

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/349204154>

Evaluating the self-determination continuum towards seeking support among people with mild to borderline intellectual disabilities

Article in *Journal of Intellectual Disability Research* · February 2021

DOI: 10.1111/jir.12819

CITATIONS

0

READS

19

3 authors:



Noud Frielink

Tilburg University

37 PUBLICATIONS 218 CITATIONS

[SEE PROFILE](#)



Carlo Schuengel

Vrije Universiteit Amsterdam

255 PUBLICATIONS 7,177 CITATIONS

[SEE PROFILE](#)



P. J. C. M. Embregts

Tilburg University

237 PUBLICATIONS 1,660 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Generations2 [View project](#)



Mild intellectual disability & Self-Determination Theory [View project](#)

Evaluating the self-determination continuum towards seeking support among people with mild to borderline intellectual disabilities

N. Frielink,¹  C. Schuengel^{2,3}  & P. J. C. M. Embregts¹ 

¹ Department of Tranzo, Tilburg School of Social and Behavioral Sciences, Tilburg University, Tilburg, The Netherlands

² Section of Clinical Child and Family Studies, Faculty of Behavioural and Movement Sciences, Vrije Universiteit Amsterdam, Van der Boechorststraat 7, Amsterdam, Netherlands 1081 BT, The Netherlands

³ Amsterdam Public Health Research Institute, Amsterdam, The Netherlands

Abstract

Background Providing professional support for people with mild to borderline intellectual disabilities (IDs) is supposed to support their autonomous participation in society and, in turn, enhance their well-being and quality of life. However, the motivation for seeking support may differ for people with mild to borderline IDs, varying in the extent to which the person's autonomy is self-determined. The present study tested the association between different types of motivation for seeking support and well-being.

Method Adults with mild to borderline IDs ($N = 154$) participated in a cross-sectional survey. Researchers administered the Self-Regulation Questionnaire – Support – II (SRQ-S-II) and a life satisfaction questionnaire. To determine the test–retest reliability of the SRQ-S-II, 30 participants completed a follow-up questionnaire.

Results The motivations cited by people with mild to borderline IDs for seeking support ranged from amotivation to intrinsic motivation. Multiple

regression analysis indicated that the model explained 56.6% of the variance, with intrinsic motivation ($\beta = 0.361$, $P < 0.001$) and identified motivation ($\beta = 0.381$, $P = 0.001$) proving to be significant predictors in terms of explaining the highest percentage of variance in well-being. Amotivation ($\beta = -0.247$, $P = 0.004$) and introjected motivation ($\beta = -0.145$, $P = 0.03$) contributed significantly to the model with negative beta coefficients. Finally, reliability measures (Cronbach's alphas, MacDonald's omegas and test–retest reliabilities) indicated that all types of motivation for seeking support could be reliably assessed.

Conclusions The results of the present study showed that people with mild to borderline IDs displayed the full range of types of motivations for seeking support and, moreover, that it was associated with well-being. Studying these motivational states, and increasing our awareness of what motivates this population to seek support, can aid the design of more effective support that respects self-determination and well-being. The SRQ-S-II is thus an important instrument for understanding the role of support in promoting well-being.

Keywords intrinsic motivation, mild to borderline intellectual disabilities, seeking support, self-determination continuum, self-determination theory, types of motivation

Correspondence: Mr Noud Frielink, Department of Tranzo, Tilburg School of Social and Behavioral Sciences, Tilburg University, PO Box 90153, 5000 LE Tilburg, The Netherlands (email: n.frielink@tilburguniversity.edu).

© 2021 The Authors. Journal of Intellectual Disability Research published by MENCAP and International Association of the Scientific Study of Intellectual and Developmental Disabilities and John Wiley & Sons Ltd.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial-NoDerivs License, which permits use and distribution in any medium, provided the original work is properly cited, the use is non-commercial and no modifications or adaptations are made.

Motivation is a psychological construct that moves people to act, think and develop (Deci & Ryan 2008). Typically, motivation is considered to be a unitary construct (e.g. Bandura 1996; Baumeister & Vohs 2007), concerning the level of motivation that people have to engage in certain activities or behaviours: the stronger the motivation, the greater the achievement and the more successful one's functioning. Conversely, self-determination theory posits that it is the quality of the motivation rather than the quantity that is predictive of specific outcomes, such as psychological health, subjective well-being, and optimal and effective functioning (Deci & Ryan 2000; Ryan & Deci 2017). That is, according to self-determination theory, there are various types of motivation that differ in the extent to which the person's autonomy is self-determined and fall along a continuum of self-determination (Ryan & Connell 1989). In the case of more self-determined types of motivation, well-being is likely to be enhanced. This association has been found in both populations with and without intellectual disabilities (IDs) (e.g. Ryan & Deci 2000; Frielink *et al.* 2018). The present study tests the association between different types of motivation for support and well-being.

