the present study is to examine these relationships.

CHAPTER 4: THE PRESENT STUDY

To date, many studies have looked at the effect of anxiety on transition readiness (Hislop et al., 2016; Rutishauser et al., 2014; Schwartz et al., 2011; Wiener et al., 2007). However, to our knowledge no studies have explored this relationship in the context of coping. Previous studies have shown that adaptive coping strategies can effectively reduce stress and anxiety among adolescents with chronic conditions (Compas et al., 2012; Meijer et al., 2002). Because health care transition is associated with high levels of stress and anxiety (Javalkar et al., 2016; Rutishauser et al., 2014; Schwartz et al., 2011), adaptive coping strategies might be helpful to enhance transition readiness, through their positive effect on anxiety.

Adolescents with various chronic conditions from the 2018 Victory Junction Camp were recruited to participate. Victory Junction is a medically safe camp for children and adolescents with chronic conditions aged 6 to 18. Because previous studies have found noticeable discrepancies between children and parents' ratings of children's emotions and behaviors (Achenbach, McConaughy, & Howell, 1987; De Los Reyes & Kazdin, 2005; Varni et al., 2015), this study collected ratings from both campers and their parents/caregivers to have a comprehensive view of campers' use of coping strategies, level of anxiety, and transition readiness.

The main purpose of this study is to investigate the relationship between coping strategies, anxiety, and transition readiness. The study aimed to identify effective coping

strategies to increase the well-being and transition readiness in adolescents with chronic conditions. In addition, the study examined clinical implications for clinicians and counselors, in order to provide better services to adolescents with chronic conditions.

Research Questions:

1. What is the relationship between self-reported and parent-reported measures of coping strategies, anxiety, and transition readiness in adolescents?
2. What is the relationship between coping strategies and transition readiness?
3. What is the role of anxiety in the relationship between coping strategies and transition readiness?

Hypotheses:

1. Self-reported measures (i.e., camper-reported Kidcope, PROMIS-A, and STARx) will be significantly different from parent-reported measures (i.e., parent-reported Kidcope, PROMIS-A, and STARx).
2. Higher rate of endorsement of adaptive coping strategies (e.g., cognitive restructuring, problem solving, social support) will be positively correlated with self- and parent-reported transition readiness; higher rate of endorsement of maladaptive coping strategies (e.g., distraction, social withdrawal, self-criticism) will be negatively correlated with self- and parent-reported transition readiness.
3. Anxiety mediates the relationship between use of coping strategies and self- and parent-reported transition readiness. It was hypothesized, that a) more endorsement of adaptive coping strategies decreases anxiety, thereby increasing transition readiness; b) more endorsement of maladaptive coping strategies will

increase anxiety, leading to decreased transition readiness. The mediation effect will be reflected by a significant indirect effect of use of coping strategies on self- and parent-reported transition readiness via anxiety, with a negative direct effect of use of adaptive coping strategies on anxiety and a positive direct effect of use of maladaptive coping strategies on anxiety, respectively.

CHAPTER 5: METHODS

Participants

The present study is part of a larger project that studies transition readiness in children and adolescents. Participants in this project were recruited from the 2018 Victory Junction Camp. Located in Randleman, North Carolina, the Victory Junction Camp is a medically safe camp for children and adolescents with various chronic conditions (e.g., cerebral palsy, diabetes, sickle cell, heart and lung disease, spina bifida). Emails with the study information and the Qualtrics survey link were sent to 938 parents of campers aged 7-17 years, and participation was voluntary. The Qualtrics survey link includes consent and assent forms as well as questionnaires for both parent and camper. A total of 394 camper-parent dyads (response rate 42%) filled out the survey. This study used a subgroup of participants (i.e., adolescent campers aged 10-17 years and their parents) to complete all the analyses.

A total of 185 adolescent campers (ages 10-17 years) and their parents participated in this study. Of this group, one camper-parent dyad did not complete either parent or camper survey, four camper-parent dyads completed the camper survey but did not complete the parent survey, and six camper-parent dyads completed the parent survey but did not complete the camper survey. Due to incomplete answers, these dyads were excluded from the data analysis. The remaining 174 camper-parent dyads with nonmissing data were included in the data analysis. Descriptive statistics of camper-parent dyads with valid data are presented in Tables 1 and 2, respectively. Of the 169 parents, 166 had only one child completing the

survey, two had two children completing the survey, and one had four children completing the survey. For those three parents with multiple campers, their ratings of coping strategies, anxiety, and transition readiness for each camper were matched with the specific camper for the purpose of statistical analysis. In nearly all cases (95.3%), the mother completed the parent survey.

Measures

Kidcope Checklist (Kidcope; Spirito, Stark, & Williams, 1988). The Kidcope is a commonly used self-report instrument to assess adolescents' coping strategies. It is well-established among adolescents aged 7 to 17 in both school and pediatric settings (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001; Spirito et al., 1988). The Kidcope-child version has 15 items and is administered in children aged 7-12 years; the adolescent version has 11 items and is administered in children aged 13-17 years. Each item can be answered with "yes" (1) or "no" (0) response options. Both versions measure 11 coping strategies that can be divided into two categories: adaptive coping strategies (ACS; i.e., social support, cognitive restructuring, problem solving, and positive emotional regulation) and maladaptive coping strategies (MCS; i.e., distraction, social withdrawal, self-criticism, blaming others, negative emotional regulation, wishful thinking, and resignation). In terms of scoring, previous studies measured the frequency of use of ACS and MCS by summing up relevant items answered with "yes" (1) and then dividing it by the total number of ACS (4) or MCS (7; Spirito, Stark, & Tyc, 1994; Marcus- Newhall & Heindl, 1998). However, this method decreases the comparability between the frequency of use of ACS and MCS, because the denominators for ACS (4) and MCS (7) in Kidcope are different.

