

POSTTRAUMATIC GROWTH DURING THE COVID-19 PANDEMIC: EXAMINING THE  
ROLE OF SOCIAL SUPPORT AMONG YOUNG ADULTS

A Thesis

by

KELLY MARIE NELSON

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Chair of Committee,	Andrea Ettekal
Committee Members,	Carl S. Shafer
	Tammie Preston
Head of Department,	Brian King

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## ABSTRACT

The COVID-19 pandemic was a source of stress, social isolation, and anxiety among young adults. Protocols to prevent the spread of the virus, including remote work and virtual classes, combined with a lack of mental health resources, posed a unique challenge for young adults. In addition, unprecedented change from the pandemic has been perpetual, leaving young adults feeling hopeless. Despite the challenges of the pandemic, there is a growing body of evidence to suggest that social support could facilitate the development of positive growth from traumatic events such as the COVID-19 pandemic. The concept of posttraumatic growth was introduced in the literature in 1996 by Tedeschi and Calhoun, and at present, remains empirically understudied. Although there is reasonable empirical support to suggest that social support is important for indicators related to posttraumatic growth, such as resilience, the nuances of social support have not been examined. The purpose of this study is to examine the relative salience of multiple dimensions of social support, including its directionality (i.e., giving or receiving support) and type (i.e., emotional or instrumental support), for posttraumatic growth in young adults during the beginning stages of the COVID-19 pandemic, as well examine gender differences in social support and posttraumatic growth. Data are from a secondary study of leisure among young adults ( $N= 2,405$ ) collected near the onset of the pandemic (May 1, 2020, to September 1, 2020). All measures were collected through self-report survey methods and have established reliability and validity in other samples. Stepwise regressions estimated the relative salience of the four social support scales for posttraumatic growth, as well as gender differences in social support and posttraumatic growth.

## DEDICATION

To my close friends and family, who support me no matter what.

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### **Contributors**

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## NOMENCLATURE

PTG	Posttraumatic Growth
PTSD	Posttraumatic stress disorder

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## INTRODUCTION

In March 2020, the COVID-19 pandemic was classified as an emergency by the World Health Organization (WHO). The COVID-19 pandemic forced many universities and businesses to move online in order to reduce the risk of transmission of the deadly virus. This unprecedented change, accompanied by the risk of getting infected, was a significant transition for young adults. Furthermore, social distancing regulations caused providing and receiving social support to be challenging. This study investigated the associations between social support and posttraumatic growth (PTG) in young adults in the beginning stages of the COVID-19 pandemic. We advance the literature on PTG by examining the multiple dimensions of social support, including its directionality, namely whether the individual is giving or receiving social support, and the type of support, that is whether it is emotional or instrumental support. PTG is defined as the positive changes in an individual's life following the experience of a traumatic event (Morris & Shakespeare-Finch, 2011). Social support is a protective factor for individuals who experience traumatic events and can contribute to PTG. In the following sections, we present a theoretical framework to situate the study and explain the significance of studying social support's impact on PTG. Then, we review the literature on PTG, social support, and their associations. Finally, in alignment with the study goals, we present the methods and data that were used to test the research questions.

### **PTG: Understanding the Construct and Its Significance**

Millions of people experience trauma every year. Extremely stressful events such as sexual abuse, child abuse, and war cause trauma. Responses to trauma vary depending on the duration and severity of the event. The aftermath of a traumatic event includes shock, fear, and confusion (Tedeschi & Calhoun, 2004). Basic assumptions about the world and themselves are

oftentimes shattered after traumatic experiences. Typical affective responses to such traumatic events include sadness, anxiety, guilt, and anger (Tedeschi & Calhoun, 2004). Physiological symptoms of trauma include fatigue, gastrointestinal issues, and muscle tension (Tedeschi & Calhoun, 2004). The risk of developing mental disorders, such as depression and anxiety, also increases following a traumatic event (Tedeschi & Calhoun, 2004). The evidence is clear that trauma causes a variety of emotional, psychological, and affective challenges (Tedeschi & Calhoun, 2004).

During traumatic events, such as the COVID-19 pandemic, young adults experienced a variety of symptoms (Liang et al., 2020). Thus, an important question is how to foster PTG amidst trauma. This study examined social support and its association with PTG during the beginning stages of the COVID-19 pandemic. According to Tedeschi and Calhoun's (2004) PTG model, social support plays a crucial role in developing PTG. Social support provides an environment for self-disclosure to take place, in which victims of trauma can talk and seek guidance. In turn, victims better manage emotional distress and rumination. The ability to develop a narrative and make sense of their traumatic experiences is also enhanced when there is social support (Tedeschi & Calhoun, 2004). Tedeschi and Calhoun (2004) have found that PTG flourishes when this social support is consistent and stable. However, many young adults lacked consistent and stable social support because social distancing separated them from others during the COVID-19 pandemic. The nature of social support, including how it was provided and received, changed with the onset of social distancing protocols. Consequently, understanding the associations between college students' social support and PTG during the pandemic warrants attention.

### **What is PTG?**

PTG is defined as the positive changes in an individual's life following the experience of a traumatic event (Morris & Shakespeare-Finch, 2011). There are two components of PTG after a traumatic event: growth as an outcome and the process of struggle (Anderson & Lopez-Baez, 2008). Therefore, for this proposal, PTG is conceptualized as an outcome and serves as growth after the traumatic event (Tedeschi & Calhoun, 2004).

PTG is similar to resilience, which has received substantial attention in the scholarly literature. Thus, it is important to distinguish how it is differentiated from resilience. Resilience is defined as the dynamic process of positive adaptation following adversity (Herrman et al., 2011). Despite its semblance to PTG, its definition is fundamentally different. Compared to PTG, resilience suggests that individuals return to equilibrium after an adverse event. Equilibrium, in this context, is the functioning individuals began with before the onset of the stressful event. PTG suggests that an individual achieves not just equilibrium, but a higher level of functioning than prior to the adverse event (Ogińska-Bulik & Kobylarczyk, 2016).

Researchers Tedeschi and Calhoun (1996) assert that PTG is comprised of five domains; greater appreciation of life; warmer, more intimate relationships with others; recognition of new possibilities or paths for one's life; greater perceived strength; and enhanced spiritual development (Tedeschi & Calhoun, 1996). Achieving PTG means experiencing an increase in all or some of these domains. Next, we briefly explain the five domains of PTG that each contribute to greater overall PTG.

