EXAMINING COLLEGE STUDENTS' MEANING IN LIFE:

ASSOCIATIONS WITH PARTICIPATION IN SERVICE-ORIENTED EXTRACURRICULAR

ACTIVITIES AND MOTIVES FOR SERVICE

A Thesis

by

RACHEL KATHERINE WEISS

Submitted to the Graduate and Professional School of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Chair of Committee,   Andrea Ettekal
Committee Members,   David Scott
                        Rebecca Schlegel
Head of Department,   Brian King

May 2022

Major Subject: Recreation, Park and Tourism Sciences

Abstract

In the Western world, going to college often defines the transition from late adolescence into young adulthood. College is a distinct time in which students tend to have increased discretionary time, leisure opportunities, autonomy in leisure choices, and, as well, engage in increasingly complex developmental tasks, such as identity formation. Leisure is important for college students' development, and certain forms, such as extracurricular activities (ECAs) are known to support thriving into adulthood. Service-oriented ECAs, in particular, foster self- and identity-related developmental outcomes, such as purpose. Especially when enacted as a form of serious leisure, service-oriented ECAs should be associated with increased meaning in life (MIL). This study used secondary data from a study about character development through ECA participation (n = 557). Three dosage indicators were used as a measure of service: intensity (hours), frequency (weeks), and duration (years), with only duration significant in predicting MIL. An unexpected finding was that participation in service-oriented ECAs was associated with decreases in MIL. Beyond service participation, both intrinsic and extrinsic motives predicted significant increases in MIL. However, the size of the effect for intrinsic motives was relatively larger than for extrinsic motives. Results suggests that the internalization of intrinsic, values-based motives is salient for presence of MIL in college students. These findings are important for leaders and organizers of community service to further understand a robust population of individuals with a variety of motives and significant free time, who benefit from continued participation.

Dedication

To my dad, who taught me to find meaning in everything I do.

Acknowledgements

I would like to thank my advisor, Dr. Andrea Ettekal, and my committee members, Dr. David Scott and Dr. Becca Schlegel, for their support and guidance throughout the course of this research. Each of you has played an integral role in my graduate studies, and I am a better student because of it.

I would also like to thank my mom, for her constant advice and support. Her resilience inspires me every day.

To my best friend, Kayla, endless thanks for being my biggest supporter. You are wise beyond your years, and I am so excited to watch you start your family. It truly takes a village, and I'm grateful to be sharing life with you.

Finally, thank you to all my friends and colleagues within the RPTS department, including faculty and staff members, and other graduate students. This department is a family, and I am grateful to spend time with each of you.

Nomenclature

PYD   Positive Youth Development

MIL   Meaning in life

ECA   Extracurricular activity

RDS   Relational Developmental Systems theory

SDT   Self-determination theory

$\leftarrow\rightarrow$ Bi-directional arrow

Table of Contents

Examining College Students' Meaning in Life: Associations with Participation in Service-Oriented Extracurricular Activities and Motives for Service

Leisure is an important aspect of living a satisfying and fulfilling life (Tinsley & Eldredge, 1995). However, some types of leisure pursuits are more beneficial to the individual than others. Research on positive youth development suggests that structured leisure activities, including extracurricular activities (ECAs), are primary contextual assets known to promote thriving across the transition from late adolescence and into young adulthood (Lerner et al., 2015). Although empirical studies suggest that participating in ECAs, in general, is associated with positive developmental outcomes, in general (e.g., self-esteem, interpersonal and problem-solving skills, purpose in life, personal growth, life satisfaction, self-efficacy; Astin & Sax, 1998; Busseri et al., 2011; Knapp et al., 2010; Weiler et al., 2013), there are calls in developmental science for studies linking specific ECA participation with specific and related developmental outcomes (Simpkins, 2015). In this study, we examine a specific type of ECA, namely service-oriented ECAs, that draws wide participation among college students (e.g., Astin & Sax, 1998; Flanagan & Levine, 2010) and that has a substantial research base to support its links with thriving (e.g., Bowman et al., 2010; Guilmette et al., 2019; Scales et al., 2006; Weiler et al., 2013; Wilson, 2000).

Few studies have investigated meaning in life (MIL) as a specific indicator of thriving. MIL is a multi-dimensional construct representing the extent of reflection and interpretation of experiences and connections made to one's own understanding of the world (Martela & Steger, 2016). MIL is important because it helps college students to feel their lives matter, make sense of the world, and find a purpose. The transition from late adolescence and into young adulthood is a critical period for identity development (Erikson, 1968), a developmental task for which MIL is

especially relevant. MIL is also noteworthy during stressful situations (e.g., Frankl, 1963), and college students report increased stress compared to high school students (Kroshus, Hawrilenko, & Browning, 2021), which has been further intensified in the context of the COVID-19 pandemic (Hoyt et al, 2021). College, then, may provide a particular confluence of individual dispositions (e.g., exploring potential aspects of the self) and contextual factors (e.g., increased discretionary time, access to leisure opportunities, and autonomy in leisure pursuits) that coalesce to support students' presence of MIL (e.g., Astin & Sax, 1998).

The primary goal of this thesis is to examine the association between college students' participation in service-oriented ECAs and presence of MIL. Based on theory and empirical research, we expect participation in service-oriented ECAs and MIL to be positively associated. However, college students' motives to participate in service-oriented ECAs may further explain this association. Simply participating in service-oriented ECAs may not be enough for students' MIL, but they may find more meaning when their reasons for participating are intrinsic. The goals of this study are twofold: 1. To test the associations between college students' participation in service-oriented ECAs and MIL; and 2. To test whether students' motives explain variance in MIL beyond mere participation.

Study Rationale

College students comprise a major proportion of individuals who serve or volunteer (Astin & Sax, 1998). Service is important because one of its key aspects is helping others, contributing to better communities and societies overall, but it is also salient for personal development. There are several thriving-related outcomes associated with service, including life satisfaction, emotional well-being, and academic achievement (Barber, Stone, & Eccles, 2005; Sharp, Coatsworth, Darling, et al., 2007). Service, as a specific type of extracurricular activity,

has also been linked with specific types of developmental outcomes, particularly for attributes of or related to the self (e.g., Bronk et al., 2010; Mariano & Vaillant, 2012). Indeed, college students experience a particular confluence of individual (e.g., self-expression) and contextual (i.e., increased time and opportunity) factors, which matter for identity development through the transition into adulthood. An indicator of thriving during college is MIL, which provides a sense of purpose, mattering, and significance (Martela & Steger, 2016). These facets of MIL are important across the life span, but are especially salient for college students in a period of critical identity development. Past research has examined associations between ECAs and MIL, generally, however little is known about service-oriented ECAs and its association with MIL, specifically.