In order to increase the comparability between the frequency of use of ACS and MCS, this study calculated percentages of use of adaptive and maladaptive coping strategies in each individual. Specifically, each individual's rate of use of adaptive coping strategies (ACS-rate) was measured by the proportion of utilized ACS to the total 4 ACS, and rate of use of maladaptive coping strategies (MCS-rate) was measured by the proportion of utilized MCS to the total 7 MCS. Internal consistency measured by Cronbach's alpha is not applicable because it is a formative scale (Streiner, 2003). According to Spirito et al. (1988), the one-week test-retest reliability was moderate to good (α = .41-.83).

Because Kidcope does not have a parent version, for the current research a parent version of Kidcope (Kidcope-P) was developed by rephrasing items to match parents' perspective (i.e., changing the pronoun "I" into "my child"). This method has been used in designing the parent subscales of the How I Cope Under Pressure Scale (Roberts & Shute, 2012), and the internal consistency was even higher than the original child subscales, or α = .81-.94 (Roberts & Shute, 2012).

Pediatric Patient-Reported Outcomes Measurement Information System-Anxiety Scale (PROMIS-A; Irwin et al., 2010; Varni et al., 2012). Funded by the National Institutes of Health, the pediatric PROMIS has been developed to assess the physical (pain, fatigue, upper extremity, mobility, asthma), mental (depressive symptoms, anxiety, and anger), and social health (peer relations) of children and adolescents in clinical setting. Both child (PROMIS-A-C) and parent versions (PROMIS-A-P) of the anxiety scale were used in this study. The anxiety scale consists of 8 items rated on a 5-point Likert scale. The PROMIS-A-C is well-established in children and adolescents aged 8-17 years in clinical

setting (Irwin et al., 2010). It has been shown to have good internal consistency (α = .85; Irwin et al., 2010) as well as good test-retest reliability (α = .75; Varni et al., 2014). The PROMIS-A-P is well-established among parents in clinical settings. The internal consistency of this subscale is .90, while test-retest reliability has not been reported (Varni et al., 2012).

Self-Management and Transition to Adulthood with Rx = Treatment (STARx; Ferris et al., 2015; Nazareth et al., 2018). The STARx is a relatively new instrument to assess transition readiness in adolescents with chronic conditions. Both child (STARx-C) and parent versions (STARx-P) were used in this study. The STARx consists of 13 items rated on a 5-point Likert scale. For items related to medication, an additional "N/A" response is included to reflect situations where medication is not needed for the patient's chronic condition management. When scoring the STARx, "N/A" responses are handled as missing data. In this study, regression imputation was used to address these missing data due to "N/A" responses. The STARx has 3 factors: disease knowledge, self-management, and provider communication. The STARx is well-established among children and adolescents with chronic conditions aged 8-25 years in clinical setting. It has been shown to have moderate to good internal consistencies in overall scale and each subscale in both versions (child version α = .69-.77, parent version α = .55-.76), while test-retest reliability has not been reported (Ferris et al., 2015; Nazareth et al., 2018).

Procedure

Parents of campers aged 10 to 17 years at the 2018 Victory Junction Camp were informed about this study via email. To be eligible for participation, campers and parents had to meet the following requirements: 1) English speaking, 2) child's chronological age 7 years

or above, in order to understand the survey questions, and 3) ability to answer survey questions independently. A Qualtrics survey link including consent and assent forms and questionnaires for parents and campers was enclosed in the recruitment email. Both campers and parents electronically signed their consent forms and then filled out the questionnaires. All data were collected online, via Qualtrics. Reminder emails were sent every other week until two weeks after the camp ended. Upon completion of both parent and camper surveys, the parent received an appreciation email with health care transition resources and their name was entered into a raffle for one of three $100 Target gift certificates.

Statistical Analysis

A-priori sample size calculator for structural equation models (Soper, 2013) was used to determine sample size. A-priori analysis suggested that a target sample size of 161 participants would be sufficient for detecting medium standardized effects at a power of .80 and type I error rate of .05. Therefore, the final sample in this study (N = 174) was sufficient to test the hypothesized relationships.

Regression imputation (using SPSS 24) was used to address missing data due to "N/A" responses in the STARx. According to the SMART model (Schwartz et al., 2011), the following factors were included in the regression model to impute missing values: camper's report of their age, gender, and race, as well as parent's report of camper's primary chronic condition, age of diagnosis of chronic condition, comorbid mental disorders, and parents' levels of education.

