

The indirect effects between gratitude and forgiveness in people with an acquired physical disability: the role of posttraumatic growth

Mediacyjna rola wzrostu postraumatycznego pomiędzy wdzięcznością a przebaczeniem wśród pacjentów z nabytą niepełnosprawnością fizyczną

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Słowa kluczowe: postraumatyczny wzrost, wdzięczność, przebaczenie, nabyta niepełnosprawność fizyczna.

Abstract

Introduction: People with an acquired physical disability face different kinds of disability-related distress. Strategies for coping with wrongdoings include forgiveness. One way of dealing with hurt is through forgiveness, which can be considered at the decision-making and emotional levels. Decisional forgiveness is based on deciding not to hold a grudge against the wrongdoer. In turn, emotional forgiveness involves reformulating emotions based on anger and resentment into neutral and positive ones. Positive resources, such as gratitude and positive adaptation to disability, may facilitate dealing with hurt. **Aim of the research:** The aims of this study were to examine the link between gratitude and decisional and emotional forgiveness, and the mediating role of posttraumatic growth in people with an acquired physical disability.

Material and methods: Two hundred and sixty-seven respondents with acquired disability completed a battery of self-report questionnaires, including the Gratitude Questionnaire-6 (GQ-6), Posttraumatic Growth Inventory (PTGI), Decision to Forgive Scale (DTFS), and Emotional Forgiveness Scale (EFS). Mediation analyses were conducted using the PROCESS macro for SPSS.

Results: Gratitude and decisional ($r = 0.17, p < 0.01$) and emotional ($r = 0.12, p < 0.05$) forgiveness were positively related at the bivariate level. Posttraumatic growth was a mediator between gratitude and decisional forgiveness ($\beta = 0.16, 95\% \text{ CI } [0.09–0.22]$) and emotional forgiveness ($\beta = 0.07, 95\% \text{ CI } [0.01–0.14]$).

Conclusions: Positive resources, e.g. gratitude and posttraumatic growth, are relevant to dealing with unpleasantness and injustice related to disability through forgiveness.

Streszczenie

Wprowadzenie: Osoby z nabytą niepełnosprawnością fizyczną doświadczają różnego rodzaju przykrości związanych z niepełnosprawnością. Strategie radzenia sobie z trudnymi doświadczeniami mogą być różnorodne. Jedną z możliwości poradzenia sobie z krzywdą jest przebaczenie, które można rozpatrywać na poziomie decyzyjnym i emocjonalnym. Przebaczenie decyzyjne opiera się na podjęciu decyzji o niezwywieniu urazy wobec sprawcy krzywdy. Z kolei przebaczenie emocjonalne polega na przeformułowaniu emocji opartych na gniewie, niechęci w kierunku neutralnych i pozytywnych. Pozytywne zasoby, takie jak wdzięczność i pozytywne przystosowanie do niepełnosprawności, mogą ułatwić radzenie sobie z krzywdą. **Cel pracy:** Celem niniejszego badania było zbadanie związku między wdzięcznością a przebaczeniem decyzyjnym i emocjonalnym oraz pośredniczącej roli wzrostu pourazowego u osób z nabytą niepełnosprawnością fizyczną.

Materiał i metody: Dwustu sześćdziesięciu siedmiu respondentów z nabytą niepełnosprawnością wypełniło baterię kwestionariuszy samoopisowych, w tym Kwestionariusz Wdzięczności-6 (GQ-6), Inwentarz Wzrostu Pourazowego (PTGI), Skalę Decyzji o Przebaczeniu (DTFS) i Skalę Przebaczenia Emocjonalnego (EFS). Analizy mediacyjne przeprowadzono przy użyciu makra PROCESS dla SPSS.

Wyniki: Wdzięczność oraz przebaczenie decyzyjne ($r = 0,17, p < 0,01$) i emocjonalne ($r = 0,12, p < 0,05$) były pozytywnie powiązane na poziomie dwuwymiarowym. Wzrost pourazowy był mediatorem między wdzięcznością a przebaczeniem decyzyjnym ($\beta = 0,16, 95\% \text{ CI } [0,09–0,22]$) i emocjonalnym ($\beta = 0,07, 95\% \text{ CI } [0,01–0,14]$).