Participation can be broadly conceptualized as the extent to which an individual is involved, exposed, or immersed, in service. Behavioral participation in service is one facet of participation that is typically operationalized as a rate of participation (e.g., frequency of meetings, years participated). Research suggests that other facets of participation, including motives or reasons for participating, also explain variance in outcomes associated with participation. That is, individuals who participate for intrinsic reasons reap greater benefits from participating than individuals who are extrinsically motivated to participate (Burns et al., 2006; Bailey & Phillips, 2016; Jones & Hill, 2003). Intrinsically-oriented service participation aligns conceptually with the concept of serious leisure. Serious leisure is a personally meaningful, systematic pursuit of a leisure activity, wherein individuals recognize its benefits. Service-oriented ECA participation, enacted as a form of serious leisure (i.e., for mainly intrinsically oriented reasons), should explain a significant proportion of variance in MIL, above and beyond behavioral participation. This study tests whether individuals' reasons for participating explain

3

MIL, above and beyond behavioral participation, and distinguishes intrinsically (e.g., participating because it aligns with one's values) and extrinsically (e.g., participating because it contributes to my resume) oriented reasons.

Theoretical Foundation: Individual-in-Context

The goals of developmental science are to describe, explain, and optimize human development (Lerner, 2012; Baltes, Reese, & Nesselroade, 1977). According to relational developmental systems theory (Overton, 2013), development occurs through a process of mutually influential exchanges between individuals and their multiple, nested contexts, termed individual⇔context relations (Lerner et al., 2013). Development is optimized when individual⇔context relations are mutually beneficial, or when the context provides resources to benefit the individual and the individual contributes positively to enhancing the context (Lerner et al., 2013). PYD is a field of social science research concerned with the factors involved in fostering mutually beneficial individual⇔context relations.

The term PYD is used in three ways in social science research. First, PYD represents a theoretical developmental process that occurs when an individual's strengths align with ecological assets to support thriving, or mutually beneficial individual⇔context relations (Lerner et al., 2005). Second, PYD is an approach to designing structured leisure activities in ways that support PYD. Structured leisure activities, including are voluntary settings in which youth participate in skill-building activities, that are delivered through regularly occurring meetings, and that are led by adults. Structured leisure activities became central to the study of PYD because of the substantial evidence for participation being associated with thriving (e.g., indicators of emotional and psychosocial well-being; Guilmette et al., 2019). Third, PYD can mean a specific instance of a structured leisure activity known to foster PYD, such as a specific

student organization. Taken together, central elements of PYD are a process of optimizing development through participation in certain kinds of contexts known to foster positive outcomes, namely structured leisure activities.

Structured leisure activities are important contexts for development because they have specific characteristics that differentiate them from other common youth settings (Larson & Verma, 1999). For example, high quality developmental contexts foster challenge and autonomy, which are known to promote youth thriving, as indicated by the presence of youth initiative, or the self-driven ability to set and achieve long-term goals. School settings (e.g., academic classes) are challenging, but offer few opportunities for individual agency or autonomy; unstructured leisure settings (e.g., hanging out with friends) are autonomous settings, but offer little challenge. Structured leisure activities combine the elements of structure (i.e., challenge in a regularly occurring manner) and leisure (i.e., autonomous choice and non-obligatory participation), which is why they are effective to promote PYD (Larson, 2000). Extracurricular activities (ECAs), including school-based clubs and student organizations, are a primary form of structured leisure among college students (Fitch, 1991).

Past research has well established that participating in structured leisure activities, including ECAs, is better than non-participation, across various domains of development (Mahoney et al., 2006). More research is needed to examine whether specific types of ECAs are associated with specific types of developmental outcomes. Research also suggests that extent of participation matters for developmental outcomes. That is, there is variation in the extent to which individuals participate in ECAs and that variation explains, in part, the variation in developmental outcomes. ECA participation is often quantified through an indicator of dosage, which includes intensity (e.g., hours/week), frequency (e.g., times/week), and duration (e.g.,

number of years) of participation. Increases in ECA participation are associated with increases in thriving among college students (e.g., Busseri et al., 2011; Eccles & Barber, 1999; Fredricks & Eccles, 2006).

Meaning in Life: What Is It and How Is It Fostered?

Although developmental science has well established bodies of literature about the processes involved in optimizing human life, depth of understanding of MIL as a social science construct comes from social psychology. MIL is typically defined in social psychological research as an individual's comprehension of and aspirations for life. King et al. (2006) define MIL as involving finding significance beyond trivial or momentary life experiences, having a purpose greater than one's self, and achieving personal coherence that transcends chaos. College may be an important time to examine MIL because it offers specific opportunities that may foster the various aspects of MIL.

Another way of linking service with MIL is to consider how participating in service-oriented ECAs is associated with the multiple conceptual dimensions comprising MIL. Martela and Steger (2016) suggest that MIL is comprised of three independent, but interrelated facets: coherence, purpose, and significance. Coherence is defined as the individual making sense of their subjective experiences. Purpose provides motivation and direction for future actions and experiences. Significance is focused on the individual's value and importance as a participant of the experience. Each of the three components of MIL can be conceptually linked with participation in service-oriented ECAs. Coherence, purpose, and significance are interconnected in complex ways, meaning they can be conceptualized as an overall MIL construct (Steger, 2012). Coherence, purpose, and significance interact across time to form meaning in life, and participation in ECAs (e.g., service) could strengthen the interaction and foster greater MIL.

Many college students are transitioning from late adolescence into young adulthood, which Erikson (1968) explains is a primary period for identity development. Thus, many college students are exploring various aspects of their self and are experimenting with different roles and identities. The activities in which individuals spend their time may become internalized during the transition into young adulthood as college students strive for identity achievement (Marcia, 2007). Moreover, the career tracks in which college students are forced into through declaring majors can prompt students' future thinking about how they might contribute to society and find significance and purpose beyond themselves and in their careers. An empirical question is whether participating in ECAs can explain variation in college students' MIL.

The typical college student will graduate high school and begin university courses at around 18 years old, which often means moving out of parents' homes and into dorms or student apartments, presenting a new sense of independence and freedom. Additionally, college students are transitioning out of late adolescence and into young adulthood, a developmental period that is critical for identity development (Layland et al.,2018). Outside of coursework, college students have more discretionary (i.e., free) time than most other developmental periods (Brint & Cantwell, 2010). How college students choose to spend their discretionary time can have major implications for development.

Empirical Support for Service-Oriented ECAs and MIL

Empirical research has found that increased participation in ECAs is linked with increased positive developmental outcomes (Mahoney et al., 2006; Knifsend, 2020; Mahoney & Vest, 2012). Participation can be measured quantitatively as intensity (i.e., hours), frequency (i.e., weeks), and duration (i.e., years) that an individual participates in ECAs (Fredricks & Eccles, 2006). Individuals can also participate in qualitatively different activities, often captured

as an indicator of breadth, or the number of different types of ECAs in which individuals participate. Research indicates that different types of ECAs provided distinctive experiences (e.g., Hansen, Larson, & Dworkin, 2003) and that participating in more types of ECAs is associated with increased positive developmental outcomes (e.g., Busseri et al., 2011; Eccles & Barber, 1999; Fredricks & Eccles, 2006). The calls in current research on ECAs are to disentangle which specific ECAs are linked with which specific outcomes and among youth from which specific developmental periods (Simpkins, 2015; Bornstein, 2019). In this thesis, we examine a specific ECA, namely service-oriented ECAs, and associations with a specific outcome, namely meaning in life, which can be conceptually linked to the activities which occur within service-oriented ECAs.