Paired-t tests (using SPSS 24) was used to examine the pairwise differences and correlations between camper- and parent-reported coping strategies, anxiety, and transition

readiness. Pearson correlation (using SPSS 24) was used to examine the correlation between coping strategies, anxiety, and transition readiness. Structural equation modeling (using Amos 24) was used to investigate if anxiety is a mediator of the relationship between use of coping strategies and transition readiness.

CHAPTER 6: RESULTS

Relationship between Camper- and Parent-Reported Variables

Paired-t test was performed to examine the pairwise differences and correlations were calculated for camper- and parent-reported coping strategies, anxiety, and transition readiness. Descriptive statistics of these variables, paired-t test results, and paired sample correlations are presented in Table 3. Compared to campers, parents provided significantly higher ratings on the STARx disease knowledge subscale. In addition, camper- and parent- ratings were marginally different on the STARx full scale, with parent-reported STARx total score higher than the camper-reported score. Otherwise, there were no significant differences between camper- and parent-reported data. In terms of correlational relationship, significant positive correlations between camper- and parent-reported data were found in all study variables.

Correlation between Coping Strategies, Anxiety, and Transition Readiness

Pearson correlation was used to assess the correlation between coping strategies, anxiety, and transition readiness. Because no significant pairwise differences were found between camper- and parent-reported ACS-rate, MCS-rate, and anxiety, the present study used camper-reported data of these variables to complete the correlation and mediation analysis. Two sets of correlation analyses were conducted. The first set examined the relationship between use of coping strategies, anxiety, and camper-reported transition readiness, whereas the second set examined the relationship between use of coping strategies, anxiety, and parent-reported transition readiness. Results are presented in Tables 4 and 5.

ACS-rate was significantly positively correlated with both camper- and parent-reported STARx full scale and subscales except parent-reported STARx disease knowledge subscale, indicating that higher use of adaptive coping strategies is overall related to higher self- and parent-reported transition readiness. MCS-rate was significantly positively correlated with both camper- and parent-reported PROMIS-A and significantly negatively correlated with both camper- and parent-reported STARx full scale and subscales, indicating that higher use of maladaptive coping strategies is related to higher anxiety and lower transition readiness. PROMIS-A was significantly negatively correlated with both camper- and parent-reported STARx full scale and subscales except parent-reported STARx self-management subscale, suggesting that higher anxiety is overall related to lower transition readiness.

As a follow-up analysis, biserial correlation was conducted through SPSS 24 to explore the correlation between transition readiness and the presence or the absence of each coping strategy. Results are presented in Table 6. Using cognitive restructuring, problem solving, positive emotional regulation, and social support was significantly positively correlated with both camper- and parent-reported STARx. In addition, using distraction was significantly positively correlated with parent-reported STARx. In contrast, using social withdrawal, self-criticism, blaming others, negative emotional regulation, and wishful thinking was significantly negatively correlated with camper-reported STARx. Using social withdrawal, blaming others, and negative emotional regulation was significantly negatively correlated with parent-reported STARx. In summary, uses of adaptive coping strategies are related to higher self- and parent-reported transition readiness, whereas uses of maladaptive coping strategies, especially social withdrawal, blaming others, and negative emotion

regulation, are related to lower self- and parent-reported transition readiness, except that using distraction is related to higher parent-reported transition readiness.

Mediation Effect of Anxiety on Coping Strategies and Transition Readiness

Structural equation modeling using 5,000 bootstrap replications was conducted through Amos 24 to examine the hypothesized mediation effect. Two mediation models were tested. The first model (Model 1) tested the mediation effect of anxiety on use of coping strategies and camper-reported transition readiness, while the second model (Model 2) tested the mediation effect of anxiety on use of coping strategies and parent-reported transition readiness.

In order to determine the control variables in each model, Pearson correlation and multivariate analysis of variance (MANOVA) were performed through SPSS 24 to examine the relationship between demographic variables and the variables of interest (i.e., use of coping strategies, anxiety, and transition readiness). Pearson correlation analysis showed that camper's age was significantly negatively correlated with MCS-rate and significantly positively correlated with STARx-Total-C, indicating that older age is related to lower rate of use of maladaptive coping strategies and higher self-reported transition readiness. Diagnosis age of chronic condition was not significantly correlated with any variable of interest.

MANOVA results are shown in Tables 7 and 8. Mental disorder comorbidity had a significant effect on all variables of interest. Specifically, campers with at least one comorbid mental disorder had significantly lower rate of use of adaptive coping strategies, higher rate of use of maladaptive coping strategies, higher anxiety, as well as lower self- and parent-reported transition readiness. Thus, according to the Pearson correlation and

MANOVA results, camper's age and mental disorder comorbidity were included in Model 1 as covariates, and camper's mental health comorbidity was included in Model 2 as a covariate.

Mediation models are illustrated by Figures 1 and 2. In Model 1, as for ACS-rate, the bootstrapped standardized regression coefficient between ACS-rate and anxiety was insignificant, a_{1A} = .01, p = .93. The bootstrapped standardized regression coefficient between anxiety and self-reported transition readiness was significant, b_1 = -.23, p < .01. The bootstrapped standardized indirect effect of anxiety on the relationship between ACS-rate and self-reported transition readiness was insignificant, $a_{1A}b_1$ = -.001, p = .92, indicating that anxiety does not mediate the relationship between ACS-rate and self-reported transition readiness. The bootstrapped standardized total effect of ACS-rate on self-reported transition readiness was significant, c_{1A} = .25, p < .01.

