Published in final edited form as:

J Adolesc. 2016 June ; 49: 47–50. doi:10.1016/j.adolescence.2016.02.007.

Benefit Finding and Identity Processes in Type 1 Diabetes: Prospective Associations throughout Adolescence

Koen Luyckx

KU Leuven, Belgium

Meagan A. Ramsey, Caitlin S. Kelly

University of Utah, Salt Lake City

Deborah J. Wiebe, Daniel Mello

University of California, Merced

Leen Oris, Sofie Prikken, Margaux Verschueren

KU Leuven, Belgium

Cynthia A. Berg

University of Utah, Salt Lake City

Abstract

Identity formation constitutes a core developmental task during adolescence, but may be challenged when having a chronic illness such as type 1 diabetes. The present study examined whether viewing positive benefits to one's diabetes across adolescence was related to greater identity exploration and commitment later in time. A total of 55 adolescents (10–14 years; 47% female) with type 1 diabetes participated in a six-wave study spanning 3 years (with six-month measurement intervals). Through latent growth curve modeling, Time 6 identity scores were regressed on intercept and slope terms of benefit finding through Times 1–4, simultaneously controlling for demographic and clinical variables. Identity exploration (but not commitment) at Time 6 was positively predicted by the intercept and slope of benefit finding: adolescents who find benefits in diabetes are more inclined to explore different alternatives later on in adolescence. Benefit finding may constitute a resource facilitating identity formation in adolescents with diabetes.

Keywords

benefit finding; identity; exploration; adolescence; diabetes

Correspondence to Koen Luyckx, KU Leuven, School Psychology and Child and Adolescent Development, Tiensestraat 102, 3000 Leuven, Belgium. Koen.Luyckx@ppw.kuleuven.be.

Publisher's Disclaimer: This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Engaging in identity exploration enables adolescents to prepare themselves for committing to adult social roles (Kroger & Marcia, 2011). Previous research has demonstrated that adolescents with type 1 diabetes engage less in exploration compared to their peers (Luyckx et al., 2008). The chronicity of type 1 diabetes coupled with the intensive daily management (monitoring of blood glucose levels, insulin administration, diet, exercise) may interfere with identity-related work. Adolescents with diabetes may be less inclined to explore alternatives because of perceived restrictions on future possibilities due to their illness (Seiffge-Krenke, 2001). However, identity processes may be facilitated if adolescents can find meaning in diabetes, viewing the illness as consistent with personal growth. If adolescents can see benefits to the experience of diabetes, exploration and commitment may indeed be fostered.

Benefit finding refers to individual differences in perceiving positive life changes resulting from adversity and negative life stressors (Aspinwall & Tedeschi, 2010; Helgeson, Reynolds, & Tomich, 2006). Such positive changes may manifest themselves in having a more meaningful worldview or positive view of the self and feeling strengthened as a person (Tedeschi & Calhoun, 2004). Besides constituting a resource for adapting to adversity, some argue benefit finding is primarily a cognitive defense mechanism to cope with negative emotions. People may experience benefit finding as a result of chronic illness such as diabetes as well (Tran, Wiebe, Fortenberry, Butler, & Berg, 2011). Experiencing benefit finding in the context of diabetes may enable adolescents to feel strengthened in tackling the normative identity task. The present secondary analysis of a six-wave longitudinal study examined how finding benefits across adolescence related to identity exploration and commitment later in time.

Adolescents with diabetes who experience benefit finding over time as a result of their illness may feel strengthened in exploring alternatives later on in adolescence. Given that identity exploration – and not commitment – has been found to be affected by type 1 diabetes (Luyckx et al., 2008; Seiffge-Krenke, 2001), we expected benefit finding to be associated especially with exploration. Adolescents experiencing benefit finding may perceive fewer restrictions on their future due to their illness and feel more competent in exploring alternatives. A new sense of purpose may emerge through benefit finding, which may lead to an active engagement in exploring and developing an identity. Benefit finding has been related to less depressive symptoms and better coping strategies and treatment adherence in adolescents with diabetes (Tran et al., 2011). However, the value of benefit finding toward identity remains to be investigated.

In sum, experiencing benefit finding throughout adolescence was hypothesized to function as a resource for engaging in identity exploration for individuals with type 1 diabetes. In examining these associations, we controlled for demographic (age, gender), diabetes-related factors (illness duration, insulin administration via pump vs. injections, glycemic control-values), and depressive symptoms at baseline, as these variables have been related to identity and self-related variables (Luyckx et al., 2008; Seiffge-Krenke, 2001; Tran et al., 2011).