Wnioski: Pozytywne zasoby, np. wdzięczność i wzrost pourazowy, są istotne w radzeniu sobie z nieprzyjemnościami i niesprawiedliwością związaną z niepełnosprawnością poprzez przebaczenie.

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Introduction

Among people with disabilities, individuals with acquired physical disabilities, such as the spinal cord injury or amputation of a limb are given particular prominence. Acquisition of a physical disability, as an extremely stressful and traumatic life circumstance, may lead to many negative changes and psychosocial consequences, e.g. PTSD, depression, anxiety, isolation, lower quality of life [1–3].

Numerous studies have referred to acquisition of disability as a new life situation [4, 5] but few empirical studies have investigated the issue of coping with transgressions resulting from acquisition of disability [e.g. 6]. People can experience many difficulties because of their disability. Some of these difficulties arise from behavior of other people. People with acquired physical disabilities complain about abandonment by their loved ones, derision, losing a job [7]. What resources can help them deal with these hurts? Recent studies have shown that forgiveness is a way to deal with harm from other people, and that positive resources help to do so [8].

In our study, we examined the link between gratitude as a positive resource and forgiveness, and we included the question of how this link may be mediated by posttraumatic growth as positive adaptation to disability. This was intended to give a broader picture of the role of gratitude and posttraumatic growth in dealing with the hurts.

Decisional and emotional forgiveness

Individuals with acquired disabilities often have to deal with different hurtful events. They complain about lack of support if not abandonment by their loved ones, such as their spouses, siblings etc., being laughed at by others or about losing a job [9]. One of the responses to the harm experienced is forgiveness [7]. Previous studies indicated that forgiveness effectively supported dealing with different offences. Several scholars [10, 11] indicated that the process of forgiveness is analogous to that proposed in the Lazarus and Folkman's transactional model of stress and coping theory [12]. The offences provoke a stress response in victims. People seek various ways of reducing the stress response, and forgiveness is one of it. Worthington and Scherer [11] indicated two distinct types of forgiveness: decisional and emotional forgiveness. Decisional forgiveness refers to the victim's intention to control negative behavior towards the transgressor such as avoiding, taking revenge, expressing anger and treating the wrongdoer with respect [11]. Emotional forgiveness refers to emotions that the offended person experiences towards the wrongdoer. The victim may feel anger, hostility or even hatred towards the transgressor. Reduction of negative emotions towards the wrongdoer to neutral and emergence of positive ones, such as compas-

sion, mercifulness or even love, will support emotional forgiveness [11].

Several researchers have begun to examine how positive resources might promote decisional and emotional forgiveness and mitigate the effects of harm [e.g. 8, 13]. To date, research results have indicated that belief in just world for oneself and growth beliefs [14], empathy and life satisfaction [13] were positively related to decisional forgiveness. Regardless of emotional forgiveness, the studies showed that gratitude, relationship with a partner [8], honesty-humility [15] were positively related with emotional forgiveness.

The present study focused on gratitude and posttraumatic growth as personal, positive resources, which help one cope with the hurts.

Gratitude

Gratitude is conceptualized both as an emotion, and disposition to prosocial behavior towards others. McCullough *et al.* [16] defined gratitude as a moral affect, a moral barometer which promotes prosocial behavior towards the beneficiary or a third party. Prosocial function of gratitude was shown by Fredrickson's the broaden-and-build theory [17]. The thought/action tendency sparked by gratitude is an incentive to behave prosocially towards others. Additionally, gratitude gives another possibility to answer to harmful rather than tit-for-tat behavior. Gratitude builds and broadens psychological resources, for example cognitive flexibility by reinforcing creative modes of acting in different situations. Gratitude, by building and broadening the momentary thought/action tendency, leads to permanent rebuilding of resources related to coping with a difficult situation [18].