As for MCS-rate, the bootstrapped standardized regression coefficient between MCS-rate and anxiety was significant, a_{1M} = .23, p < .001. The bootstrapped standardized indirect effect of anxiety on the relationship between MCS-rate and self-reported transition readiness was significant, $a_{1M}b_1$ = -.05, p < .01, indicating that anxiety mediates the relationship between MCS-rate and self-reported transition readiness. The bootstrapped standardized total effect of MCS-rate on self-reported transition readiness was significant, c_{1M} = -.28, p < .01. After controlling for anxiety, the bootstrapped standardized total effect of MCS-rate on self-reported transition readiness was still significant, c'_{1M} = -.22, p < .01. This suggests the mediation effect of anxiety on the relationship between MCS-rate and parent-reported transition readiness is a partial mediation effect.

In Model 2, as for ACS-rate, the bootstrapped standardized regression coefficient between ACS-rate and anxiety was insignificant, a_{2A} = .01, p = .93. The bootstrapped standardized regression coefficient between anxiety and parent-reported transition readiness was insignificant, b_2 = -.13, p = .07. The bootstrapped standardized indirect effect of anxiety on the relationship between ACS-rate and parent-reported transition readiness was insignificant, $a_{2A}b_2$ = -.001, p = .87, indicating that anxiety does not mediate the relationship between ACS-rate and parent-reported transition readiness. The bootstrapped standardized total effect of ACS-rate on parent-reported transition readiness was significant, c_{2A} = .31, p < .001.

As for MCS-rate, the bootstrapped standardized regression coefficient between MCS-rate and anxiety was significant, a_{2M} = .23, p < .001. The bootstrapped standardized indirect effect of anxiety on the relationship between MCS-rate and parent-reported transition readiness was significant, $a_{2M}b_2$ = -.03, p < .05. However, because the bootstrapped standardized regression coefficient between anxiety and parent-reported transition readiness was insignificant (b_2 = -.13, p = .07), inference cannot be made that anxiety mediates the relationship between MCS-rate and parent-reported transition readiness. In this case, the significance of the indirect effect $a_{2M}b_2$ only reflects that the direct effect of MCS-rate on anxiety (a_{2M}) was so large that it brought the indirect effect ($a_{2M}b_2$) to statistical significance. The bootstrapped standardized total effect of MCS-rate on parent-reported transition readiness was significant, c_{2M} = -.18, p < .05. After controlling for anxiety, the bootstrapped standardized total effect of MCS-rate on parent-reported transition readiness was still significant, c'_{2M} = -.14, p < .05.

In summary, anxiety partially mediates the relationship between MCS-rate and self-reported transition readiness. However, it does not mediate the relationship between ACS-rate and self- or parent-reported transition readiness, or the relationship between MCS-rate and parent-reported transition readiness.

CHAPTER 7: DISCUSSION

The present study used camper- and parent-reported data from the 2018 Victory Junction Camp to 1) examine the relationship between self- and parent-reported measures of coping strategies, anxiety, and transition readiness, 2) explore the relationship between coping strategies and transition readiness, and 3) to investigate the role of anxiety in the relationship between coping strategies and transition readiness.

Relationship between Camper- and Parent-Reported Variables

Contrary to the hypothesis, there were no significant differences between camper- and parent-reported use of coping strategies and anxiety. Only marginal difference was found between camper- and parent-reported transition readiness. Specifically, parent rating on the camper's knowledge of his/her chronic condition was significantly higher than the camper rating, resulting in a relatively higher rating on overall transition readiness among parents. This suggests that parents may be more optimistic about their child's knowledge of his/her chronic condition, or campers may underestimate their disease knowledge. Further research is needed to explain the discrepancy in disease knowledge between campers and parents.

But overall, the neutral results are inconsistent with the previous findings of noticeable discrepancies between children and parents' ratings of children's emotions and behaviors (Achenbach et al., 1987; De Los Reyes & Kazdin, 2005; Varni et al., 2015). However, most of these studies were conducted in community or psychiatric population and may not apply to the chronic health condition population. A recent longitudinal study

revealed that although discrepancy exists in child- and parent-reported quality of life in children with newly diagnosed chronic health conditions, it improved over time (Qadeer & Ferro, 2018). Based on the Attrition Bias Context Model (ABC Model; De Los Reyes & Kazdin, 2005), higher intensity of parent-child communication and more common topics, rather than the increase of age, may primarily contribute to the decrease in the parent-child discrepancy in quality of life over time. Similarly, parent-child discrepancies in use of coping strategies, anxiety, and transition readiness among adolescents with chronic conditions may follow a similar pattern. In the current study, most adolescent campers were diagnosed at a much younger age (M = 3.62, SD = 3.74). As they grow older, parent-child discrepancies may decrease over time due to increased parent-child communication and common topics, so the differences between camper and parent reports are no longer significant. Consistent with this explanation, a study of pediatric cancer patients discovered that parents' and children's reports of children's life events were significantly less discrepant compared to healthy controls, which may result from increased parent-child communication (Johnston, Steele, Herrera, & Phipps, 2003). However, Johnston et al.'s (2003) cross-sectional study still could not confirm that increased parent-child communication leads to lower reporting discrepancies between children and adolescents with chronic conditions and their parents. To date, no research has explored the mechanism of the decrease of parent-child discrepancy in a pediatric chronic health condition population. Therefore, more research, particularly longitudinal research, is needed to explain the decrease in parent-child discrepancy in this population.