The five domains of PTG each contribute to greater overall sense of PTG. First, some individuals may experience a greater appreciation for life following a traumatic event, which means that they may change the way they approach everyday life. For example, priorities are commonly reevaluated and shifted after trauma and individuals have increased gratitude towards

simple life pleasures, such as spending time with family or watching children play. Second, greater connection with others and more meaningful relationships following trauma is another indicator of PTG. That is, the experience of a traumatic event may cause victims to cherish their relationships with significant others, as well as help form connections with others who have similar experiences or have more compassion for those who have faced the same adversities (Tedeschi & Calhoun, 2004). Third, the recognition of new possibilities and opportunities is another indicator of PTG. One way new possibilities are encountered is through changes in career paths, personal goals, or general outlooks on life. For example, doctors who pursue medical degrees after someone close to them has become diagnosed with cancer display this domain of PTG. To provide another example, trauma may encourage individuals to adapt to their circumstances, such as small business owners who moved their services online after the onset of the pandemic. Fourth, an increased sense of personal strength following trauma is an indicator of PTG, which occurs when individuals not only feel stronger but acknowledge their strength to others. Finding personal strength after trauma means that challenges may seem less difficult to overcome, and individuals may feel a greater sense of vulnerability. Fifth, and finally, spiritual and existential reflection is another indicator of PTG. Relationships with spiritual entities may become closer, which assists individuals to cope with the stress and loss that occurs after a traumatic event. Individuals who do not subscribe to a religion or deity may ponder existential questions, such as “what is the meaning of life” or “what is my purpose in this world.” Growth in any or all of the five domains described above are indicators of PTG.

### **Theoretical Foundation: Understanding Links between Social Support and PTG.**

One theory to help understand the role of social support for PTG is social cognitive theory, which explains human psychological change and behavior. According to Bandura’s

social cognitive theory, humans learn coping skills in a social context, in which social information is received, processed, and then used to make decisions about one's own behavior (Benight & Bandura, 2004). The relations between the person and the social context are reciprocal, such that social information is received and then affects a person's behavior which, in turn, affects the social context, and so on. Applied to PTG, reciprocal interactions between the person and the support provided in their social context are used to assist in recovery after trauma. Social cognitive theory also suggests that social support enhances self-efficacy, which is an individual's belief in their own abilities, which helps to adapt to stressful events (Benight & Bandura, 2004). Thus, individuals with increased perceptions of social support should have greater PTG (Northfield & Johnston, 2022). Several challenges emerge as a result of a traumatic event, including emotional distress management, changes in beliefs and goals, and life narrative development. Social support facilitates cognitive processes underlying PTG, reducing rumination and intrusive thought, which is the product of discussion about perspective and beliefs with others, altering an individual's schemas (Tedeschi & Calhoun, 2004; Prati & Pietrantonio, 2009). Social support facilitates adaptive spiraling (i.e., the cultivation of greater positive emotions) and the creation of new goals (Tedeschi & Calhoun, 2004). In sum, experiencing social support during trauma fosters important cognitive processes that aid in PTG.

Importantly, social support is not unidimensional. There are multiple dimensions of social support, which describe its directionality and type. Directionality refers to whether the individual is giving or receiving support. Receiving social support predicts PTG, because of the reduction in stress that encouragement and tangible aid from others provide, thus helping develop PTG (Schroevers et al., 2010). Giving support predicts stress and health because helping others increases positive emotions that offset negative emotions from trauma, enhancing PTG

(Brown et al., 2003). Social support can also be differentiated by type, which includes emotional or instrumental support. Emotional support is associated with PTG because friends and family provide help in coping after trauma that facilitates cognitive processes like schema change and narrative development, thus developing PTG (Schroevers et al., 2010). Emotional support refers to the provision comfort, empathy, or reassurance that fulfils emotional needs such as active listening to distressed individuals or providing advice and guidance (Jones & Schreier, 2023). Similarly, instrumental support enhances PTG because it helps individuals positively interpret traumatic events, in turn, developing PTG (Munroe et al., 2022). Instrumental support refers to tangible assistance (e.g., help or information received to complete a tasks), such as delivered groceries or financial aid (Kundi et al., 2022). The direction and type of social support serve as a supportive function in a social context where PTG may occur. Theoretically, both directions of social support (i.e., giving and receiving) should be positively associated with PTG. Moreover, both types of social support (emotional and instrumental) should also be positively associated with PTG. There are no studies, to our knowledge, in the empirical literature that have tested the relative salience of the different directions or types. Thus, whether the various dimensions of social support differ in their salience for PTG is an empirical question worth attention.

### **PTG in the Context of the COVID-19 Pandemic**

The COVID-19 pandemic may have caused trauma for a variety of reasons, including social isolation, lack of access to community programs, difficulties in transitions to remote learning for students, and racial discrimination, among others (Liu et al., 2020; Molock & Parchem, 2020). However, previous research has also indicated high levels of trauma in young adults before the pandemic, particularly college students. According to Frazier et al. (2009), about 85% of undergraduate students have experienced a traumatic event at some point in their



life and one in five students experienced trauma over a two-month period while attending college (Fraizer et al., 2009). Similarly, Read et al. (2011) found that nearly one in ten college students experienced posttraumatic stress disorder (PTSD) symptoms. Mental health concerns have increased with the onset of the COVID-19 pandemic. One study found that over one-third of young adults had experienced elevated levels of PTSD, anxiety, and depression since the beginning of the pandemic (Liu et al., 2020). Clearly, mental health challenges are an important concern for young adults, especially since the onset of the pandemic.

Despite the heightened experience of trauma among young adults, especially during the pandemic, there is also opportunity for positive growth. Evidence for young adults experiencing PTG as a result of the COVID-19 pandemic is mixed. On the one hand, one study investigating PTG found that young adults experienced little to no change in PTSD symptoms during the COVID-19 pandemic (Hyun et al., 2021). However, on the other hand, another study found that young adults experience greater PTG than other age groups during the beginning stages of the COVID-19 pandemic (Northfield & Johnston, 2022). The high degree of trauma among young adults during the COVID-19 pandemic, coupled with different findings of PTG, suggests a great need for more studies on what support may offset stressors and enhance PTG.

Indeed, the COVID-19 pandemic caused abrupt and prolonged trauma for many people, including young adults. Isolation, combined with fear of illness and financial stress, negatively impacted mental health and how young adults navigated daily life (Northfield & Johnston, 2022; Molock & Parchem, 2020). The COVID-19 pandemic interrupted many social support systems, including being with loved ones and friends, participating in hobbies, attending large events, and receiving counseling services. Abel and McQueen (2020) describe how these social distancing protocols were taken literally in Western countries, limiting close social connection rather than

spatial distance. One U.S. study found that 95% of youth ages 14-24 reported social distancing to some extent during the beginning stages of the pandemic, with 55% reporting feeling negative social impacts from it (Dunn et al., 2021). Previous research has shown that young adults were most at risk of feeling lonely amidst social distancing during the COVID-19 pandemic because they were more likely to be lonely before the pandemic (Beam & Kim, 2020; Fried et al., 2020). There are clearly complexities of social support and its influence on PTG in young adults during the COVID-19 pandemic which remain unknown.