Thankfulness can help better adapt to traumatic and irreversible situations, which surely is acquisition of a disability, as well as face different kinds of injustice from others resulting from being a disabled person. Gratitude facilitates changes in self-perception and in relations with others, and further leads to effective coping with subsequent offences through forgiveness. Previous studies showed positive relationships between gratitude and forgiveness [19]. For example, data obtained from couples showed that decisional and emotional forgiveness had a mediating role in the link between gratitude and relationship satisfaction [8].

Posttraumatic growth in acquisition of a physical disability

The posttraumatic growth (PTG) is defined as positive life changes following traumatic events – “the frightening and confusing aftermath of trauma, where fundamental assumptions are severely challenged, can be fertile ground for unexpected outcomes that can be observed in survivors: posttraumatic growth” [20]. Previous studies of people with a spinal cord injury or

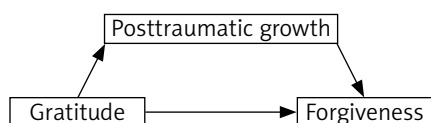


Figure 1. The hypothesized mediation model with PTG as a mediator of the link between gratitude and forgiveness

other type of acquired disability showed that PTG is a form of adaptation to a difficult situation, which is an acquired disability [4, 21–24]. PTG promotes development and allows not to get stuck in one's trauma. It broadens the way we think about our lives, giving new meaning to various events.

Many researchers have focused on variables that hinder or facilitate posttraumatic growth as a result of an experienced traumatic [25]. However, only few have focused on the benefits or difficulties individuals have to face due to PTG. For example, Hamama and Sharon [26] showed that PTG favors subjective well-being among caregivers of chronic patients. In addition, many positive outcomes have been associated with PTG, for example it broadens the way of thinking about one's own life and gives new meaning to various events. PTG promotes development and helps avoid getting stuck in one's trauma. Thus, people with positive growth after a disabling injury have many positive markers favoring engagement in effective coping activities aimed at better functioning.

To date, studies have failed to include PTG as a mediator and predictor of forgiveness. Taking primarily theoretical assumptions into account, we assumed that PTG may mediate the relationship between gratitude and forgiveness. PTG can also be a positive resource allowing people with acquired physical disabilities to function better. Previous studies have shown a relationship between disposition towards gratitude and posttraumatic growth. For example, Ruini and Vescovelli [27] found that gratitude showed an association with PTG in a sample of breast cancer patients. Although studies have confirmed the relationship between gratitude and PTG, to the best of our knowledge it has not been examined among people with acquired disabilities, nor has it been examined as a predictor of forgiveness.

Aim of the research

The aim of the present study was to examine the link between gratitude and decisional and emotional forgiveness, and the mediating role of the PTG in the relationship between gratitude and decisional and emotional forgiveness in people with acquired physical disabilities.

Due to prosocial nature of thankfulness, and its increasing effect on cognitive flexibility, it may be assumed that it facilitates PTG and makes people with disabilities function more effectively. This may be manifested in an effective response to hurt, e.g. in

forgiveness. Therefore, we hypothesized that gratitude will have a positive link with both decisional and emotional forgiveness in people with an acquired physical disability (H1). PTG was hypothesized to mediate the indirect effect of gratitude on decisional and emotional forgiveness (H2). We expected, in line with previous studies, that PTG would enhance the relationship between gratitude and forgiveness (Figure 1).

Material and methods

Participants

Data were collected from 267 (144 males – 53.9% and 123 females – 46.1%) persons with physical disabilities (spinal cord injury or limb amputation, or both). They were aged 17–79 years ($M = 40.47$, $SD = 11.58$). The majority of respondents had a close relationship – they were married (44.9%) or in a romantic relationship (6%), while 34.8% were single, 11.6% widowed, and 2.6% divorced. Their education levels ranged from primary education (8.6%), through vocational (24.3%), secondary (34.8%), college (12.0%) to higher education (20.2%). Finally, 56.6% were unemployed, whereas 43.4% of respondents were active on the labor market having a full-time, part-time job or a contract work. Trained interviewers (employees or psychology students) conducted the study at rehabilitation clinics. The participants were given information about the study's objective. All participants provided informed consent to participate in the study. Participation was voluntary (with no remuneration). Participants received paper-and-pencil questionnaires, answered them in private, and returned them when finished. Participants who expressed willingness were assisted by the interviewer. The research was carried out in 2019.