Correlation between Coping Strategies, Anxiety, and Transition Readiness

As expected, higher rate of use of adaptive coping strategies is overall related to higher self- and parent-reported transition readiness, while higher rate of use of maladaptive coping strategies is related to lower self- and parent-reported transition readiness. Specifically, using cognitive restructuring, problem solving, positive emotional regulation, and social support is related to higher transition readiness. On the contrary, using social withdrawal, blaming others, and negative emotion regulation is related to lower transition readiness. These findings suggest that use of certain coping strategies may be an influential factor on transition readiness in adolescents with chronic conditions.

Inconsistent with the hypothesis, use of distraction is related to higher parent-reported transition readiness. Past research on the effect of distraction on the physical and mental health of adolescents with chronic conditions has been inconsistent. On one hand, using distraction was found to be significantly associated with elevated anxiety and depression (Campbell et al., 2009; Frank et al., 1997; Smith et al., 2013). On the other hand, using distraction was found to be significantly associated with lower levels of anxiety, depression, and somatic complaints (Compas et al., 2006; Hocking et al., 2011). A recent research study provides a possible explanation to its contradictory effect among this population. Wolgast and Lundh (2017) discovered that when combined with avoidance, distraction was associated with poorer well-being; however, when combined with acceptance, it was associated with greater well-being. Therefore, use of distraction can be adaptive and related to higher transition readiness, if combined with an adaptive attitude. This indicates that the effect of distraction on adolescents with chronic conditions could be situational and contextual, and

further research is required to elaborate the relationship between distraction and transition readiness under different contexts, for instance, if the adolescent endorses an acceptance or avoidance attitude.

Additionally, rate of use of maladaptive coping strategies is positively correlated with anxiety, but rate of use of adaptive coping strategies is not correlated with anxiety. The positive correlation between maladaptive coping strategies and anxiety is consistent with previous findings (Campbell et al., 2009; Frank et al., 1997; Smith et al., 2013), indicating that using maladaptive coping strategies would increase anxiety in adolescents with chronic conditions. The missing correlation between adaptive coping strategies and anxiety is inconsistent with the past research (Eccleston et al., 2004; Hocking et al., 2011; Meijer et al., 2002; Smith et al., 2013). This may be explained by a previous research finding that the relationship between adaptive coping strategies and psychopathology symptoms (e.g., depression, anxiety, and alcohol problems) is moderated by the level of maladaptive coping strategies (Aldao & Nolen-Hoeksema, 2012). Adaptive coping strategies are associated with lower anxiety only when the individual endorses high levels of maladaptive coping strategies; they do not associate with anxiety alone (Aldao & Nolen-Hoeksema, 2012). This suggests that the relationship between adaptive coping strategies and anxiety may be more complicated and needs further exploration in the context of moderating factors.

Mediation Effect of Anxiety on Coping Strategies and Transition Readiness

Consistent with the hypothesis, the mediation analysis shows that anxiety partially mediates the relationship between rate of use of maladaptive coping strategies and self-reported transition readiness. This means that higher rate of use of maladaptive coping

strategies affects self-reported transition readiness in two ways. First, higher use of maladaptive coping strategies is directly related to lower transition readiness. Second, higher use of maladaptive coping strategies leads to higher anxiety, which further leads to lower transition readiness.

In contrast, anxiety does not mediate the relationship between rate of use of adaptive coping strategies and camper-rated transition readiness, indicating that rate of use of adaptive coping strategies does not affect self-reported transition readiness through anxiety. However, the direct effect of rate of use of adaptive coping strategies on self-reported transition readiness is significant, indicating that higher usage of adaptive coping strategies is directly related to higher self-reported transition readiness. This further supports the notion that use of coping strategies may directly affect self-reported transition readiness.

As for parent-reported transition readiness, results failed to demonstrate any significant mediation effect of anxiety on the relationship between rate of use of either adaptive or maladaptive coping strategies and parent-rated transition readiness. However, the direct effect of rate of use of maladaptive coping strategies on parent-reported transition readiness is significant, which suggests that higher use of maladaptive coping strategies is directly related to lower parent-reported transition readiness.

These results indicate that the mediation effect of anxiety on the relationship between maladaptive coping strategies and transition readiness is more robust than the relationship between adaptive coping strategies and transition readiness, as reflected in anxiety partially mediating maladaptive coping strategies and camper-rated transition readiness but not adaptive coping strategies and camper-rated transition readiness. This suggests that

maladaptive coping strategies may be more influential on anxiety and transition readiness than adaptive coping strategies. On the other hand, the insignificant mediation effect of anxiety on adaptive coping strategies and transition readiness might be because adaptive coping strategies are conditionally related to anxiety (Aldao & Nolen-Hoeksema, 2012) and transition readiness. Adaptive coping strategies were found to be associated with lower anxiety only when the individual endorses high levels of maladaptive coping strategies (Aldao & Nolen-Hoeksema, 2012), suggesting that the mediation effect of anxiety on the relationship between adaptive coping strategies and transition readiness may be more complicated, and may not manifest unless taking other moderating factors into account.