### **Empirical Support Linking Social Support and PTG**

There is evidence that social support matters for PTG. However, because the COVID-19 pandemic is ongoing at the time of this writing, quantitative data on the effects of the pandemic are still preliminary. Thus, we review the available research on the COVID-19 pandemic but also draw from related studies on trauma in general. Previous literature supports that PTG and social support are associated. A cross-sectional study found that social support significantly predicted PTG among frontline nurses during the beginning stages of the COVID-19 pandemic (Mo et al., 2022). Another study found that those who had social support during the COVID-19 pandemic were more likely to experience PTG (Northfield & Johnston, 2022). These studies provide support that general social support matters for PTG, however, the implications of different directions of support (i.e., giving and receiving) or types of support (i.e., emotional and instrumental) warrant attention.

There is evidence that receiving support, in both emotional and instrumental forms, matters for PTG. For example, a longitudinal study of long-term cancer survivors found that receiving emotional support fostered such that, reassurance, problem-solving, and comforting, which occurred in the initial period of diagnosis, was critical in the development of PTG

(Shroever et al., 2010). Another study found that receiving emotional support was a significant buffer between Afghan students' academic stress and well-being during the late stages of the COVID-19 pandemic, such that students who received physical affection from others had an increased ability to manage stress (Green et al., 2021). The empirical evidence also suggests that receiving instrumental support also benefits trauma survivors. One study examining co-worker relationships during the beginning stages of the COVID-19 pandemic found that receiving instrumental support was negatively associated with emotional exhaustion (Usman et al., 2021). Another study revealed the potential importance of instrumental support for students during the COVID-19 pandemic. That is, students experienced challenges in finances, academic performance, career plans, and living situations during the beginning stages of the COVID-19 pandemic, suggesting that providing instrumental support in the form of scholarships, university jobs, and lower tuition rates may benefit students (Molock & Parchem, 2020). Although there is evidence that receiving instrumental and emotional support are each important for PTG in young adults (or related processes), the specific relations within the context of the COVID-19 pandemic remain unclear.

Research supports that giving social support, in both emotional and instrumental forms, is important for PTG. First, there is support for the importance of giving emotional support for PTG (Jaramillo & Felix, 2021; Morelli et al., 2015). For example, one study examining the influence of post-tragedy activities on PTG found that college students' desires to emotionally support others enhanced their PTG (Jaramillo & Felix, 2021). Another longitudinal study found a positive association between providing emotional support and well-being, such that when college students gave responsive and empathetic emotional support to others, they experienced long-lasting positive effects on their well-being (Morelli et al., 2015). Next, there is also support for

the importance of giving instrumental support for PTG (Sin et al., 2021; Blanchard & Haccoun, 2020; Akinin et al., 2013). A study related to giving instrumental support found a positive association between giving tangible aid during the beginning stages of the COVID-19 pandemic and well-being, such that giving aid in the form of supplies or food, helping with medical care, and picking up on home responsibilities, enhanced well-being (Sin et al., 2021). Another study found that students who provided financial support to others had increased happiness compared to those who did not (Akinin et al., 2013). A similar conclusion can be drawn for giving support as was indicated earlier with receiving support; although there is evidence that giving instrumental and emotional support are each important for PTG (or related processes), the specific relations within the context of the COVID-19 pandemic remain unclear.

In sum, all forms of social support are theoretically important for PTG and some are empirically supported, albeit in studies of related constructs. Based on previous literature, receiving emotional support has the most empirical support for supporting PTG. Thus, whether and how the other dimensions of support matter for PTG is an empirical question. The context of the COVID-19 pandemic also makes it difficult to discern specific hypotheses about the relative salience of different dimensions of social support because of its unprecedented nature. That is, not enough is known about young adults' experiences and outcomes of the pandemic to make specific hypotheses. Much of previous research reviewed here might suggest differences in directions of support (i.e., giving and receiving) as well as in types of support (i.e., emotional and instrumental), however, differentiating dimensions of support has not been tested in the context of the COVID-19 pandemic. Thus, the question concerning the relative salience of various dimensions of social support is exploratory.

### **Social support and PTG: Accounting for potential gender differences**

Previous studies have shown there to be gender differences in social support. There is evidence that giving and receiving social support differs between males and females. For example, one study found that females were more likely to give and receive social support than males during the beginning stages of the COVID-19 pandemic (Tifferet, 2020). Another study examining support-seeking behaviors found that females gave more emotional social support than males and that males were less likely to seek social support than females (Zhou et al., 2017). A similar study also found that females were more likely to seek emotional social support than males and that males were more likely to seek instrumental social support than females (Tamres et al., 2002).

There is also evidence that there are differences between males and females in mean levels of PTG. For example, females were more likely to experience PTG than men, which was attributed to gender socialization processes and differences in coping strategies (Cohen-Louck, 2022). In another study, females experienced more productive and deliberate rumination than males following a traumatic event, thus contributing to higher levels of meaning-making and PTG among females than males (García et al., 2022; Vishnevsky et al., 2010; Tamres et al., 2002). Females were also more likely to use emotion-focused coping to manage stress than males (Vishevsky et al., 2010), which might contribute to the higher levels of PTG observed in females compared to males.

Just as there are potential gender differences in social support and PTG, there may be gender differences in the relations between social support and PTG. For example, there is evidence that emotional social support is associated with fewer distress symptoms for females than males (McLean et al., 2022). Similarly, females were more likely to seek emotional social support and benefit from it, which enhanced their likelihood of developing PTG relative to males

(Tamres et al., 2002). Given the mean-level gender differences in social support and PTG and the preliminary evidence that the relations between social support and PTG may also differ by gender, our secondary research question focuses on gender differences. That is, we examine whether the relation between social support. And PTG differs between males and females.

### **Social Support and PTG: Addressing Potential Confounding Factors**

Theory and empirical research suggest that there should be a positive association between social support and PTG. However, to clearly discern the role of social support for PTG, there are several confounding factors that may explain differences in PTG including: gender, student status, employment status, and adaption challenges. First, as described above, there are gender differences in both social support and PTG (McLean et al., 2022; Swickert & Hittner, 2009; Cohen-Louck, 2022). Thus, the control for gender in our analyses that addresses our first research question, namely the relation between social support and PTG. Second, there are differences in PTG between students and non-students such that support from universities may have helped students' mental health during the COVID-19 pandemic (Guo et al., 2021). Next, there may be differences in PTG by employment status because young adults who were employed experienced more stress than those who were not employed (Lee et al., 2021). Finally, individuals differed in their ability to adapt during the COVID-19 pandemic. Four domains that may have presented adaptation challenges were family, school, work, and friendships. Differences in individuals' ability to adapt in various domains may explain differences in PTG. The confounding factors of student status, employment status, and adaption challenges were controlled for analyses that address each research question.