Some studies have established a link between general ECA participation and indicators of thriving that are related to MIL. For example, college students' participation in a variety of ECAs was associated with indicators of emotional and psychosocial well-being, and adaptive self-regulation of goals (e.g., Guilmette et al., 2019; Knifsend, 2020). Previous literature also links participation in specific ECAs with indicators of thriving that are related to MIL, examples include: fine arts ECAs have been linked with greater sense of purpose (Barber, Eccles, & Stone, 2001), sports have been linked with identity development (e.g., Eccles & Barber, 1999; Tracy & Erkut, 2002), faith-based/religious activities have an established association with meaning in life (Scales et al., 2006; Weiss Ozorak, 1989), and leadership ECAs were associated with greater sense of a hopeful future (e.g., Bundick, 2011). Theoretically, any ECA could be a context to foster MIL, given their developmental nature and design. However, service-oriented ECAs may be particularly well suited to foster college students' MIL.

Service opportunities may be salient for MIL. Participation in volunteering and service-oriented ECAs is associated with long-term developmental outcomes (Astin & Sax, 1998; Astin, Sax, & Avalos, 1999). For example, college students' participation in service-oriented ECAs is associated with positive outcomes across a variety of domains (e.g., academic development, civic responsibility, life skills; Astin & Sax, 1998; Astin, Sax, & Avalos, 1999) and psychological well-being indicators (e.g., self-esteem, life satisfaction, social isolation, depressed mood; Barber et al., 2001). College students who participated in service-oriented ECAs also had more positive outcomes on indicators related to MIL, such as a greater sense of purpose, or life goals beyond one's self, than non-participants (Bronk et al., 2010; Mariano & Vaillant, 2012). In sum, empirical research supports the possibility that college students' participation in service-oriented ECAs may be associated with increased MIL.

Multi-dimensional nature of MIL

The cognitive component of MIL, coherence, is about making sense of one's experiences in life. Coherence is the ability to understand one's self and one's fit in the world. Serving others helps develop perspective-taking, empathy, and confidence (e.g., MacNeela & Gannon, 2013; Thompson et al., 2019), which are essential to the cognitive processing involved in developing coherence, as a facet of MIL. Research on college students has found that participating in volunteer/service ECAs was associated with increased sense of identity, including understanding one's self and one's place in the world (Youniss & Yates, 1997). Service-related ECAs also provide increased developmental opportunities for youth to reflect on who they are and what impact they want to have on their communities (Hansen et al., 2003). Participating in service regularly through structured ECAs should be associated with increased coherence.

The motivational component of MIL is purpose, which is having a sense of core goals, aims and direction in life. There is some empirical research on college students' ECA participation and purpose. Damon and colleagues, who define purpose as "part of one's personal search for meaning, but also the desire to make a difference in the world, to contribute to matters larger than the self" (Damon, Menon, & Bronk, 2003, p. 121), have several empirical studies finding that participation in service-oriented ECAs was associated with an increased sense of purpose (Bronk et al., 2009; Bronk et al., 2020). Similarly, a qualitative study by MacNeela and Gannon (2013) found that college students who volunteered had an increased sense of purpose compared to those who did not volunteer. Thus, college students' participation in service-oriented ECAs should be associated with increased purpose.

The evaluative component of MIL is significance, or the extent to which an individual feels value, worth, and importance. Similarly, mattering refers to the perception that an individual has a role in the world where they feel noticed and valued, and are giving value to others (Rosenberg & McCullough, 1981). An individual will inherently form opinions about the worthwhileness and value of one's life based on his/her individual experiences. Individuals tend to engage in activities that they find personally meaningful (e.g., Waterman, 1993) and service activities tend to provide meaning and a sense of mattering (e.g., Daniels & Perkins, 2021; George & Park, 2016a). Thus, college students' participation in service-oriented ECAs should be associated with increased sense of significance and mattering.

Leisure and Development: The Role of Personal Meaning

College students may participate in service for a variety of reasons, but they may get more out of their service opportunities when those reasons are intrinsically rather than extrinsically derived. That is, college students may get more out of their service opportunities by

committing more deeply or engaging in them as a form of serious leisure. Service-oriented ECAs can be enacted as a form of serious leisure when the activity is personally meaningfully or aligns with deeply held values (Stebbins, 1996). Serious leisure is defined as the "systematic pursuit of a volunteer activity that is highly substantial, interesting, and fulfilling and where, in the typical case, participants find a career in acquiring and expressing a combination of its special skills, knowledge, and experience," (Stebbins, 1992, p. 3). Service is a form of leisure which enables individuals to find personal meaning, explore aspects of identity, and express personal values and beliefs (e.g., religious, political, etc.) (Arai, 2004). Service enacted as serious leisure has been associated with a variety of indicators of the self, including self-actualization, self-enrichment, self-expression, self-renewal, feelings of accomplishment, and enhanced self-image (p. 6, Stebbins, 2004). Individuals participate in serious leisure because of the intrinsic, personal rewards they experience, which may include MIL.

There are six characteristics found exclusively in serious leisure, further distinguishing serious from casual leisure. First, serious leisure is often associated with the need to persevere. Participants who want to continue learning new skills and experiencing satisfaction from the acquisition of those skills will recognize that the rewards of the activity will outweigh its costs, increasing the desire to participate. Next, serious leisure participants often feel a need to put in effort to gain skills and knowledge. As skill-building activities, increasingly complex activities help participations to gain competence while providing an engaging experience. Third, participants often recognize the availability of a leisure career. The expansion of skills and knowledge needed for this activity is enough to allow for a career in pursuing those skillss. Fourth, a realization of various special benefits. These rewards can range from self-gratification and self-expression to self-actualization and personal enrichment (Stebbins, 1996). The fifth

characteristic of serious leisure is that there is a unique ethos and social world that defines the activity. Participants find a sense of belonging and connectedness from their participation in the activity with others, with continued communication mediated by mass emails or newsletters. Finally, serious leisure provides an attractive personal and social identity (Stebbins, 1996). As an altruistic activity, participants feel their identity has been embellished from helping others. Taken together, a common theme across the characteristics of serious leisure is the presence of a deep personal meaning.

Serious leisure tends to personal, meaning that individuals often engage in the activity for its intrinsic benefits. Thus, individuals' motives to engage in serious leisure may tend to be more intrinsically than extrinsically oriented. According to self-determination theory (Ryan & Deci, 2004), intrinsic motivation is satisfied by three basic psychological needs: autonomy, competence, and relatedness. Autonomy, which is driven by a sense of agency and drive, can be portrayed in serious leisure through the need to gain specific skills and knowledge from the activity. Competence, driven by a sense of efficacy, may be connected to serious leisure activities in their continued perseverance, perhaps because they recognize the availability of a leisure "career" along with other special benefits. Relatedness, which is defined as a sense of belonging, appears through the unique social world and attractive social identity that may be participate in these pursuits.

One way that service could be enacted as serious leisure is when individuals do service because it aligns with their personal values (e.g., altruistic or humanitarian values) and provides an opportunity to apply their values (e.g., Clary & Miller, 1986). Some evidence suggests that participating in service-oriented ECAs with higher intrinsic motivation (i.e., individuals with high *values* motives), is associated with more better outcomes, on indicators similar to MIL, than

12

extrinsically motivated individuals (Burns et al., 2006; Bailey & Phillips, 2016; Jones & Hill, 2003). Thus, intrinsic motives are expected to predict MIL above and beyond simply participating in service-oriented ECAs.