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Jan Kochanowski University in Kielce, Poland, and with the 1964 Declaration of Helsinki and its later amendments or comparable ethical standards.

Measures

Gratitude

To measure gratitude, we used the Polish version by Gratitude Questionnaire-6 (GQ-6) [28, 29]. Participants rated the six items on a 1 (strongly disagree) to 7 (strongly agree) Likert-scale. Responses to particular items were summed to obtain a scale score. Cronbach's α was 0.70.

Posttraumatic growth

To measure posttraumatic growth, we used the Post-Traumatic Growth Inventory (PTGI) [30, 31]. PTGI consists of 21 items and four subscales: 1) changes in self-perception (CHSP) (9 items; Cronbach's

Table 1. Correlations between study variables and Cronbach's α coefficient

Variable	1	2	3	4	5	6
1 Gratitude	–					
2 Posttraumatic growth	0.48**	–				
3 Emotional forgiveness	0.13*	0.19**	–			
4 Emotional forgiveness – presence of positive emotions	0.03	0.06	0.74***	–		
5 Emotional forgiveness – reduction of negative emotions	0.15*	0.21**	0.65***	0.03	–	
6 Decisional forgiveness	0.17**	0.34**	0.39**	0.36**	0.17**	–
Cronbach's α coefficient	0.70	0.98	0.76	0.85	0.74	0.92

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

$\alpha = 0.87$); 2) changes in relations to others (CHRO) (7 items; Cronbach's $\alpha = 0.85$); 3) appreciation of life (AL) (3 items, Cronbach's $\alpha = 0.73$); and 4) spiritual change (SCH) (2 items; Cronbach's $\alpha = 0.63$). Cronbach's α for all PTGI items was 0.98. PTGI items were rated using a five-point scale (from 'I did not experience this as a result of my crisis', to 'I experienced this change to a large extent as a result of my crisis').

Forgiveness

Decisional forgiveness was measured with the Polish version of the Decision to Forgive Scale (DTFS) [32, 33]. The scale allows to assess a victim's level of decisional forgiveness of one specific offense. The DTFS consists of five items rated using a five-point scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In the present study, Cronbach's α for DTFS was 0.92.

Emotional forgiveness was measured using the Polish version of the Emotional Forgiveness Scale (EFS) [33, 34]. The scale measures the intensity of emotional forgiveness in relation to a particular offense. EFS consists of eight items rated by participants on a five-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). The EFS has two four-item subscales measuring presence of positive emotions towards the transgressor and reduction of negative feelings towards the wrongdoer. The higher the score in each subscale, the more forgiving the person is. For the current sample, Cronbach's α coefficients for the EFS and subscales were 0.76 for the full scale, 0.85 for the Presence of Positive Emotion subscale, and 0.74 for the Reduction of Negative Emotion subscale.

Statistical analysis

We used a two-stage analysis. The first stage included the determination of Pearson's correlation coefficients as performed in IBM SPSS Statistics 23. The hypothesized mediation models were tested using the PROCESS macro for SPSS by bootstrapping of 5000 subsamples at a confidence interval of 95%. PROCESS allows to test not only the indirect rela-

tionship, but also the direct relationships between the constructs. The mediation effects of time perspective on the relationship between PTG and emotional and decisional forgiveness were assessed. There were no missing data.

Results

Basic relationship posttraumatic growth, time perspective, decisional forgiveness and emotional forgiveness

The bivariate correlations (Pearson r 's) between key variables are presented in Table 1. The correlations revealed significant associations between variables. Specifically, a positive relationship was found between gratitude and posttraumatic growth. Further, gratitude displayed a significant and positive relationship with decisional forgiveness, emotional forgiveness and reduction of negative emotions. Finally, PTG showed a positive correlation with decisional forgiveness, emotional forgiveness and reduced of negative emotions.