Limitations and Future Directions

There are several limitations of this study. First, the mediation effect was detected based on cross-sectional data, which may not accurately reflect the causal relationship between use of coping strategies, anxiety, and transition readiness. Research indicates that cross-sectional approach to mediation generally generates substantially biased estimates of longitudinal parameters, which are often misleading (O'Laughlin, Martin, & Ferrer, 2018). Thus, the partial mediation effect of anxiety on the relationship between use of maladaptive coping strategies and self-reported transition readiness found in this study should be viewed with caution. Due to the setting of the present study (i.e., a summer camp where participants were contacted via email), collecting longitudinal data was difficult and impractical. Future research should use longitudinal approach to confirm the mediation effect detected in this study.

Second, the KidCope Checklist used in this study only generates dichotomous

responses, therefore could not precisely describe the frequency of use of each coping strategy. Because this study was conducted in a summer camp, study questionnaires were kept as short as possible to minimize burden on participants and random responses from parents and campers. If possible, future studies should use Likert scale questionnaires for coping strategies to elaborate the relationship between use of coping strategies and transition readiness.

In addition, this study used both self- and parent-reported transition readiness as outcome variables. To date, there is no consensus on which is a better indicator of a child's transition readiness and a better predictor of successful health care transition. The ABC model (De Los Reyes & Kazdin, 2005) posits that parent report is the least discrepant, while child report is the most discrepant. However, this statement still needs to be examined by empirical research. Future research efforts are needed to compare parent- and child-reported transition readiness and determine which informant is more accurate.

Implications

The current study has important clinical implications for the intervention and rehabilitation of adolescents with chronic conditions who are facing health care transition. The results indicate that use of coping strategies is an important factor that can directly affect transition readiness. Specifically, using more adaptive coping strategies, including cognitive restructuring, problem solving, positive emotional regulation, and social support, is beneficial for increasing transition readiness, whereas using more maladaptive coping strategies, especially social withdrawal, blaming others, and negative emotion regulation, hinders the enhancement of transition readiness. Therefore, when working with clients from this

population, counselors should incorporate interventions focusing on adaptive coping strategies into the assessment and intervention plan, in order to enhance their transition readiness.

Moreover, the results suggest that while cultivating adaptive coping strategies is important to consider in the intervention, it is also crucial to reduce the frequency of the use of maladaptive coping strategies through targeted interventions. According to the results, increasing use of adaptive coping strategies can improve transition readiness, but decreasing the use of maladaptive coping strategies can further improve the interventional effectiveness by decreasing anxiety and increasing transition readiness. Therefore, when developing interventions, counselors should not only teach and reinforce adaptive coping strategies, but also focus on reducing the use of maladaptive coping strategies, in order to achieve better interventional outcomes.

CHAPTER 8: CONCLUSION

In sum, current findings reflect that 1) There are no significant differences between camper- and parent-reported use of coping strategies and anxiety; parent-reported transition readiness is relatively higher than camper-reported transition readiness, although it does not reach statistical significance; 2) Higher rate of use of adaptive coping strategies is overall related to higher self- and parent-reported transition readiness, while higher rate of use of maladaptive coping strategies is related to lower self- and parent-reported transition readiness. Specifically, using cognitive restructuring, problem solving, positive emotional regulation, and social support is related to higher transition readiness. Using social withdrawal, blaming others, and negative emotion regulation is related to lower transition readiness; 3) Anxiety partially mediates the relationship between rate of use of maladaptive coping strategies and self-reported transition readiness, but not the relationship between rate of use of adaptive coping strategies and either self- or parent-reported transition readiness. Rehabilitation counselors and health care providers can use the findings of the present study to maximize outcomes for adolescents with chronic health conditions who are transitioning to adult health care services.

APPENDIX 1: TABLES

Table 1

Descriptive Statistics of Campers

	Camper (*N* = 174) *N* (%) or *mean* (*SD*)
Age	13.03 (2.02) Range: 10-17
Age at Diagnosis	3.62 (3.74) Range: 0-13
Gender	
Male	48.3%
Race/Ethnicity	
Caucasian	76.4%
African American	9.2%
Hispanic	4.6%
Asian/Pacific Islander	2.3%
Other	7.5%
Primary Chronic Conditions	
Neuromuscular disorders	16.7%
Genetic disorders	12.1%
Neurological disorders	11.5%
Immunological disorders	10.3%
Blood disorders	9.8%
Diabetes	9.2%
Kidney diseases	8.0%
Heart diseases	6.9%
Gastrointestinal disorders	6.9%
Physical disabilities	2.9%
Lung diseases	2.3%
Others	3.4%
Comorbid Mental Disorders	
None	54%
Attention deficit hyperactivity disorder	25.9%
Anxiety	23.6%
Depression	9.2%
Obsessive-compulsive disorder	4.6%
Autism spectrum disorder	3.4%
Bipolar disorder	0.6%
Other	5.2%