Conversely, some individuals engage in service as a form of casual leisure that need not be personally meaningful. That is, casual forms of service might involve externally derived sources of influence (e.g., extrinsically motivating factors). In fact, many college students engage in ECAs, including service, to advance their career (e.g., resume-building, networking) and not because they find it personally meaningful or enjoyable (Handy et al., 2010; Hustinx et al., 2010; Musick & Wilson, 2008). Although participating in service-oriented ECAs as a form of casual leisure may have instrumental benefits (e.g., an additional line on a resume), it is unlikely to have a significant impact on indicators of the self, given the potential lack of personal meaning derived from participation. Thus, we expect extrinsic motives to have a weaker association with MIL than intrinsic motives; however extrinsic motives may still explain MIL beyond participation.

Summary and Study Goals

How college students spend their free time matters for development (Brint & Cantwell, 2010; Caldwell & Witt, 2011). Structured leisure activities, such as ECAs, are known to promote positive development across a wide range of outcomes (Hansen, Larson, & Dworkin, 2003; Simpkins, 2015).Service-oriented ECA participation, in particular, is associated with a wide range of positive developmental outcomes (e.g., academic success, civic responsibility, life skills, emotional and psychosocial well-being, and adaptive self-regulation) (Astin & Sax, 1998; Astin, Sax, & Avalos, 1999; Guilmette et al., 2019; Knifsend, 2020). Service-oriented ECAs participation has also been linked with indicators similar to MIL, such as purpose (Bronk et al.,

2010; Mariano & Vaillant, 2012), identity achievement (Sharp, Coatsworth, Darling, et al., 2007; Youniss & Yates, 1997), or life satisfaction (Barber, Stone, & Eccles, 2005). This study is the first, to our knowledge, to test the association between participation in service-oriented ECAs and MIL, specifically. Of course, individuals who invest substantially in ECAs, such as by participating for reasons that align with their personal values, are more likely to have increased beneficial outcomes. Thus, a secondary goal of this study was to test whether MIL is explained further by students' intrinsically and extrinsically derived reasons for participating. Based on research on serious leisure and its potential benefits, college students' MIL should be strongest for students who participate for intrinsic reasons (e.g., values motives) and weakest for students who participate for extrinsic reasons (e.g., career motives).

Method

Data were derived from an ongoing longitudinal study of service and character development among college students. Wave 1 was collected in March 2021 and data collection for later waves is ongoing. The purpose of the study was to examine college students' extracurricular activity participation and character development after the onset of the COVID-19 pandemic. The larger study involved quantitative self-report surveys collected online through emails sent to participants. The surveys had four sections (extracurricular activities, well-being, character attributes, and motivation), took approximately 20-30 minutes to complete, and all measures had established reliability and validity with other samples. All undergraduate students at the university where the study was conducted were eligible to participate. Participants were recruited through university email and word of mouth by the research team (e.g., via social media). Approval was obtained from the Institutional Review Board at the university where the study took place.

Participants

The present study uses cross-sectional quantitative data collected at Wave 1. Participants were all currently enrolled as undergraduates at a large, public university in the South. The sample included 557 college students (*Mean* age = 21.54, *SD* = 2.45) who were 50.6% female, 35.8% male, and 13.6% nonbinary. Participants represented diverse ethnic backgrounds (59.7% White; 15.7% Black; 10.4% Hispanic/Latino; 6.8% Asian; 7.2% Native Hawaiian/Pacific Islander or American Indian/Alaska Native).

Measures

All measures were collected through a quantitative self-report survey sent through Qualtrics. The measures used in this study were indicators of structured leisure, presence of meaning in life, and motives to volunteer.

Service-oriented extracurricular activity participation. An activity inventory was used to collect information about participant's participation in extracurricular activities. Similar inventories have been used in research on extracurricular activities (e.g., Fredricks & Eccles, 2006; Tinsley & Eldredge, 1995). The inventory asked participants to report on several activity categories, including service organizations. Examples of service/volunteer activities are activities such as Habitat for Humanity, the 12th Can, or Red Cross. Participants reported their participation in service-oriented ECAs in terms of whether they participated (yes/no), intensity (i.e., amount of time per activity session; 1 = *<1 hour/week*, 4 = *4 or more hours/week*), frequency (i.e., amount of activity sessions; 1 = *once a month or less*; 4 = *weekly or almost weekly*) and duration (i.e., how many years participated; 1 = *<1 year*, 4 = *4 or more years*). In the present study, the three indicators of ECA participation (i.e., intensity, frequency, and

duration) in the service organization category are used with non-participants coded as "0" on each indicator.

Meaning in life. To measure meaning in life, the *presence of meaning* subscale of the Meaning in Life Questionnaire was used (Steger et al., 2006; 1 = *strongly disagree*, 7 = *strongly agree*; 5 items; α = .800). For a full list of scale items and correlations among the scale items, see Table 4. This measures MIL globally, meaning there is not a distinction between the three facets of MIL. A newer measure (George & Park, 2016b) should be used in future studies to further distinguish these components.

Motives. Two types of motives were assessed using two subscales of the Volunteer Functions Inventory (Clary et al., 1998). The career motives subscale assessed volunteering for career-related benefits, such as resumé-building or establishing new contacts (5 items; 1 = *extremely unimportant*, 7 = *extremely important*; α = .79). The values motives subscale assessed volunteering for altruistic or humanitarian concerns (i.e., helping others) (5 items; 1 = *extremely unimportant*, 7 = *extremely important*; α = .85). For a full list of scale items and correlations among the scale items, see Table 5.

Analysis Plan

The first research question examined the association between college students' participation in service-oriented ECAs and MIL. A linear regression model was estimated predicting MIL (the DV), from three indicators of participation in service-oriented ECAs (the IVs), namely intensity, frequency, and duration. The model was interpreted with statistical significance of the standardized beta coefficients (*p*-values set at .05), as well as effect sizes (r^2, representing the amount of variance explained in the DV).

The second research question examined the extent to which motives explain MIL, above and beyond participation. A hierarchical linear regression model was estimated predicting MIL (the DV), from two sets of predictors; indicators of participation in service-oriented ECAs (i.e., intensity, frequency, and duration) are included in the first step; and motives (i.e., values, careers) are entered in Step 2. The model was interpreted with statistical significance of the standardized beta coefficients (*p*-values set at .05), as well as effect sizes (r^2, representing the variance explained in the DV). To examine whether each set of predictors explained significantly more variance in MIL than the preceding set, the changes in r^2 were examined.

Results

Descriptive statistics are reported in Table 1. As shown in Table 1, the main study variables were each normally distributed, as indicated by the skewness and kurtosis values, which fell within the recommended range of -1.5 and +1.5 (Tabachnick & Fidell, 2013). Next, there were several statistically significant correlations among the study variables. As shown in Table 1, correlations between service-oriented ECA participation and MIL were significant, but negative and small in size. That is, increases in participation across the three dimensions (i.e., intensity, frequency, and duration) were associated with decreases in MIL. Next, values motives and career motives, each had positive and significant correlations with MIL that were both moderate in size. Finally, ECA participation and motives were also correlated, such that increases in participation were associated with decreases in *values* and *career* motives, but the effect size was stronger for values motives than career motives.