The indirect effect

To test H2 for the mediating role of PTG between gratitude and decisional and emotional forgiveness, we conducted mediation analyses using PROCESS (model 4). In this model, gratitude was a predictor, decisional and emotional forgiveness were the outcomes of variables, and posttraumatic growth was the mediator.

Gratitude was found to predict both decisional and emotional forgiveness (total score, and reduction of negative emotional forgiveness), as well as posttraumatic growth. We designed four mediation models. We used age and gender as covariants. We used standardized outcomes.

Multiple mediation analyses showed that the total indirect effect of gratitude on decisional forgiveness through PTG was significant ($\beta = 0.16$, 95% CI [0.09–0.22]). Gratitude was positively related with PTG ($\beta = 0.48$, $p < 0.001$). The total effect (TE) of gratitude on decisional forgiveness ($\beta = 0.17$, $p < 0.05$) was reduced

Table 2. Standardized coefficients for simple mediation models examining association between gratitude and (decisional and emotional) forgiveness through PTG

Dependent variablew	Effect of IV on M	Effect of M on DV	Direct effect	Indirect effect	Total effect
Decisional forgiveness	0.48***	0.33***	0.01	0.16 [0.09 0.22]	0.17*
Emotional forgiveness	0.48***	0.15**	0.05	0.07 [0.01 0.14]	0.12*
Emotional forgiveness – reduction of negative emotions	0.48***	0.18**	0.07	0.08 [0.01 0.16]	0.15*

IV – gratitude; DV – forgiveness; M – PTG; italicized confidence intervals do not include a zero, indicating a significant indirect effect; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

to non-significant with the inclusion of the mediator (DE $\beta = 0.01$, $p < 0.88$), indicating full mediation via PTG. The mediation model explained 12% of decisional forgiveness ($F(244.4) = 8.858$, $p < 0.001$) (Table 2).

The total indirect effect of gratitude on emotional forgiveness (total score) via PTG was found to be significant ($\beta = 0.07$, 95% CI [0.01–0.14]). Gratitude had a significant total effect on emotional forgiveness ($\beta = 0.12$, $p < 0.05$). With the addition of PTG to the model, the direct effect decreased and was insignificant ($\beta = 0.05$, $p = 0.48$) indicating full mediation via PTG ($\beta = 0.15$, $p < 0.01$). The mediation model explained 4% of emotional forgiveness ($F(244.4) = 2.47$; $p < 0.05$).

Similar effect was reported in case of reduced of negative emotional forgiveness. The total indirect effect of gratitude on reduced of negative emotional forgiveness via PTG was significant ($\beta = 0.08$, 95% CI [0.01–0.16]). Gratitude had a significant total effect on emotional forgiveness – reduced of negative emotions ($\beta = 0.15$, $p < 0.05$). With the addition of PTG to the model, direct effect decreased and was not significant ($\beta = 0.07$, $p = 0.32$) indicating full mediation via PTG ($\beta = 0.18$, $p < 0.01$). The mediation model explained 6% of emotional forgiveness – reduced of negative emotions ($F(244.4) = 3.73$; $p < 0.001$).

Discussion

We examined the relationship between gratitude and decisional and emotional forgiveness in people with physical disabilities, taking into account the mediating role of posttraumatic growth. The results of our study suggest that PTG may explain the positive link between gratitude and decisional and emotional forgiveness. To the best of our knowledge, the present study has been the first to examine emotional and decisional forgiveness as a strategy to cope with offense experienced after acquisition of a physical disability.