### **Summary and Study Goals**

The purpose of this study is to examine the association between social support and PTG in young adults during the COVID-19 pandemic. The primary research question this study addresses is the relative salience of various dimensions of social support for PTG, including the direction of support (i.e., giving or receiving) and the type of support (i.e., emotional or instrumental). Although there is sufficient evidence to suggest that all types of support should matter for PTG, there is insufficient empirical research to suggest which dimensions of support should be most important for PTG and, thus, this question is exploratory. Our secondary research question addresses whether there are gender differences in the relation between social support and PTG (e.g., Cohen-Louck, 2022; García, 2022; Vishnevsky et al., 2010, Tamres et al., 2002, McLean et al., 2022) and preliminary evidence to suggest the relation between social support and PTG might differ by gender (e.g., Tifferet, 2020; Zhou et al., 2017; Tamres et al., 2002; McLean et al., 2022). Differentiating the various dimensions of support and their roles for PTG and understanding whether they vary by gender may provide information for practitioners to better support positive growth following trauma.

## METHOD

The study from which the data for the present study were derived took place between March and May 2020. The study used a cross-sectional design, involving self-report surveys collected online via Qualtrics. Young adults between the ages of 18 and 25 were invited to participate in the study by completing the online survey. College students from the University where the study took place were recruited through university listservs and emails sent to departments and student organizations. Participants who were not enrolled as students at the University where the study took place were recruited through posts on social media, by word of mouth, and through snowball sampling. Participants were incentivized to participate with a drawing for a Nintendo Switch (valued at \$200). The study was approved by the Institutional Review Board at the University where the study took place.

### **Context of Data Collection**

The data for this study were collected during the beginning stages of the COVID-19 pandemic. The World Health Organization (WHO, 2023) describes COVID-19 as a disease caused by the coronavirus SARS-CoV-2. The COVID-19 virus was first reported in Wuhan, China on December 31<sup>st</sup>, 2019. People infected with the virus may experience mild to moderate respiratory illness and recover without requiring special treatment. However, some will become seriously ill and require medical attention.

On January 20<sup>th</sup>, 2020, the first U.S. COVID-19 case was reported and WHO declared a public health emergency January 31<sup>st</sup>. In an effort to slow the spread of the virus, the university where a majority of respondents attended canceled in-person classes for the Spring 2020 semester in March. Shortly after the cancellation of in-person classes at the university, the Governor of the state in which the study was conducted, issued an executive order closing



schools, bars, restaurants, gyms, and retail services. Data collection for this study began in early April 2020, when such university transitions (e.g., virtual classes) and state restrictions (e.g., establishments closed) took place.

## **Sample**

The sample ( $n = 2,405$ ) included all respondents within the required age range (750 were dropped outside of the age range) and with data on all measures used in the present study (308 were dropped for missing data). The sample was about 21 years of age ( $M = 21.34$ ,  $SD = 1.69$ ), over half were female (59.8%), and represented diverse racial/ethnic backgrounds (White/Caucasian = 55.5%, Black/African American = 6.7%, Asian/Asian American = 21.2%, Hispanic/Latino = 27%, Middle Eastern = 5.1%, Native American = 4.5%, Pacific Islander = 4.9%, mixed race/ethnicity = 3.9%). Most young adults were enrolled in college (85.4%) at either full or part-time status at a major University in the western south. The sample was somewhat representative of the larger student body at the University (46.8% female; White/Caucasian = 51.2%, Black/African American = 3.2%, Asian/Asian America = 10.4%, Hispanic/Latino = 22.6%, Native American .2%, Pacific Islander .04%, mixed race/ethnicity = 2.8%; the representation of students from Middle Eastern backgrounds was not reported by the University) though some groups were slightly over-represented (e.g. females, Asian/Asian Americans) and some were slightly underrepresented (e.g. Hispanic/Latinos) in the sample drawn for the present study.

## **Measures**

Demographic measures were self-reported by participants. The primary constructs were social support and PTG, which were each measured using self-report Likert-type survey items.

All measures were pre-existing scales with established reliability and validity with other samples. Reliability is reported for this sample using Cronbach's alphas.

### ***2-Way Social Support Scale***

Social support experience was measured with an existing scale with four subscales (Shakespeare-Finch & Obst, 2011): giving emotional support (e.g., "I give others a sense of comfort in times of need"; 1 = *Not at all true*, 5 = *Always true*;  $\alpha = .84$ ), giving instrumental support (e.g., "I have helped someone with their responsibilities when they were unable"; 1 = *Not at all true*, 5 = *Always true*;  $\alpha = .79$ ) receiving emotional support (e.g., "There is someone I can talk to about the pressures in my life"; 1 = *Not at all true*, 5 = *Always true*;  $\alpha = .85$ ), and receiving instrumental (e.g., "I have someone to help me if I am physically unwell"; 1 = *Not at all true*, 5 = *Always true*;  $\alpha = .76$ ) Participants were asked to think about their life during the height of the COVID-19 pandemic and the extent to which statements about giving and receiving social support were true or not true (1 = *not at all true*, 5 = *always true*).

### ***Posttraumatic Growth***

PTG was measured with the short form of the posttraumatic growth inventory (PTGI-SF) (Cann et al., 2010), which measures the extent to which highly challenging life circumstances lead to an individual's experiences of significant positive change. The scale assesses overall PTG using the average of 10 items (e.g., "I changed my priorities about what is important in life"; 1 = *I did not experience this change*, 6 = *I experienced this change to a very great degree*;  $\alpha = .90$ ).

### **Control Variables**

Young adults reported, on average, low to moderate levels of difficulty adjusting to the changes as a result of the COVID-19 pandemic, though there was a slight variation across different types of challenges such as family (e.g., "How challenging to adapt to family

responsibilities during the pandemic?"; 1 = *Not at all*, 5 = *Extremely*;  $M = 2.78$ ,  $SD = 1.27$ ), work (e.g. "How challenging to adapt to work responsibilities during the pandemic?"; 1 = *Not at all*, 5 = *Extremely*;  $M = 2.75$ ,  $SD = 1.37$ ), school (e.g. "How challenging to adapt to school responsibilities during the pandemic?"; 1 = *Not at all*, 5 = *Extremely*;  $M = 3.65$ ,  $SD = 1.18$ ), and friendships (e.g. "How challenging to adapt to friend responsibilities during the pandemic?"; 1 = *Not at all*, 5 = *Extremely*;  $M = 2.76$ ,  $SD = 1.30$ ). Additionally there were variation among students and nonstudents, as well as employed versus unemployed students during the COVID-19 pandemic.