Methods

Participants and Procedure

Fifty-five adolescents with Type 1 diabetes (47% female; 93% Caucasian) ages 10–14 ($M=13.49$, $SD=1.46$) participated in a 6-wave longitudinal study spanning 3 years. Six-month time intervals were chosen to capture dynamic changes over time. At T(ime)1, mean illness duration was 5.08 years ($SD=3.02$) and 55% used an insulin pump. This sample came from a larger study of 252 adolescents, and is comprised of participants who completed the identity measure at T6 (one year after T4). This sample did not differ from the larger sample on sex, ethnicity, illness duration, pump status, or glycemic control at T1, but was older compared to the larger sample ($M=12.21$, $SD=1.43$) ($F(250)=.29$, $p<.001$), as older adolescents were targeted for the identity measure. The study was IRB approved. Parents gave written informed consent and adolescents gave written assent (see Tran et al., 2011).

Measures

Benefit finding.—At T1 through T4, adolescents completed a 15-item measure of benefit finding (Tomich & Helgeson, 2004). A sample item is: “Having diabetes has led me to be more accepting of things” on a 5-point scale from 1 (not at all) to 5 (extremely). Internal consistency was good at all times ($\alpha=.89-.94$).

Identity processes.—At T6, adolescents completed the Ego Identity Process Questionnaire (Balistreri, Busch-Rossnagel, & Geisinger, 1995), assessing commitment (16 items; $\alpha=.77$) and exploration (16 items; $\alpha=.68$). Sample items are: “I don’t expect to change my political principles and ideals” (commitment) and “I have consistently reexamined many different values in order to find the ones which are best for me” (exploration) using a 6-point Likert scale from 1 (not true of me) to 6 (exactly true of me).

Depressive symptoms.—At T1, adolescents completed the Children’s Depression Inventory (CDI; Kovacs, 1985). This 27-item measure indicated the extent to which adolescents experienced depressive symptoms during the past two weeks ($\alpha=.84$).

Results

Latent Growth Curve Modeling (LGCM) in MPLUS 6 was used to examine how intercept and linear slope of benefit finding at T1–4 predicted exploration and commitment at T6. The path from the linear slope to benefit finding T1 was fixed to 0. Subsequent linear slope pattern coefficients were fixed at 1, 2, and 3 for T2, T3, and T4. For our 55 participants, a non-significant Little’s (1988) MCAR test ($\chi^2(33)=27.39$, ns) indicated that missing values could be reliably dealt with using FIML. To examine the unique predictive value of benefit finding, exploration and commitment at T6 were regressed on the intercept and slope of benefit finding when simultaneously regressing the identity variables on sex, age, illness duration, pump status (insulin injections vs. pump), glycemic control (with higher HbA_{1c}-values pointing to poorer glycemic control), and depressive symptoms at T1. LGCM was accompanied by good model fit ($\chi^2(21)=27.20$ ($p=.16$), RMSEA=.073, SRMR=.054,

CFI=.940) (Kline, 2006). For benefit finding, mean intercept was 3.043 ($p<.001$) and mean slope was -0.036 (ns), pointing to no significant mean-level change over time; variances were 0.490 ($p<.001$) and 0.037 ($p<.10$), respectively, pointing to individual differences in intercept and slope. Table 1 presents all standardized coefficients for the paths from all control variables at T1 and from the intercept and slope of benefit finding at T1–4 toward exploration and commitment at T6. Greater commitment was associated with lower depressive symptoms. Exploration was positively associated with the intercept and slope of benefit finding: higher initial levels and increases of benefit finding were associated with greater exploration (analyses without the control variables at T1 resulted in virtually identical findings).

Discussion

Identity exploration may prove challenging for adolescents with type 1 diabetes (Seiffge-Krenke, 2001). The present results indicated that if adolescents experienced benefits because of their diabetes, they were more inclined to explore alternatives later on in adolescence. Not only was the initial level of benefit finding associated with subsequent exploration, the rate of change of benefit finding over time was positively associated with exploration as well. These associations were obtained when controlling for age, sex, illness duration, pump status, and baseline glycemic control-values and depressive symptoms, testifying to the fact that there is something specific about finding meaning in diabetes that is beneficial for identity processes. Benefit finding reflects a process of personal growth and adaptation through which a new sense of meaning may emerge, enabling individuals confronted with a chronic illness to engage in identity exploration (Tran et al., 2011). Future research should focus on other chronic illnesses – and, by extension, other stressors and adverse events – as well to examine whether similar associations linking benefit finding to identity exploration would emerge.