Self-determination theory embodies a broad framework for the study of motivation and self-determination, representing an organismic dialectical approach (Deci & Ryan 2000). In the disability field, the construct of self-determination has also received significant attention in Wehmeyer's (1992) functional model of self-determination, in which the function of self-determined behaviours for adolescents with disabilities is described, recognising the role of volitional action in enabling adolescents with disabilities to act as a causal agent in their lives. Recently, the causal agency theory (Shogren *et al.* 2015) was introduced, building on this functional model and incorporating explicit elements of self-determination theory into the theoretical framework for understanding how adolescents with and without disabilities learn and can be supported to engage in causal actions, defined by volitional and agentic action. Where causal agency theory explains the development of volitional action in adolescents with ID, the current paper employs self-determination theory to describe the type of motivation that may drive such volitional action.

According to Thompson *et al.* (2009) model of support, people with IDs frequently experience a disparity between their personal competences and environmental demands, which results in specific types and a certain intensity of support needs. Support can thus be framed as those resources and strategies that enrich human functioning (Thompson *et al.* 2009), contributing to autonomous participation in society and, potentially, enhance well-being. In the Netherlands, 142 000 people have mild IDs, most of whom receive support – at home, school, day-care centres or residential facilities (VGN 2020). Moreover, in the Netherlands, there are 1.4 million people with borderline intellectual functioning (IQ 70–85), who have comparable characteristics and support needs as those with mild IDs (Emerson *et al.* 2010; VGN 2020). On the one hand, seeking support is instrumental behaviour; that is, a way of achieving something else, such as the prevention of problems. On the other hand, seeking support is an intrinsic part of our social being, and just knowing someone can help is rewarding in its own right (Deci & Ryan 2000). Hence, various types of motivation exist for seeking support.

Self-determination theory posits a typology of motivation, based on two mini-theories. First, cognitive evaluation theory addresses intrinsic motivation, whereby we engage in an activity because it is interesting, enjoyable and satisfying (Ryan & Deci 2017). The archetype of intrinsic motivation is children's play. Cognitive evaluation theory primarily focuses on how social environments affect intrinsic motivation and examines how external (e.g. rewards) and internal (e.g. ego involvements) factors affect intrinsic motivation. Second, organismic integration theory is concerned with extrinsic motivation, whereby we perform an activity for an outcome rather than the activity itself, which is why it is also deemed to be an instrumental behaviour. There are four types of extrinsic motivation, which vary in the extent to which the person's autonomy is self-determined: external motivation, introjected motivation, identified motivation and integrated motivation (Ryan & Deci 2017). The first and least self-determined of these is external motivation, whereby people perform an activity to obey external requests, avoid punishment or accrue external rewards. Conversely, introjected motivation concerns how people can be motivated by internal coercion and urges, such as guilt, shame,

self-worth and pride. A more self-determined type of extrinsic motivation is identified motivation, in which people perform an activity because they value its importance and consider it to be beneficial for achieving their goals. Finally, integrated motivation is when people perform an activity that is consistent with their values. These types of extrinsic motivation are depicted in the self-determination continuum in Fig. 1, along with intrinsic motivation and the sixth type of motivation outlined in self-determination theory, amotivation, which pertains to the absence of an intention.

These distinct motivations are associated with different outcomes. More self-determined types of motivation (i.e. identified motivation, integrated motivation and intrinsic motivation), often referred to as autonomous motivation, are associated with an increase in life satisfaction and well-being (Ryan & Deci 2017), increased levels of physical activity (Levesque *et al.* 2007), and enhanced engagement in therapy and greater psychotherapeutic outcomes (Zuroff *et al.* 2007). Conversely, less self-determined types of motivation (i.e. external motivation and introjected motivation), often referred to as controlled motivation, are associated with negative outcomes such as psychological and physical ill-being (Ryan & Deci 2017) and depression (Levesque *et al.* 2007). Amotivation is associated with the most maladaptive outcomes (Deci & Ryan 2000).

Scarce attention has been paid to what motivates people with IDs to seek support. Understanding what

motivates this population to seek support would shed light on the role of support in self-determination and well-being (Frielink *et al.* 2018). Building on organismic integration theory, Frielink *et al.* (2017) measured four types of extrinsic motivation for seeking support amongst 186 adults with mild to borderline IDs using the Self-Regulation Questionnaire – Support (SRQ-S). Via confirmatory factor analyses, their results showed a clear distinction between the four types of extrinsic motivation. Further, the correlation coefficients supported the hypothesised quasi-simplex pattern of correlations among the types of extrinsic motivation, in which adjacent types of extrinsic motivation were found to be more related than non-adjacent types. However, regarding the reliability of the SRQ-S, Frielink *et al.* (2017) reported poor ($\alpha = 0.56$) to acceptable ($\alpha = 0.75$) Cronbach's alphas. Moreover, they did not include the outmost types of motivation of the self-determination continuum (i.e. amotivation and intrinsic motivation). Hence, the SRQ-S is only helpful for understanding the external regulation of behaviour (based on organismic integration theory), while cognitive evaluation theory, which is focused on intrinsic motivation, sheds light on the role of support in self-determination and well-being.