### **Analysis Plan**

First, descriptive statistics were examined for all study variables, including distributions (means, standard deviations, skewness, kurtosis) and correlations. Before estimating the regression, multi-collinearity among the four social support variables was examined using the Variance Inflation Factor (VIF). The VIF starts at 1.0 and has no upper limit; values close to 1 indicated no multi-collinearity; values between 1 and 5 indicate moderate correlation among the predictors, but not severe enough to bias standard errors and regression coefficients; and values greater than 5 indicate multi-collinearity severe enough to bias standard errors and regression coefficients. The tolerance statistic ( $1-R^2$ ) was also examined as an indicator of multicollinearity, with scores  $>0.20$  indicating negligible collinearity.

Next, the first research question, which concerned the relative importance of four dimensions of social support for PTG, was examined with stepwise regression. The dependent variable was PTG, and the independent variables were the four social support variables. Stepwise regression was appropriate because it reveals the relative prediction power among the four social support predictor variables for PTG. Stepwise regression determines the social support

variable(s) that best predict PTG and assesses the unique variance in PTG that may be explained by the other social support variables. In order to reduce potential suppressor effects, a backward stepwise regression method was used, in which the model determined the contribution of each social support predictor variable on the outcome variable PTG. The model then removed not statistically significant variables, displaying the social support predictors that best predicted the outcome of PTG. Several control variables were included: gender, student status, employment status, and three types of challenges young adults faced during the beginning stages of the COVID-19 pandemic (i.e., family, school, and friend challenges). The control variable of “How challenging to adapt to work responsibilities during the pandemic” was dropped from the full analysis due to due to substantial missing data (20.29%).

Finally, to examine the second research question, namely whether the relation between social support and PTG varied by gender, the stepwise regression estimated for the first research question was estimated again, but separately for males and females. The same control variables as were included in the full model were again included, except for gender.

## RESULTS

Descriptive statistics and correlations for all study variables are presented in Table 1 for the full sample and separately by gender in Table 2. As shown in Table 1, the variables were each normally distributed, as indicated by the skewness and kurtosis values that fell within the range of -1.5 and +1.5 (Tabachnick & Fidell, 2013). There were several statistically significant correlations among the study variables (Table 1). For example, the four social support predictor variables were each significantly positively correlated with PTG, and each with small effect sizes. The pattern of correlations among the full sample was similar for males and females (Table 2). Inspection of the tolerance statistics and VIFs suggested there was no substantial multi-collinearity among the four social support variables (i.e., all VIFs <5.0 and all tolerance statistics >.20) and, thus, the four variables could be included in the same regression model. The tolerance statistics and VIFs also did not indicate substantial multi-collinearity within either gender.

Next, the first research question, namely whether social support predicted PTG, was examined with a stepwise regression (estimated among the full sample). The final model had a good fit to the data ( $F(5, 658) = 31.56, p < .001$ ). Regression coefficients are presented in Table 3. Among the six control variables, three were significant predictors of PTG, such that college students had lower PTG than non-students (being male or being employed was not significantly associated with PTG), and challenges adapting to family and friend responsibility during the pandemic were each positively associated with PTG (challenges adapting to school was not statistically associated with PTG). As shown in Table 3, receiving emotional support, giving instrumental support, and receiving instrumental support were statistically significant predictors of PTG, such that increases in these forms of support were each associated with increases in

PTG; the effect was statistically significant, but small in size. The other social support variable, that is giving emotional support, was not a statistically significant predictor of PTG.

The second research question, namely whether the relation between social support and PTG varied by gender, was examined with two stepwise regression models, one estimated for each gender (male or female). Regression coefficients are presented in Table 3. For males, the final model had a good fit to the data ( $F(5,806) = 33.07, p < .001$ ). Among the variables (gender was dropped from the models estimated separately for males and females), two were statistically significant predictors of PTG. That is, challenges adapting to family and friend responsibilities during the pandemic were each positively associated with PTG (challenges adapting to school was not statistically significantly associated with PTG for males). As shown in Table 3, receiving emotional support and giving instrumental support were significant predictors of PTG for males, such that increases in each form of support were each associated with increases in PTG; the effect was statistically significant, but small in size (giving emotional support and receiving instrumental support were not statistically significant predictors of PTG for males).

The coefficients for the model estimated for females are also presented in Table 3. For females, the final model had good fit to the data (Female;  $F(6, 1186) = 21.79, p < .001$ ). Among the five control variables (gender was dropped from the models estimated separately for males and females), three were statistically significant predictors of PTG. Like males, challenges adapting to family and friend responsibilities during the pandemic were each positively associated with PTG for females (challenges adapting to school was not statistically significantly associated with PTG for females or males). Unlike males, being a college student was associated with lower PTG than being a non-student among females. As shown in Table 3, three of the four social support variables were statistically significant predictors of PTG for females. Like

females, receiving emotional support and giving instrumental support were significant predictors of PTG for males; the effect was statically significant, but small in size. Unlike males, receiving instrumental support was statistically significantly associated with increases in PTG for females, albeit the effect was marginally significant (i.e.,  $p = .055$ ) and small in size (giving emotional support was not a statistically significant predictor of PTG for males and females).

## DISCUSSION

PTG involves experiencing a higher level of functioning after an adverse event than before the event, as well as perceiving a greater appreciation of life; developing warmer, more intimate relationships with others, recognizing new possibilities or paths for one's life; perceiving greater strength; and enhancing spiritual development (Tedeschi & Calhoun, 1996). Theoretically, social support plays a vital role in the development of PTG (Tedeschi & Calhoun, 2004). Social support should facilitate cognitive processes that, theoretically, should foster PTG, such as distress management and narrative development (Tedeschi & Calhoun, 2004). Increased social support should be associated with increased PTG. However, the outcomes of social support are dependent on both the directionality of support (i.e., giving and receiving) as well as the type of support (i.e., emotional and instrumental). Young adults who receive support may be more likely to experience more benefits from the guidance and tangible aid, helping them positively adapt to adversity and achieve a higher level of functioning prior to the adverse event, compared to giving support (Schroevers et al., 2010, Sine et al., 2021; Aknin et al., 2013). Therefore, the primary goal of this study was to examine the relative salience of social support, including its directionality and type, for PTG. We expected that each dimension of social support (i.e., giving instrumental, receiving instrumental, giving emotional, receiving emotional) would be positively associated with PTG; an exploratory goal was to examine variation in the strength of the relations between the dimensions of support and PTG. A secondary goal was to test whether the relations between social support and PTG varied by gender.

### **Social Support and PTG: Which Types of Support?**

The primary research question addressed associations between the four social support dimensions, including directionality (i.e., giving or receiving support) and type (i.e., emotional or



instrumental support), and PTG. Results suggest there was a positive association between social support and PTG. Moreover, both directions of support (i.e., giving and receiving) were important for PTG, which is consistent with past research (Shakespeare-Finch et al., 2015). Giving support to others increases positive emotions following trauma, thus facilitating PTG (Brown et al., 2003). Receiving support from others also reduces stress, consequently enhancing PTG (Schroevers et al., 2010). Within the context of the beginning stages of the COVID-19 pandemic, young adults who received support and gave it to others may have had increased abilities to manage their distress and develop more positive narratives of the traumatic experiences of the pandemic.