Model 1: Associations Between Service and MIL

The set of predictors for service-oriented ECA participation (i.e., intensity, frequency, duration) were highly correlated (i.e., *r*s > .68). Thus, before estimating the regression, the

predictors were examined for multicollinearity. As shown in Table 2, the tolerance and VIF

coefficients were all at acceptable levels (i.e., above .34 and less than 2.49, respectively),

indicating no problem with multicollinearity (Menard, 2001). A linear regression with three

predictors of service-oriented activity participation had good fit ($F (445) = 7.23, p <.001$) and

explained 4.7% of the variance in MIL. Standardized regression coefficients are presented in

Table 2. As shown in Table 2, duration was a significant predictor of presence of MIL, but in the

unexpected direction. That is, increases in duration (years participated) was associated with

decreases in MIL; the effect was statistically significant, but small in size. The other two

indicators of ECA participation (i.e., intensity, frequency) were not statistically significant

predictors of MIL.

Model 2: Associations Between Motives and MIL

The predictors from Model 1 were included, as well as predictors for motives, which

were highly correlated (i.e., the correlation between values motives and career motives was .68).

The model fit the recommended tolerance (i.e., all values were above .39) and VIF levels (all

values were less than 2.56) for multicollinearity.

A hierarchical linear regression model was estimated which included the dosage

indicators (intensity, frequency, duration) in Step 1 and motives (i.e., career, values) in Step 2.

This model had good fit ($F (445) = 7.225, p <.001$). The first step (i.e., ECA participation)

explained 4.7% of the variance in presence of MIL. The second step (i.e., motives) explained an

additional 13.6% of the variance in presence of MIL. Regression coefficients are presented in

Table 3. Once including motives, duration became statistically nonsignificant. Motives had

statistically significant associations with MIL, such that increases in careers and values motives

were each associated with increases in MIL. However, values had a moderate effect size, whereas career had a small effect size.

Discussion

Leisure is a primary factor in supporting college students' development (Tinsley & Eldredge, 1995). Extracurricular activities, specifically service-oriented activities, have been shown to promote thriving among college students (e.g., Astin & Sax, 1998; Astin, Sax, & Avalos, 1999; Barber et al., 2001; Bronk et al., 2010; Mariano & Vaillant, 2012). The extent to which service-oriented participation explains college students' meaning in life has not been examined specifically as an indicator of thriving. Service-oriented organizations provide experiences that, theoretically, should foster college students' MIL, such as by fostering a sense of purpose and mattering. Increased participation in service-oriented ECAs should be associated with increased MIL. However, the outcomes of participating in ECAs are dependent on the extent to which youth are invested in the activity. Students who approach participation in service-oriented ECAs as serious leisure may be more likely to internalize the activity, which may contribute to increased presence of MIL, compared to peers who are less personally invested in the activity. One way to capture the extent to which students are invested in service is through their motives to do service. Motives that are intrinsic in nature, such as values motives, may be more strongly linked with MIL than extrinsic motives, such as career motives. College students who participated in service-oriented activities experienced MIL, albeit in the negative direction, but college students' motives to do service explained MIL significantly, beyond mere participation.

Associations between Service and MIL

The primary research question addressed associations between service-oriented ECA participation and presence of MIL. ECA participation was operationalized using three indicators of dosage, namely intensity, frequency, and duration. Duration was a significant predictor of MIL, whereas the indicators of immediate involvement (intensity, frequency) were not, which could be related to the timescales on which MIL and service participation operate. Service-oriented ECA participation among college students may foster MIL, but the effects are not immediate and there may be only small changes in MIL within a developmental period. Contexts of ECAs may not be important for MIL until participation has occurred for an extended time (e.g., years). Importantly, these data were cross-sectional and we urge caution in interpreting these findings as causal, a point which we return to in the limitation section.

That the direction of effect of duration on MIL was in the unexpected direction was surprising. This finding does not align with previous studies that have found duration of service was positively associated with outcomes similar to MIL, such as self-esteem, interpersonal and problem-solving skills, purpose in life, personal growth, life satisfaction, and self-efficacy (e.g., Astin & Sax, 1998; Busseri et al., 2011; Knapp et al., 2010; Weiler et al., 2013). A potential explanation may be that the data were collected in the context of the COVID-19 pandemic which may have diminished college students' presence of MIL. Students' duration of participation would not have been affected because those are assessed as histories of participation prior to the pandemic. More research is needed in the post-COVID era to examine changes in college students' MIL and implications of service-oriented ECA participation.

The multidimensional nature of MIL suggests that there are three interrelated facets comprising MIL: a sense of coherence, purpose, and significance. Duration of service-oriented

participation may be associated with developing a sense of purpose, as shown in previous studies (e.g., Bronk et al., 2010; Bronk et al., 2020; Mariano & Vaillant, 2012), but it may not be enough to foster coherence or significance.

Do Motives Matter for MIL?

To further examine the effect of college students' service participation on their MIL, we included two indicators of participants' motives. Past studies have identified stronger benefits from service participation when the participant is intrinsically motivated (Burns et al., 2006; Bailey & Phillips, 2016; Jones & Hill, 2003). College students may view service as serious leisure when the activity aligns with their personal values or they find it personally meaningful, and they commit to a deep pursuit of participation based on those values (Stebbins, 2006). Students may also be extrinsically motivated to participate in service-oriented activities, for tangible benefits such as adding a line on their resumé or meeting prospective employers.

A secondary question addressed the role of motives to do service in college students' MIL. Behavioral participation in service-oriented ECAs is only one aspect of participation. College students are known to have increased developmental outcomes associated with participation in ECAs when they are personally invested compared to their peers who are not personally invested. One way to understand students' personal investment in service is to consider their motives for doing service. Thus, the second research question examined whether intrinsic or extrinsic motives explained MIL, above and beyond participation in a service-oriented ECA. We tested one indicator of intrinsic motives, namely *values,* and one indicator of extrinsic motives, namely *career* (Clary & Miller, 1986).

Together, the motives explained a substantial portion of variance in MIL (~13%), which supports that motives to participate in service-oriented ECAs matter more than immediate

involvement. This finding indicates that an individual's reason for participating in service activities is a stronger predictor of MIL than simply participation. Previous studies confirm that those who participate in service for intrinsic reasons would find outcomes such as improved mental health and life satisfaction, along with identity development (Bailey & Phillips, 2016; Jones & Hill, 2003), similar to MIL.

Based on previous studies, we expected that values motives, as intrinsic motives, would be stronger predictors of MIL than career motives, which are extrinsic (e.g., Burns et al., 2006; Bailey & Phillips, 2016; Jones & Hill, 2003). Indeed, values motives had a moderate effect (.32), whereas career motives had a small effect (.17). One way to interpret this finding might be in the context of Deci and Ryan's (Deci & Ryan, 2012) self-determination theory (SDT). SDT suggests that motivation functions on a continuum ranging from amotivation, to extrinsic motivation, to various forms of intrinsic motivation. Individuals can become increasingly intrinsically motivated to the extent that their basic psychological needs are met. Thus, extrinsic motivation in an ECA may mean that the individual has not yet internalized aspects of participation to the extent of others who are intrinsically motivated. Findings from our study support that intrinsic motives (i.e., values) have stronger associations with extrinsic motives (i.e., careers). However, there were significant, albeit small in size, associations between career motives and MIL, which suggests that extrinsic motives could become internalized and still promote the development of MIL. In practice, either intrinsic or extrinsic motives may be a way to begin to engage students in service. However, findings support that in order to fully optimize the potential of ECA participation as a transformative experience, students need to become personally invested and intrinsically motivated.