Our results mostly confirmed our first hypothesis and showed a significant link between dispositional gratitude and decisional and emotional forgiveness (total scores, and reduced unforgiveness). Previous studies have supported this hypothesis. For example Wu *et al.* [8] found a positive link between gratitude and emotional and decisional forgiveness, however the primary aim of the study was to indicate the mediating role of decisional and emotional

forgiveness between gratitude and satisfaction with a relationship. Our hypothesis regarding relationships between gratitude and decisional and emotional forgiveness was based on Fredrickson's broaden-and-build theory [18]. Gratitude as well as the general tendency to express thankfulness may broaden an individual's view of current circumstances showing that the response to the transgression may be making an individual to forgive and reducing negative emotions towards the offender. Disability-related offences, such as ridicule and abandonment, are seen as forgivable.

Additionally, our results showing that individuals who are thankful make the decision to forgive and transform emotions towards the offender from negative to more neutral ones, are consistent with understanding of the prosocial function of grateful disposition [16]. The prosocial nature of gratitude implies that dispositionally grateful persons attribute, at least partially, to others a contribution to the good they experience. Such an attitude encourages prosocial behavior towards others, also after experiencing wrongdoing from others.

Our results have also confirmed H2 assuming the mediating role of PTG in the relationship between gratitude and forgiveness. The results show that by enhancing PTG, gratitude facilitates forgiveness. People who are thankful in the light of posttraumatic growth, feel the strongest emotional and decisional forgiveness towards their offenders. These relationships can be understood in the context of Tedeschi and Calhoun's model of PTG [34]. PTG may lead to integration affect, recognition and acceptance of limitation. This positive adaptation may be "a springboard" involving further positive responses. The previous study showed the relationship between forgiveness and posttraumatic growth in bereaved women [35]. They found a positive relation between forgiveness of God, of self and total scores and posttraumatic growth, but an insignificant relation in case of forgiveness of others and PTG. However, our study has shown a predictive and mediating role of PTG to forgiveness, which has not been examined in a sample of people with acquired disabilities or any other population. Our results suggested that individuals with physical disabilities who are more thankful and more likely to experience PTG decide to forgive and reduce negative emotions towards the wrongdoer.

Both gratitude and posttraumatic growth evince a more flexible cognitive process, which favors forgiveness. Additionally, gratitude and PTG may enhance reduction of negative emotional (and decisional) unforgiveness by enabling the individuals to free their negative emotions, thoughts, and behaviors and focus on positive strategies to bypass negative emotions. This is in line with the broaden-and-build theory. Gratitude broadens the thought action tendency; when linked with PTG, it leads to effective coping [18]. Once individuals become disabled, they face many difficult behaviors from other people. Thanks to positive resources and development orientation, they can be forgiven. Forgiveness as one possible way of responding to the harm enables one to go beyond and not get stuck in the harm. The previous studies indicated that forgiveness, both decisional and emotional, is an effective strategy to cope with interpersonal offences [10, 36], and that positive resources, for example gratitude or posttraumatic growth, support the coping process through more flexible cognition and better emotion regulation [18]. Our results indicated that positive resources are the antecedents of forgiveness.

The current study might also help indicate therapeutic activities for people with disabilities. Focusing on positive resources and strengthening them during therapy can be an effective tool facilitating coping with various disability-related offence and injustice.

The present study is not free from limitations. Firstly, our study has a cross-sectional design and does not allow to draw any causal conclusions. Longitudinal studies would provide a better insight into gratitude, PTG and decisional and emotional forgiveness among individuals with acquired physical disabilities. We would recommend future studies use longitudinal designs to examine the process between positive resources and forgiveness.

Secondly, we use only self-report measures, which are not ideal and have potential confounders, such as recall bias and impression management. These results might be influenced by socially desirable response tendencies.

Thirdly, the transgressions indicated by respondents, were not homogeneous. Different types of hurts are likely to influence the process of forgiveness differently.

Despite the above limitations, the present study adds to the growing body of research on rehabilitation psychology and therapeutic indicators for working with people with acquired physical disabilities. To the best of our knowledge, this has been the first study addressing the mediating role of PTG between gratitude and forgiveness among people with disabilities.

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Ethical approval

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Conflict of interest

The authors declare no conflict of interest.

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