Table 2

Descriptive Statistics of Parents

	Parent (*N* = 169) *N* (%) or *mean* (*SD*)
Gender	
Male	4.7%
Education level of camper's mother	
Some high school or less	1.8%
High school diploma	8.9%
Some college	18.9%
College degree	44.4%
Graduate or professional school	26.0%
Education level of camper's father	
Some high school or less	5.9%
High school diploma	21.9%
Some college	20.7%
College degree	34.9%
Graduate or professional school	16.6%

Table 3

Relationship between Camper- and Parent-Reported Study Variables

	Camper-reported *mean* (*SD*)	Parent-reported *mean* (*SD*)	Paired-t test				Paired sample correlations	
			t	*df*	*p*	Cohen's *d*	*r*	*p*
ACS-rate	.70 (.32)	.69 (.33)	.20	173	.84	.02	.35	***
MCS-rate	.51 (.22)	.52 (.24)	.49	173	.63	.04	.35	***
PROMIS-A	7.81 (6.51)	8.41 (6.36)	1.17	173	.25	.09	.44	***
STARx-Total	47.56 (8.62)	48.53 (8.99)	1.82	173	.07	.14	.66	***
STARx-DK	16.01 (2.75)	16.48 (2.43)	2.88	173	**	.22	.61	***
STARx-SM	17.83 (3.68)	17.92 (4.00)	.34	173	.74	.03	.62	***
STARx-PC	13.72 (3.93)	14.13 (4.23)	1.54	173	.13	.12	.68	***

Note. ACS-rate: the rate of use of adaptive coping strategies measured by Kidcope; MCS-rate: the rate of use of maladaptive coping strategies measured by Kidcope; PROMIS-A: anxiety; STARx-Total: total transition readiness score; STARx-DK: disease knowledge subscale score; STARx-SM: self-management subscale score; STARx-PC: provider communication subscale score.

**$p < .01$, ***$p < .001$ (two-tailed)

Table 4

Correlation between Coping Strategies, Anxiety, and Camper-Reported Transition Readiness

	1	2	3	5	6	7
1. ACS-rate	-					
2. MCS-rate	-.11	-				
3. PROMIS-A	-.07	.27**	-			
4. STARx-Total-C	.31**	-.35**	-.34**			
5. STARx-DK-C	.21**	-.33**	-.19*	-		
6. STARx-SM-C	.27**	-.29**	-.27**	.57**	-	
7. STARx-PC-C	.28**	-.27**	-.37**	.48**	.55**	-

Note. *$p < .05$, **$p < .01$ (two-tailed)

Table 5

Correlation between Coping Strategies, Anxiety, and Parent-Reported Transition Readiness

	1	2	3	5	6	7
1. ACS-rate	-					
2. MCS-rate	-.11	-				
3. PROMIS-A	-.07	.27**	-			
4. STARx-Total-P	.36**	-.23**	-.21**			
5. STARx-DK-P	.12	-.23**	-.16**	-		
6. STARx-SM-P	.34**	-.19*	-.15	.53**	-	
7. STARx-PC-P	.36**	-.17*	-.21**	.51**	.59**	-

Note. *$p < .05$, **$p < .01$ (two-tailed)

Table 6

Correlation between the Use of Each Coping Strategy and Transition Readiness

	STARx-Total-C	STARx-Total-P
Cognitive restructuring	.26**	.31**
Problem solving	.22**	.23**
Positive emotional regulation	.19*	.25**
Social support	.19*	.19*
Distraction	.06	.20**
Social withdrawal	-.22**	-.19*
Self-criticism	-.25**	-.13
Blaming others	-.20*	-.17*
Negative emotional regulation	-.24**	-.21**
Wishful thinking	-.16*	-.08
Resignation	-.14	-.11

Note. *$p < .05$, **$p < .01$ (two-tailed)

Table 7

Demographic Differences in Use of Coping Strategies and Anxiety

	ACS-rate				MCS-rate				PROMIS-A			
	F	*df*	*p*	partial η^2	*F*	*df*	*p*	partial η^2	*F*	*df*	*p*	partial η^2
Gender	.41	(1, 172)	.53	.00	.81	(1, 172)	.37	.01	3.01	(1, 172)	.08	.02
Race/ethnicity	.74	(5, 168)	.59	.02	.34	(5, 168)	.89	.01	.98	(5, 168)	.44	.03
Primary chronic condition	1.11	(13, 160)	.36	.08	.98	(13, 160)	.47	.07	1.53	(13, 160)	.11	.11
Comorbid mental disorder	16.50	(1, 172)	***	.09	8.13	(1, 172)	**	.05	9.87	(1, 172)	**	.05

Note. **p < .01, ***p < .001 (two-tailed)

Table 8

Demographic Differences in Camper- and Parent-reported Transition Readiness

	STARx-Total-C				STARx-Total-P			
	F	*df*	*p*	partial η^2	*F*	*df*	*p*	partial η^2
Age	1.07	(7, 166)	.39	.04	.27	(7, 166)	.97	.01
Age at Diagnosis	1.62	(14,159)	.08	.13	1.75	(14,159)	.05	.13
Gender	.34	(1, 172)	.56	.002	.07	(1, 172)	.80	<.001
Race/ethnicity	1.08	(5, 168)	.37	.03	1.20	(5, 168)	.31	.03
Primary chronic condition	2.26	(13, 160)	.01	.16	1.94	(13, 160)	.03	.14
Comorbid mental disorder	12.53	(1, 172)	**	.07	8.62	(1, 172)	**	.05