Consistent with previous literature, both types of social support (i.e., emotional and instrumental), were positively associated with PTG (Schroevers et al., 2010; Jaramillo & Felix, 2021; Morelli et al., 2015). Emotional support provides help in coping after trauma that facilitates schema change and narrative development, thus contributing to PTG (Schroevers et al., 2010). Instrumental support enhances the positive interpretation of a traumatic event, thus increasing individual's PTG (Munroe et al., 2022). The young adults in the present study who experienced emotional support may have undergone schema change, or the incorporation of new, positive perspectives about the beginning stages of the COVID-19 pandemic, developing their PTG. Furthermore, personal meaning of the COVID-19 pandemic, or narrative of the event, may have been developed with the help of emotional support from disclosing traumatic experiences to others. PTG development in the young adults that experienced instrumental support may have been a result of an increased sense of altruism or a lessened burden of facing challenges alone. Nevertheless, findings clearly suggested that both emotional and instrumental support were important for PTG.

Findings suggested that the nuanced interactions between the directions (i.e., giving or receiving support) and types (i.e., emotional or instrumental) of support had different associations with PTG. We expected all four dimensions of social support to be positively associated with PTG. However, only three of the four dimensions were associated with PTG. That is, giving emotional support was not associated with PTG, which is inconsistent with past research (e.g., Jaramillo & Felix, 2021; Morelli et al., 2015). Although we interpret this null finding with caution (because it is possible the finding is a result of Type II error) we speculate that the finding may be explained by the context of the COVID-19 pandemic. Due to the unprecedented nature of the COVID-19 pandemic, young adults may not have had the capacity to give others emotional support. Across the four dimensions of social support, giving social support may be the most taxing. For example, giving support is more taxing than receiving support, and tapping into emotion during crises may be more taxing than addressing instrumental needs. Thus, giving emotional support may be especially difficult when experiencing adversity.

The results showed that the four dimensions of social support (i.e., giving instrumental, receiving instrumental, giving emotional, receiving emotional) are highly correlated, therefore discerning their unique associations with PTG should be approached with caution. For example, giving instrumental may also cause individuals to feel as though they are giving emotional support (Morelli et al., 2015). Young adults that gave instrumental support during the COVID-19 pandemic may have also experienced the positive benefits of giving emotional support as well, such as enhanced well-being (Morelli et al., 2015). It is important to understand that social support may not collapse into a single social support dimension, but rather multiple to foster PTG.

### **Examining the Role of Gender in the Associations between Social Support and PTG**

The secondary research question addressed gender differences in the association between social support and PTG. Findings within each gender were consistent with the overall model with one expectation. In the overall model, three of the four support dimensions predicted PTG (i.e., receiving emotional, giving emotional, and receiving instrumental), whereas one dimension, namely giving emotional support, was not a significant predictor; these findings were consistent for females, but not males. For males, two of the four support dimensions significantly predicted PTG, that is, receiving emotional and giving instrumental. Consistent with the models estimated for the full sample and for females, giving emotional support was not a significant predictor of PTG. However, unique to males was the finding that receiving instrumental support was not a significant predictor of PTG.

The consistent finding across samples that receiving emotional support and giving instrumental support was associated with increased PTG is consistent with previous literature. Empirical research suggests that receiving emotional support increases abilities to manage distress and change schemas, which each help to foster PTG. (Tedeschi & Calhoun, 2004; Green et al., 2021). Giving instrumental support also fosters PTG but through a different process. That is, giving instrumental support helps individuals form positive narratives of traumatic events, such as the event made them perceive themselves stronger, which, in turn, fosters PTG (Trzmielewska et al., 2019). The beneficial nature of receiving emotional support and giving instrumental support suggests that these two dimensions are important in facilitating PTG in young adults.

The inconsistency across genders was receiving instrumental support was associated with increased PTG for females, but not males. There are a few plausible explanations for different findings related to receiving instrumental support. First, females tend to have more opportunities

to receive support than males (Tifferet, 2020; Holmstrom et al., 2021) and, as well, tend to have higher PTG than males (Vishnevsky et al., 2010). Thus, females may be better attuned than males at transforming support resources into personal growth by sheer opportunity. Greater opportunities to receive instrumental support may provide females with more necessary cognitive space to process trauma than males. Therefore, females may experience more productive and deliberate rumination than males, thus contributing to higher PTG outcomes. Another possibility is that restrictive gender expectations for males, such as stoicism and self-sufficiency may lead males to have negative perceptions of social support. Males, then, may be unable to transform support into a resource for PTG because of the negative self-image. Nevertheless, females seem to benefit from more and diverse sources of support than males.

### **Considering Confounding Factors that Explain Posttraumatic Growth**

The primary focus of this study was to examine the association between social support and PTG. Three variables (i.e., employment status, student status, gender, and adaption challenges) were included as confounding factors that may explain differences in PTG. In previous studies, these confounding factors have been related to PTG or related constructs (Lee et al., 2021; Tifferet, 2020; Swickert & Hittneer, 2009; Cohen-Louck, 2022; Vishnevsky et al., 2010; Jaramillo & Felix, 2021; Guo et al., 2021; Green et al., 2021). For example, young adults who were employed experienced less stress than those who were not employed during the COVID-19 pandemic (Lee et al., 2021), females were more likely to experience PTG than men (Cohen-Louck, 2022, Vishnevsky et al., 2010), and that adaption to challenges during the COVID-19 pandemic was positively associated with PTG (Hyun et al., 2021). These factors were included in our models predicting PTG because they are known factors that explain PTG.

The results showed that employment status was not associated with PTG, which may be explained by the types of jobs which young adults tend to acquire. First, jobs that young adults are typically qualified for, and which often pay minimum wage may not provide personal meaning, life skills, or enough challenges to foster PTG (Arnett, 2000). The young adults in the present study may have viewed their jobs as just a way to earn money during the beginning stages of the COVID-19 pandemic, rather than a context to receive social support or other non-monetary resources. Lack of social support in work environments may hinder young adults from experiencing PTG.

Consistent with previous literature, being a student was associated with lower PTG than not being a student (Xiong et al., 2020). This may be because students experienced more distress due to school closures and transitions to online learning (Xiong et al., 2020). When students tried to adapt to such negative circumstances, they may have felt more distressed than their non-student counterparts (Tedeschi & Calhoun 2004). Although there was opportunity for PTG, students may have not had enough resources or the appropriate resources that fostered PTG during the COVID-19 pandemic. School responsibilities present a stress that is unique to students that require special attention, such as resources that provide safe spaces to disclose trauma, lower tuition rates, and scholarships that support the PTG of students.