It is important to remember that these data were collected in the context of COVID-19. As a result, there were some signs suggesting that the expected associations may not be present. The correlations between service and motives, for example, indicated that increased dosage was associated with decreases in intrinsic motives. The intrinsic motive (i.e., values) has been shown in past studies (Jones & Hill, 2003) to grow stronger after continuing participation (i.e., higher dosage would result in reinforcing participants' intrinsic motives). The context of the pandemic may have inhibited the internalization of intrinsic motives. Future research should continue to test the associations between service and motives as we progress out of the pandemic.

Limitations and Future Research

The present study provided some important insight into college students' MIL and service participation. However, the study was not without limitations. These are important to consider with the results of this study; however, they also offer insight for future research. The major limitations identified include the study's method, confounding factors, and important follow-up questions.

An important limitation to consider in interpreting the findings is that the data in the present study were cross-sectional, meaning the findings only captured one moment in time. Thus, conclusions cannot be drawn about the causal nature of relations between participation in service-oriented ECAs and MIL. Presence of MIL could vary over a longer period, such that participating in service-oriented ECAs may not be associated with MIL immediately. Future research should include longitudinal to test the interrelations between ECA participation and MIL over time and to better understand the time scale over which MIL develops.

This study utilized secondary data from a previous study, and the Meaning in Life measure used does not specifically separate the three facets (i.e., coherence, purpose, and

significance), but instead separates the scale into presence and search for meaning. Although unavoidable for this study, future research should use the updated version of the MIL measure to further distinguish the three facets.

ECA participation was narrowly defined as participation in a specific type of ECA, namely service-oriented ECAs. We focused on service-oriented ECAs because there is the most empirical evidence that service-oriented ECAs provide experiences known to foster processes related to the self and self-system (i.e., identity, purpose; Guilmette et al., 2019; Bronk et al., 2010). However, many college students participate in activities across a variety of domains (e.g., sports, creative arts, leadership, etc.) (Astin & Sax, 1998; Fitch 1991). Past research suggests that participating in a variety of different types of activities (i.e., increased breadth) promotes thriving (Simpkins, 2015; Bornstein, 2019). Accounting for patterns of participation across domains might help to understand how ECA participation more broadly matters for college students' MIL.

Finally, this study advanced the literature by testing whether the way in which student invest in ECAs, or their motive for participation, explained MIL above and beyond mere participation. The findings of the present study indicated that participating in service did not predict MIL, after accounting for motives. Past literature on volunteer motives suggests that motives are conceptualized in a variety of ways (Burns et al., 2006; Bailey & Phillips, 2016; Jones & Hill, 2003). Future research could include various motives to do service to determine whether aspects of motives, beyond the intrinsic/extrinsic distinction, matter for MIL.

This study defined leisure objectively, meaning there was no way to indicate the quality of experiences, or whether participants felt their activities qualified as leisure experiences

subjectively. Future research should include measuring leisure subjectively, to provide a deeper understanding of the experience and whether they find meaning through it.

Conclusion

The findings of the present study indicate that college students may find MIL through service-oriented ECAs; however, their motives for participating, whether intrinsic or extrinsic, are vital to finding significant meaning. In the context of the COVID-19 pandemic, college students may be experiencing increased stress and social isolation; however, their ECA participation may promote thriving through outcomes like MIL. Participants who are intrinsically motivated seem to experience the strongest benefits; however, those with extrinsic motives may also internalize their motives to the extent that they also feel MIL.

Table 1

Descriptive Statistics and Correlations for Study Variables

Variable	1	2	3	4	5	6
1. Intensity	-	.72**	.71**	-.44**	-.21**	-.15**
2. Frequency		-	.69**	-.38**	-.23**	-.16**
3. Duration			-	-.46**	-.25**	-.20**
4. Values				-	.44**	.40**
5. Career					-	.32**
6. Presence of MIL						-
M	1.14	1.12	1.03	5.16	4.36	4.42
SD	1.24	1.30	1.14	1.37	1.32	1.27
Skewness	.61	.81	.67	-.42	.02	.02
Kurtosis	-.95	.67	-.94	-1.00	-.61	-.46

*Notes. **p < .01.*

Table 2

Regression Coefficients from the Linear Regression Model Predicting Presence of MIL

Variable	Unstandardized Coefficients				Collinearity Statistics	
	b (SE)	ß	p		Tolerance	VIF
Intercept	4.66 (.08)		<.001			
Frequency	-.01 (.07)	-.01	.911		.34	2.49
Intensity	-.03 (.07)	-.04	.620		.43	2.34
Duration	-.20 (.08)	-.19	.009		.44	2.27

Table 3

Regression Coefficients from the Hierarchical Regression Model Predicting Presence of MIL

	$R^2 \Delta$	b	(SE)	B	p
Step 1: Service Participation	.047				
Intercept		2.40	(.36)		<.001
Intensity		-.01	(.07)	-.01	.911
Frequency		-.03	(.07)	-.03	.620
Duration		-.20	(.08)	-.19	.009
Step 2: Motives	.136				
Values		.32	(.05)	.32	<.001
Career		.17	(.05)	.17	<.001

Table 4

Prsence of MIL Scale Inter-Item Correlations

Item	1	2	3	4	5
1. I understand my life's meaning.	-	.51	.46	.49	-.35
2. My life has a clear sense of purpose.		-	.52	.48	-.41
3. I have a good sense of what makes my life meaningful.			-	.47	-.41
4. I have discovered a satisfying life purpose.				-	-.35
5. My life has no clear purpose. [r]					-

Notes. [r]Item is reverse-coded.

Table 5

Motives Sub-Scales and Inter-Item Correlations

Item	1	2	3	4	5
Values					
1. I am concerned about those less fortunate than myself.	-	.44	.60	.53	.50
2. I am genuinely concerned about the particular group I am serving.		-	.49	.50	.47
3. I feel compassion towards people in need.			-	.63	.53
4. I feel it is important to help others.				-	.61
5. I can do something for a cause that is important to me.					-
Career					
1. Volunteering can help me get my foot in the door at a place where I would like to work.	-	.47	.43	.50	.45
2. I can make new contacts that might help my business or career.		-	.44	.43	.38
3. Volunteering allows me to explore different career options.			-	.51	.36
4. Volunteering will help me to succeed in my chosen profession.				-	.38
5. Volunteering experience will look good on my resume.					-

References

Arai, S. M. (2004). Volunteering in the Canadian context: Identity, civic participation and the politics of participation in serious leisure. *Volunteering as leisure/leisure as volunteering: An international assessment*, 151-176.

Astin, A. W., Sax, L. J. (1998). How Undergraduates Are Affected by Service Participation. Higher Education, 39(3), 251-263.

Astin, A. W., Sax, L. J., Avalos, J. (1999). Long-Term Effects of Volunteerism During the Undergraduate Years. Review of Higher Education, 22(2).