Note. **p < .01 (two-tailed)

APPENDIX 2: FIGURES

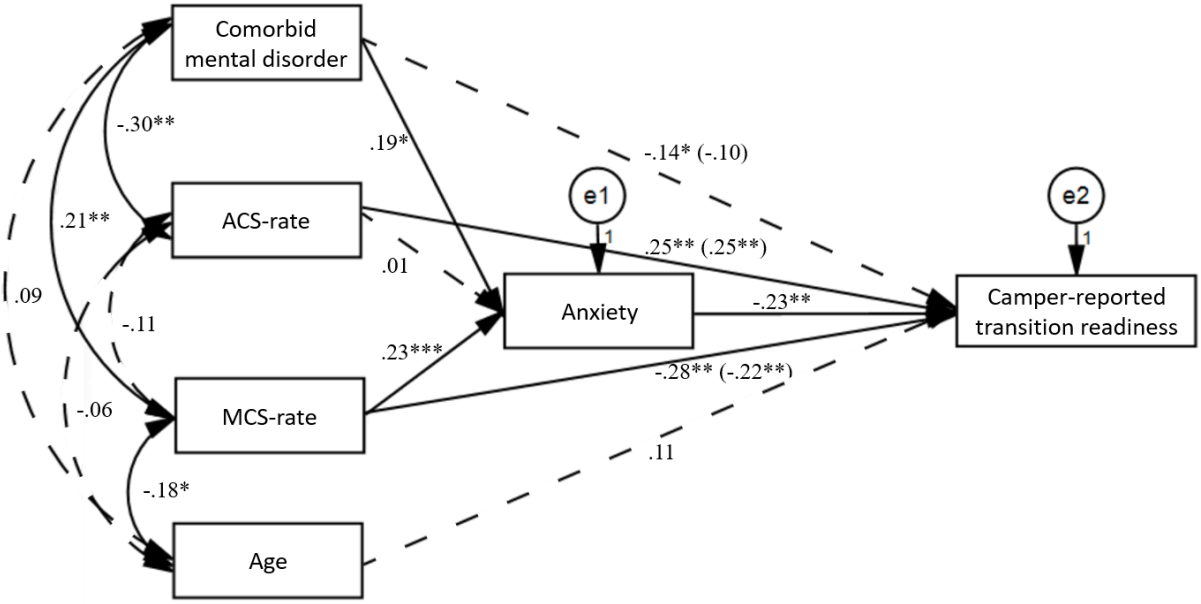

Figure 1. Standardized regression coefficients for the relationship between use of coping strategies and camper-reported transition readiness as mediated by anxiety. The standardized regression coefficients between use of adaptive vs. maladaptive coping strategies and self-reported transition readiness, controlling for anxiety, are in parentheses.
*p < .05, **p < .01, ***p < .001 (two-tailed)

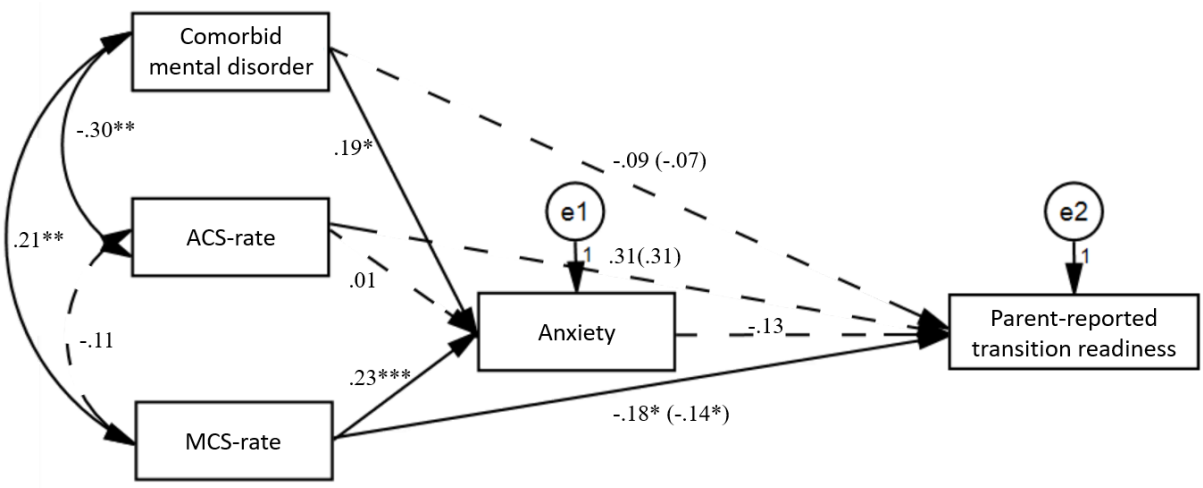

Figure 2. Standardized regression coefficients for the relationship between use of coping strategies and parent-reported transition readiness as mediated by anxiety. The standardized regression coefficients between use of adaptive vs. maladaptive coping strategies and parent-reported transition readiness, controlling for anxiety, are in parentheses.
*p < .05, **p < .01, ***p < .001 (two-tailed)

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