With respect to commitment, neither the intercept nor slope of benefit finding was associated with commitment above and beyond our control variables. However, given that previous research has found that exploration – and not so much commitment – seemed to be affected by diabetes (Luyckx et al., 2008; Seiffge-Krenke, 2001), the pattern of results underscores the importance of assessing benefit finding in diabetes (Tran et al., 2011). Benefit finding may help “adolescents to see a future unhindered by diabetes, and to select and pursue life goals that are compatible with or even enhanced by their illness” (Tran et al., 2011, p.218). Future research should try to establish the clinical utility of benefit finding in this challenging life phase (Meyerson et al., 2011). Orienting adolescents toward finding meaning and possible benefits of their diabetes by parents and healthcare professionals may facilitate identity processes.

Several limitations need to be mentioned. First, as the sample was small and primarily middle-class and Caucasian, results may not generalize to more diverse samples. Further, the sample was fairly young (as identity formation continues throughout emerging adulthood) and future research should examine whether similar associations emerge in late adolescents and emerging adults. Second, although the study variables capture internal processes and are best assessed using self-reports, the use of a single informant may have inflated associations.

Benefit finding can be assessed in a number of ways, including the employed self-report method, as well as via narrative and open-ended methods. Third, although the longitudinal design is a strength, causal associations cannot be inferred. It is possible that individual differences in introspective cognitive capacities contribute to higher benefit finding and exploration.

Acknowledgement:

This research was supported by the National Institute of Diabetes and Digestive and Kidney Diseases at the National Institutes of Health (grant number R01DK092939, co-PIs Berg and Wiebe). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institute of Diabetes and Digestive and Kidney Diseases or the National Institutes of Health.

References

- Aspinwall LG, & Tedeschi RG (2010). The value of positive psychology for health psychology: Progress and pitfalls in examining the relation of positive phenomena to health. *Annals of Behavioral Medicine*, 39, 4–15. [PubMed: 20091429]
- Balistreri E, Busch-Rossnagel NA, & Geisinger KF (1995). Development and preliminary validation of the Ego Identity Process Questionnaire. *Journal of Adolescence*, 18, 179–192.
- Helgeson VS, Reynolds KA, & Tomich PL (2006). A meta-analytic review of benefit finding and growth. *Journal of Consulting and Clinical Psychology*, 74, 797–816. [PubMed: 17032085]
- Kline RB (2006). *Principles and practices of structural equation modeling*. 2nd ed. New York: Guilford Press.
- Kovacs M (1985). The Children's Depression Inventory (CDI). *Psychopharmacology Bulletin*, 21, 995–998. [PubMed: 4089116]
- Kroger J, & Marcia JE (2011). The identity statuses: Origins, meanings, and interpretations. In Schwartz SJ, Luyckx K, & Vignoles VL (Eds.), *Handbook of identity theory and research* (pp. 31–54). New York: Springer.
- Little RJA (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association*, 83, 1198–1202.
- Luyckx K, Seiffge-Krenke I, Schwartz SJ, Goossens L, Weets I, Hendrieckx C, & Groven C (2008). Identity development, coping, and adjustment in emerging adults with a chronic illness: The sample case of type 1 diabetes. *Journal of Adolescent Health*, 43, 451–458.
- Meyerson DA, Grant KE, Carter JS, & Kilmer RP (2011). Posttraumatic growth among children and adolescents: A systematic review. *Clinical Psychology Review*, 31, 949–964. [PubMed: 21718663]
- Seiffge-Krenke I (2001). *Diabetic adolescents and their families: Stress, coping, and adaptation*. Cambridge, UK: Cambridge University Press.
- Tedeschi RG, & Calhoun LG (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, 15, 1–18.
- Tomich PL, & Helgeson VS (2004). Is finding something good in the bad always good? Benefit finding among women with breast cancer. *Health Psychology*, 23, 16–23. [PubMed: 14756599]
- Tran V, Wiebe DJ, Fortenberry KT, Butler JM, & Berg CA (2011). Benefit finding, affective reactions to diabetes stress, and diabetes management among early adolescents. *Health Psychology*, 30, 212–219. [PubMed: 21401255]

Table 1

Standardized Path Coefficients of Latent Growth Curve Modelling on Benefit Finding T1–4 Predicting Identity Exploration and Commitment at T6 (N=55)

	Exploration T6	Commitment T6
Sex T1	.01	-.13
Age T1	.20	.04
Illness duration T1	.01	.06
Pump status T1	-.21	.07
HbA _{1c} T1	.07	-.14
Depressive symptoms T1	.19	-.37**
Intercept benefit finding T1–4	.58***	-.07
Slope benefit finding T1–4	.37 [†]	-.03

Note. Sex was dummy coded (0 = male; 1 = female). Pump status was dummy coded (0 = pump; 1 = injections).

[†] $p < .10$.

* $p < .05$.

** $p < .01$.

*** $p < .001$.