Bailey, T. H., & Phillips, L. J. (2016). The influence of motivation and adaptation on students' subjective well-being, meaning in life and academic performance. *Higher education research & development*, *35*(2), 201-216.

Baltes, P. B., Reese, H. W. & Nesselroade, J. R. 1977. Life-span developmental psychology: Introduction to research methods. Monterey, CA: Brooks/Cole.

Barber, B. L., Eccles, J. S., & Stone, M. R. (2001). Whatever Happened to the Jock, the Brain, and the Princess? Young Adult Pathways Linked to Adolescent Activity Involvement and Social Identity. Journal of Adolescent Research, 16(5), 429-455.

Bornstein, M. H. (2019). Fostering optimal development and averting detrimental development: Prescriptions, proscriptions, and specificity. Applied Developmental Science, 23(4), 340-345. https://doi.org/10.1080/10888691.2017.1421424.

Bowman, N., Brandenberger, J., Lapsley, D., Hill, P., & Quaranto, J. (2010). Serving in College, Flourishing in Adulthood: Does Community Engagement During the College Years Predict Adult Well-Being? Applied Psychology: Health and Well-Being, 2(1), 14-34. https://doi.org/10.1111/j.1758-0854.2009.01020.

Brint, S., & Cantwell, A. M. (2010). Undergraduate Time Use and Academic Outcomes: Results from the University of California Undergraduate Experience Survey 2006. Teachers College Record, 112(9), 2441-2470.

Bronk, K. C., Hill, P. L., Lapsley, D. K., Talib, T. L., & Finch, H. (2009). Purpose, hope, and life satisfaction in three age groups. The Journal of Positive Psychology, 4(6), 500-510. https://doi.org/10.1080/17439760903271439

Bronk, K. C., Holmes Finch, W., & Talib, T. L. (2010). Purpose in life among high ability adolescents. High Ability Studies, 21(2), 133-145. https://doi.org/10.1080/13598139.2010.525339

Bronk, K. C., Mitchell, C., Hite, B., Mehoke, S., & Cheung, R. (2020). Purpose Among Youth from Low-Income Backgrounds: A Mixed Methods Investigation. Child Development, 91(6), e1231-e1248. https://doi.org/10.1111/cdev.13434.

Bundick, M. J. (2011). The benefits of reflecting on and discussing purpose in life in emerging adulthood. New Directions in Youth Development, 2011(132), 89-103. https://doi.org/10.1002/yd.430

Burns, D. J., Reid, J. S., Toncar, M., Fawcett, J., & Anderson, C. (2006). Motivations to Volunteer: The Role of Altruism. *International Review on Public and Non-Profit Marketing*, *3*(2), 79-91.

Busseri, M., Rose-Krasnor, L., Pancer, S. M., Pratt, M. W., Adams, G. R., Birnie-Levcovitch, S., Polivy, J., & Gallander Wintre, M. (2011). A Longitudinal Study of Breadth and Intensity of Activity Involvement and the Transition to University. Journal of Adolescent Research, 21(2), 512-518.

Caldwell, L. L., & Witt, P. A. (2011). Leisure, recreation, and play from a developmental

    context. New Directions for Youth Development (130), 13-27.

Clary, E. G., & Miller, J. (1986). Socialization and situational influences on sustained

    altruism. *Child development*, 1358-1369.

Damon, W., Menon, J., & Bronk, K. C. (2003). The Development of Purpose During

    Adolescence. Applied Developmental Science, 7(3), 119-128.

Daniels, A. M., & Perkins, D. F. (2021). Volunteering: Intentionally Developing a Sense of

    Mattering in Youth. The International Journal of Volunteer Administration, 25(1).

Deci, E. L., & Ryan, R. M. (2012). Self-determination theory.

Eccles, J. S., & Barber, B. L. (1999). Student Council, Volunteering, Basketball, or Marching

    Band: What Kind of Extracurricular Involvement Matters? Adolescent Research, 14(1),

    10-43.

Erikson, E. H. (1968). Identity, youth, and crisis (1st ed.). W. W. Norton.

Fitch, T. R. (1991). Difference Among Community Service Volunteers, Extracurricular

    Volunteers, and Nonvolunteers on the College Campus. Higher Education, 32(6), 534-

    540.

Flanagan, C., & Levine, P. (2010). Civic Engagement and the Transition to Adulthood. Future of

    Children, 20(1), 159-179.

Frankl, V. E. (1963). Man's Search for Meaning: An introduction to logotherapy. Washington

    Square Press.

Fredricks, J. A., & Eccles, J. S. (2006). Extracurricular Involvement and Adolescent Adjustment:

    Impact of Duration, Number of Activities, and Breadth of Participation. Applied

    Developmental Science, 10(3), 132-146. https://doi.org/10.1207/s1532480xads1003_3

George, L. S., & Park, C. L. (2016a). Meaning in Life as Comprehension, Purpose, and

    Mattering: Toward Integration and New Research Questions. Review of General

    Psychology, 20(3), 205-220. https://doi.org/10.1037/gpr0000077

George, L. S. & Park, C. L. (2016b): The Multidimensional Existential Meaning Scale: A

    tripartite approach to measuring meaning in life, The Journal of Positive Psychology,

    DOI: 10.1080/17439760.2016.1209546

Guilmette, M., Mulvihill, K., Villemaire-Krajden, R., & Barker, E. T. (2019). Past and present

    participation in extracurricular activities is associated with adaptive self-regulation of

    goals, academic success, and emotional wellbeing among university students. Learning

    and Individual Differences, 73, 8-15. https://doi.org/10.1016/j.lindif.2019.04.006

Handy, F., Cnaan, R. A., Hustinx, L., Kang, C., Brudney, J. L., Haski-Leventhal, D., ... &

    Zrinscak, S. (2010). A cross-cultural examination of student volunteering: Is it all about

    résumé building? *Nonprofit and Voluntary Sector Quarterly*, *39*(3), 498-523.

Hansen, D., Larson, R., & Dworkin, J. (2003). What adolescents learn in organized youth

    activities: A survey of self-reported developmental experiences. Journal of Research on

    Adolescence, 13(1), 25-56.

Hoyt, L. T., Cohen, A. K., Dull, B., Castro, E. M., & Yazdani, N. (2021). "Constant Stress Has

    Become the New Normal": Stress and Anxiety Inequalities Among U.S. College Students

    in the Time of COVID-19. Journal of Adolescent Health, 68(2021), 270-276.

Hustinx, L., Handy, F., Cnaan, R. A., Brudney, J. L., Pessi, A. B., & Yamauchi, N. (2010).

    Social and cultural origins of motivations to volunteer: A comparison of university

    students in six countries. *International sociology*, *25*(3), 349-382.

Jones, S. R., & Hill, K. E. (2003). Understanding Patterns of Commitment. *The Journal of Higher Education*, *74*(5), 516-539. https://doi.org/10.1080/00221546.2003.11778888

King, L. A., Hicks, J. A., Krull, J., & Del Gaiso, A. (2006). Positive affect and the experience of meaning in life. Journal of Personality and Social Psychology, 90, 179-196.