Similarly, the results showed that challenges adapting to family and friend responsibilities were associated with PTG, while challenges adapting to school were not. The students in the sample may have achieved less PTG than nonstudents because they were required to adapt to school responsibilities on top of adapting to friend and family responsibilities. Responsibilities concerning family and friends may also have been easier to adapt for both

students and nonstudents because those relationships offered more support to young adults than educational institutions, thus fostering PTG.

### **Limitations and Future Directions**

This present study contributed to current literature about social support and PTG, as well as research concerning gender differences in the association between social support and PTG. However, there are several limitations to this study that may help direct future research on these constructs. The limitations include the study's design, the timeframe in which the study was conducted, and the approach to assessing gender differences.

The first limitation pertains to the study design which limited the causal conclusions that could be drawn from these findings. That is, the study design was cross-sectional and non-experimental and consequently, conclusions of causal associations between social support and PTG cannot be made. It is plausible that social support and PTG have a reciprocal association, such that PTG can also cause changes in social support. Future research should apply longitudinal designs to examine the potential reciprocal relations between social support and PTG over time and relative to the timing of the trauma or experience of adversity. Quasi-experimental designs that apply social support interventions might be useful to examine casual association between social support and PTG. Studies that use advanced research designs are needed to explain the nature and strength of associations between social support and PTG.

Another limitation has to do with at which point in history the study occurred. From a lifespan perspective, how trauma and crises are handled depends on both the developmental period (e.g., adolescence versus young adulthood), but also the point in history (Elder, 2018). In this study, we examined a sample of young adults who were experiencing the beginning stages of the COVID-19 pandemic. Generalizations cannot be made to other developmental periods or

other points in history. For example, adolescents likely experienced the beginning part of the pandemic differently than young adults due to their different cognitive and emotional capacities (De Figueiredo et al., 2021). Similarly, young adults likely experienced the late stages of the pandemic differently than the early stages. Because young adults, like much of the rest of the world were still adapting to the “new normal” of the COVID-19 pandemic during the beginning stages, they may have had higher levels of anxiety and stress compared to later on in the pandemic when they may have adjusted or adapted (Quaglieri et al., 2021). Life span studies will be helpful to understand developmental differences in processes associated with support and coping with trauma.

The final limitation concerns the analytic approach. The second research question, namely whether the association between social support and PTG varied by gender, was not examined with an analysis that allowed for direct statistical comparison between males and females. That is, models were estimated separately for males and females and, thus, difference in the parameter estimates for males and females could not be tested for statistical significance. Instead, the patterns of direction and strength of the parameter estimates were examined for difference between males and females. Research utilizing interaction terms to test for moderation is needed to further understand gender differences.

### **Implications for Practice**

The findings of this study have implications for both educators and mental health counselors who work with young adults, especially during future mass traumatic contexts similar to the beginning stages of the COVID-19 pandemic, such as potential natural disasters and mass violence. Although limited research has focused on social support and PTG, there is a growing body of evidence that the directionality (i.e., giving or receiving) and type (i.e., emotional or

instrumental) of support matters for PTG (Shroever et al., Munroe et al., 2022; 2010; Shakespeare-Finch et al., 2015). To better support the well-being of young adults, practical guidance can be taken from this study in terms of the direction of support, type of support, and gender differences.

First, practitioners must consider the significance of both directions of social support, such that giving social support is just as important for young adults' wellness as receiving social support. Young adults that receive support may demonstrate better coping strategies during adverse events (Cohen et al., 2001). Providing opportunities for young adults to give support to others may also enhance their well-being, thus PTG (Sin et al., 2021), however, practitioners should be wary of the consequences of over-giving. Giving too much could lead to distress (Liang et al., 2001). Practitioners might consider the particular balance of receiving and giving support that best supports a patient's coping and growth.

Second, both types of social support, namely emotional and instrumental, matter for young adults' well-being and PTG. (Jaramillo & Felix, 2021; Morelli et al., 2015; Sin et al., 2021; Akin et al., 2014). Emotional support, such as disclosure to friends about a traumatic event, may assist young adults in shaping meaningful narratives about adversity to better cope with adversity (Tedeschi & Calhoun, 2004; Shroever et al., 2010). Instrumental support, such as making dinner for a friend, assists in stress management and better coping in light of trauma, thus enhancing PTG (Tedeschi & Calhoun, 2004; Shakespeare-Finch & Obst, 2011). Young adults may benefit from receiving both types of support, such that their emotional, financial, and material needs could be met during adverse events similar to the beginning of the COVID-19 pandemic.



Finally, gender stereotypes that may accompany giving and receiving social support must be addressed by practitioners when working with young adults. Because females are more likely to receive support than males (Tifferet, 2020), there must be an increased effort to provide more support for males, such as safe spaces to talk about emotions. Doing so may help males self-disclose to others about traumatic experiences and integrate perspectives and schemas, developing PTG (Tedeschi & Calhoun, 2004). Furthermore, practitioners must rethink how to build trust and engage men in giving support because they are less likely than women to give support to others (Tifferet, 2020). Therefore, practitioners should encourage and provide opportunities for males to give instrumental support, such as volunteering or emotional support, such as checking in on friends and family. Doing so may lead men to perceive closer, more meaningful relationships with others, a hallmark of PTG (Tedeschi & Calhoun, 2004).

## CONCLUSIONS

The findings of the present study suggested that there was an association between social support and PTG in young adults. The primary research question in this study addressed the relative salience of various dimensions of social support for PTG, including the direction of support (i.e., giving or receiving) and the type of support (i.e., emotional or instrumental). The results showed that receiving emotional support, giving instrumental support, and receiving instrumental support were predictive of PTG, whereas giving emotional support was not. Giving emotional support may require too many resources for young adults going through a trauma, such as the COVID-19 pandemic, and therefore may not be a critical factor in their growth following the trauma. The secondary research question addresses whether there were gender differences in the relation between social support and PTG (e.g., Cohen-Louck, 2022; García, 2022; Vishnevsky et al., 2010, Tamres et al., 2002, McLean et al., 2022). Results were consistent across genders, except that receiving instrumental support was a significant predictor of PTG for females but not males. Gender stereotypes associated with males receiving support may explain why receiving instrumental support was not important for males' coping with the pandemic. Overall, findings from this study inform research on the nuanced associations between various forms of support and PTG. Findings help practitioners discern the constellation of support that may best support young adults' growth following experiences of trauma.

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APPENDIX A

**Table 1**

*Descriptive Statistics and Correlations for Study Variables*

	1	2	3	4	5	6	7	8	9	10	11	12
Predictor Variables												
1. Giving emotional	--	.53***	.64***	.53***	.10***	.2***	-.03	.18***	-.03	-.06**	.12***	-.08**
2. Receiving Emotional		--	.43***	.60***	.14***	.14***	.01	.14***	-.11**	-.06**	.01	-.10**
3. Giving instrumental			--	.50***	.16***	.12***	.01	.13***	.01	-.02	.08***	-.03
4. Receiving instrumental				--	.11***	.16***	-.08**	.14***	-.14**	-.14**	-.002	-.10**
Dependent Variable												
5. PTG					--	-.07**	-0.03	.031	.23***	.18***	.08***	.17***
Control Variables												
6. College						--	-.24**	.06**	-.02	-.18**	.28***	-.06**
7. Employed							--	.08***	-.05*	.20***	-.13**	-.04*
8. Gender								--	.06**	.02	.07**	.06**
Adaptation challenges												
9. Family									--	.28***	.28***	.29***
10. Work										--	.13***	.22***
11. School											--	.16***
12. Friends												--
<i>M</i>	4.10	4.00	3.92	3.90	3.1	.86	.41	3.70	2.69	2.93	3.55	2.69
<i>SD</i>	.81	.98	.82	.96	1.25	.35	.49	.48	1.29	1.26	1.25	1.25
Skewness	-.87	-.60	-.48	-.64	.02	-2	.19	.40	.11	.15	-.69	.16
Kurtosis	.17	-.60	-.06	-.21	-.81	2.02	-1.97	-1.80	-1.04	-1.23	-.33	-1.07
Alphas	.84	.85	.79	.76	.90	--	--	--	--	--	--	--

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

**Table 2***Gender Correlations*

Variable	1	2	3	4	5	6	7	8	9	10
Males and Females										
1. Giving emotional	--	.55**	.65**	.52**	.07*	.15**	-.04	-.04	.08*	-.08*
2. Receiving emotional	.46**	--	.49**	.57**	.12**	.13**	.02	-.06	.01	-.04
3. Giving instrumental	.59**	.33**	--	.53**	.12**	.10**	.00	-.01	.07*	-.03
4. Receiving instrumental	.46**	.58**	.43**	--	.06	.15**	-.09*	-.13**	.02	-.10**
5. PTG	.16**	.17**	.21**	.15**	--	-.09*	-.01	.35**	.16**	.27**
Controls										
6. College	.13**	.07*	.05	.08**	-.05	--	-.23**	-.08*	.20**	-.09*
7. Employed	.01	.03	.03	-.06*	-.06*	-.23**	--	-.03	-.12**	-.03
Adaptation challenges										
8. Family	-.03	-.17**	.03	-.17**	.15**	.06*	-.09**	--	.28**	.39**
9. School	.09**	-.06*	.03	-.08**	.02	.35**	-.13**	.31**	--	.22**
10. Friend	-.07*	-.16**	-.02	-.11**	.10**	-.04	-.07*	.23**	.12**	--
Male <i>M</i>	3.90	3.72	3.73	3.75	3.09	.84	.47	2.69	3.57	2.65
Male <i>SD</i>	.91	1.04	.81	.93	1.25	.37	.50	1.30	1.18	1.31
Female <i>M</i>	4.22	4.02	3.94	4.01	3.17	0.88	.55	2.84	3.73	2.80
Female <i>SD</i>	.80	.97	.81	.88	1.21	.32	.50	1.24	1.15	1.26

*Note.* Correlations for males are above the diagonal and females are below

**Table 3***Parameter Estimates for the Stepwise Regression PTG*

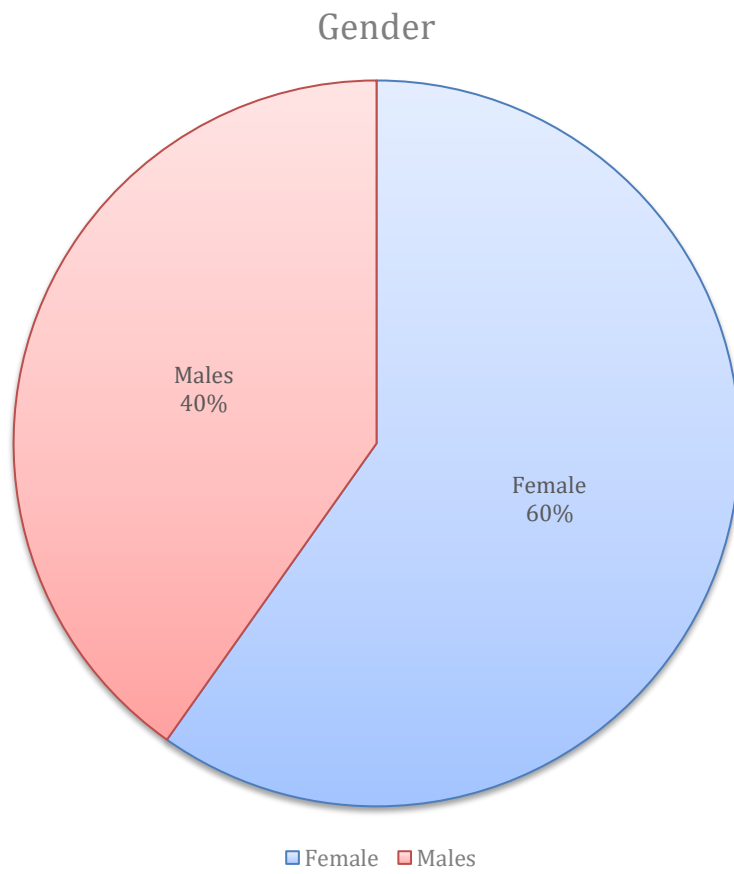
Variable	<i>b (SE)</i>	$\beta$	p	<i>b (SE)</i>	$\beta$	p	<i>b (SE)</i>	$\beta$	p
	Full sample			Males			Females		
<b>Control Variables</b>									
College	-0.25(.08)	-.07	<.001	--	--	--	-0.24(.12)	-.06	.038
Employed	--	--	--	--	--	--	--	--	--
<b>Adaptation challenges</b>									
Family	0.18(.02)	.19	<.001	0.23(.04)	.24	<.001	0.15(.03)	.15	<.001
School	--	--	--	--	--	--	--	--	--
Friend	0.10(.02)	.11	<.001	0.13(.04)	.14	<.001	0.08(.03)	.08	.007
<b>Social Support</b>									
Giving emotional	--	---	--	--	--	--	--	--	--
Receiving emotional	0.13(.03)	.12	<.001	0.12(.05)	.09	.020	0.15(.05)	.12	<.001
Giving instrumental	0.14(.04)	.10	<.001	0.13(.06)	.08	.030	0.21(.05)	.14	<.001
Receiving instrumental	0.08(.04)	.06	.050	--	---	--	0.10(.05)	.08	.055

*Note.* The variable Adaption challenges to work was dropped from the full

APPENDIX B

**Figure 1**

*Gender Demographic*



**Figure 2**

*Race/Ethnicity Demographic*