Knapp, T., Fisher, B., & Levesque-Bristol, C. (2010). Service-Learning's Impact on College Students' Commitment to Future Civic Engagement, Self-Efficacy, and Social Empowerment. Journal of Community Practice, 18(2-3), 233-251. https://doi.org/10.1080/10705422.2010.490152

Knifsend, C. A. (2020). Intensity of activity involvement and psychosocial well-being among students. Active Learning in Higher Education, 21(2), 116-127. https://doi.org/10.1177/1469787418760324

Kroshus, E., Hawrilenko, M., & Browning, A. (2021). Stress, self-compassion, and well-being during the transition to college. Social Science Medicine, 269, 113514. https://doi.org/10.1016/j.socscimed.2020.113514.

Larson, R. W. (2000). Toward a Psychology of Positive Youth Development. American Psychologist, 55(1), 170-183.

Larson, R. W., Verma, S. (1999). How children and adolescents spend time across the world: Work, play and developmental opportunities. Psychological Bulletin, 6(125), 701-736.

Layland, E. K., Hill, B. J., & Nelson, L. J. (2018). Freedom to explore the self: How emerging adults use leisure to develop identity. Journal of Positive Psychology, 13(1), 78-91.

Lerner, R. M. (2012). Developmental science and the role of genes in development. GeneWatch, 25, 34-38. http://www.councilforresponsiblegenetics.org/ genewatch/GeneWatchPage.aspx?pageId413

Lerner, R. M., Agans, J. P., DeSouza, L. M., & Gasca, S. (2013). Describing, Explaining, and
Optimizing Within-Individual Change across the Life Span: A Relational Developmental
Systems Perspective. Review of General Psychology, 17(2), 179-183.
https://doi.org/10.1037/a0032931

Lerner, R. M., Almerigi, J. B., Theokas, C., & Lerner, J. V. (2005). Positive Youth Development
A View of the Issues. The Journal of Early Adolescence, 25(1), 10-16.
https://doi.org/10.1177/0272431604273211

Lerner, R. M., Lerner, J. V., Bowers, E., & Geldhof, G. J. (2015). Positive Youth Development
and Relational-Developmental Systems. In R. M. Lerner (Ed.), *Handbook of Applied
Developmental Science* (Vol. 1).

MacNeela, P., & Gannon, N. (2013). Process and Positive Development: An Interpretive
Phenomenological Analysis of University Student Volunteering. Journal of Adolescent
Research, 29(3), 407-436. https://doi.org/10.1177/0743558413510968

Mahoney, J. L., & Vest, A. E. (2012). The Over-Scheduling Hypothesis Revisited: Intensity of
Organized Activity Participation During Adolescence and Young Adult Outcomes.
Journal of Research on Adolescence, 22(3), 409-418. https://doi.org/10.1111/j.1532-
7795.2012.00808

Mahoney, J. L., Harris, A. L.; Eccles, J. S. (2006). Organized Activity Participation, Positive
Youth Development, and the Over-Scheduling Hypothesis. Social Policy Report, 20(4).

Marcia, J. E. (2007). Theory and measure: The identity status interview. Capturing identity:
Quantitative and qualitative methods, 1-14.

Mariano, J. M., & Vaillant, G. E. (2012). Youth purpose among the 'greatest generation'. The Journal of Positive Psychology, 7(4), 281-293. https://doi.org/10.1080/17439760.2012.686624

Martela, F., & Steger, M. F. (2016). The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. The Journal of Positive Psychology, 11(5), 531-545. https://doi.org/10.1080/17439760.2015.1137623

Menard S. Applied Logistic Regression Analysis. 2nd edition. SAGE Publications, Inc; 2001.

Overton, W. F. (2013). Relationism and relational developmental systems: a paradigm for developmental science in the post-Cartesian era. Adv Child Dev Behav, 44, 21-64. https://doi.org/10.1016/b978-0-12-397947-6.00002-7

Rosenberg, M., & McCullough, B. C. (1981). Mattering: Inferred significance and mental health among adolescents. Research in Community & Mental Health, 2, 163–182.

Scales, P. C., Benson, P. L., & Mannes, M. (2006). The contribution to adolescent well-being made by nonfamily adults: An examination of developmental assets as contexts and processes. Journal of Community Psychology, 34(4), 401-413.

Sharp, E. H., Coatsworth, J. D., Darling, N., Cumsille, P., & Ranieri, S. (2007). Gender differences in the self-defining activities and identity experiences of adolescents and emerging adults. Journal of adolescence, 30(2), 251–269. https://doi.org/10.1016/j.adolescence.2006.02.006.

Simpkins, S. D. (2015). When and How Does Participating in an Organized After-School Activity Matter? Applied Developmental Science, 19(3), 121-126.

Stebbins, R. A. (1996). Volunteering: A Serious Leisure Perspective. *Nonprofit and Voluntary Sector Quarterly*, *25*(2), 211-224.

Stebbins, R. A. (2005). Choice and Experiential Definitions of Leisure. *Leisure Sciences*, *27*(4), 349-352. https://doi.org/10.1080/01490400590962470

Stebbins, R. A., & Graham, M. (2004). *Volunteering As Leisure/Leisure as Volunteering: An International Assessment*. CABI.

Steger, M. F. (2012). Making Meaning in Life. Psychological Inquiry, 23(4), 381-385. https://doi.org/10.1080/1047840x.2012.720832

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. Journal of Counseling Psychology, 53(1), 80-93. https://doi.org/10.1037/0022-0167.53.1.80

Tabachnick, B. G., & Fidell, L. S. (2013). Using Multivariate Statistics (6th ed.). Boston, MA: Pearson.

Thompson, R. J., Díaz Pearson, A., & Shanahan, S. (2019). Promoting Community and Political Engagement Through Undergraduate Educational Practices: The Role of Identity Formation. Journal of College and Character, 20(2), 97-122. https://doi.org/10.1080/2194587x.2019.1591284

Tinsley, H. E. A., & Eldredge, B. D. (1995). Psychological Benefits of Leisure Participation: A Taxonomy of Leisure Activities Based on Their Need-Gratifying Properties. Journal of Counseling Psychology, 42(2), 123-132.

Tracy, A. J., & Erkut, S. (2002). Gender and Race Patterns in the Pathways from Sports Participation to Self-Esteem. Sociological Perspectives, 45(4), 445-466. https://doi.org/10.1525/sop.2002.45.4.445

Waterman, A. S. (1993). Two conceptions of happiness: Contrasts of personal expressiveness

    (eudaimonia) and hedonic enjoyment. Journal of Personality and Social Psychology, 64,

    678–691.

Weiler, L., Haddock, S., Zimmerman, T. S., Krafchick, J., Henry, K., & Rudisill, S. (2013).

    Benefits derived by college students from mentoring at-risk youth in a service-learning

    course. American Journal of Community Psychology, 52(3-4), 236-248.

    https://doi.org/10.1007/s10464-013-9589-z.

Weiss Ozorak, E. (1989). Love of God and Neighbor: Religion and Volunteer Service among

    College Students. Review of Religious Research, 44(3), 285-299.

Wilson, J. (2000). Volunteering. Annual Review of Sociology, 26, 215-240.

Youniss, J., & Yates, M. (1997). Community service and social responsibility in youth.

    University of Chicago Press.