Therefore, building on Frielink *et al.* (2017) study, we added items to each scale that represented one of the four types of extrinsic motivation within the SRQ-S to enhance its reliability for people with mild to borderline IDs. Further, we included items

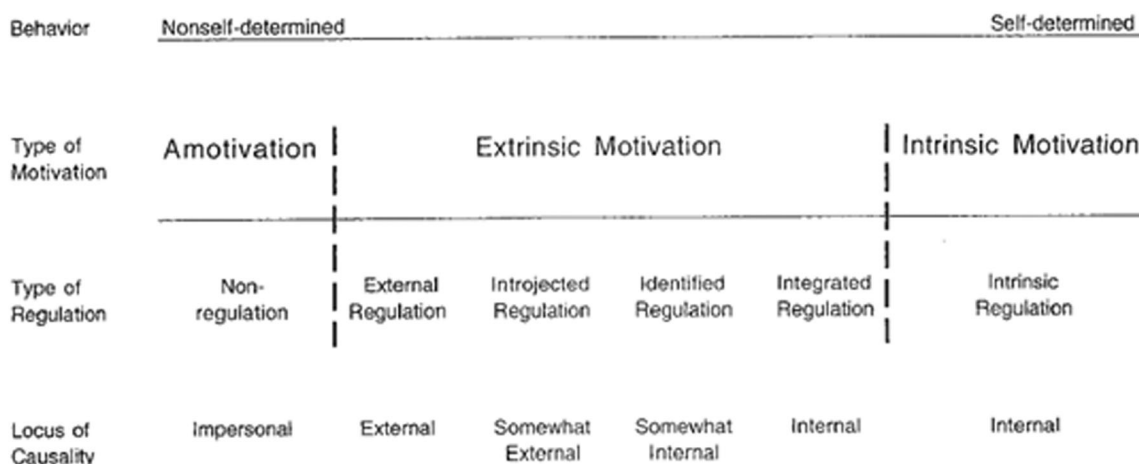


Figure 1. The self-determination continuum as described by self-determination theory, ranging from amotivation to intrinsic motivation (adopted from Deci & Ryan 2000, reprinted by permission of Taylor & Francis, LLC (<http://www.tandfonline.com>)).

representing amotivation and intrinsic motivation to the new SRQ-S (i.e. SRQ-S-II) to encompass the full self-determination continuum. The aim of this study was to examine the motivations of people with mild to borderline IDs for seeking support and to test the extent to which the full spectrum of motivations for seeking support was related to well-being.

Method

Participants

The participants were adults with mild to borderline IDs ($N = 154$), who were recruited from eight ID services in urban and rural areas in the Netherlands. The participants resided in 24-h community and residential homes, attended day-care centres or received outpatient support at their homes. The support included social participation, advocacy, monitoring of mental and physical health, and skill enhancement in household tasks, travelling independently and finances. The mean age of the participants was 45.8 years (range: 20–88; $SD = 14.5$), and 82 of them were male. Their level of intellectual functioning was assessed via their clinical files. Ninety-three participants had mild ID (IQ 50–70), while 61 were borderline intellectually functioning (IQ 71–85). People with borderline intellectual functioning were included in this study as they often share the characteristics and support needs of those with mild IDs (Emerson *et al.* 2010). Additional demographic features are presented in Table 1.

Measures

Self-regulation questionnaire – Support – II

The initial Self-Regulation Questionnaire – Support (SRQ-S) was adapted from Williams *et al.* (1996) and adjusted by Frielink *et al.* (2017) for use with people with mild to borderline IDs, focusing on their reasons for receiving support. The initial SRQ-S comprised 12 items; however, based on confirmatory factor analyses, four items were removed. This resulted in eight items, equally divided across the four scales, each representing one of the four types of extrinsic motivation (Frielink *et al.* 2017): external motivation (e.g. ‘I want to receive support because otherwise people would be mad at me’), introjected motivation (e.g. ‘I want to receive support because otherwise I

Table 1 Demographic characteristics of the 154 participants in the present study

	N	%	Mean	SD
Gender				
Male	82	53		
Female	72	47		
Age in years			45.8	14.5
20–29	21	14		
30–39	45	29		
40–49	26	17		
50 and over	62	40		
Intellectual functioning			67.0	9.2
Mild intellectual disability	93	60		
Borderline intellectual functioning	61	40		
Living condition (with or without partner)				
Living independently in community	55	36		
Living with family	6	4		
Supported housing in the community	83	54		
Supported housing in a larger institutional area	10	6		
Ethnicity				
Caucasian	149	97		
Other	5	3		

SD, standard deviation.

would feel bad about myself’), identified motivation (e.g. ‘I want to receive support because I think it’s the best way to help myself’) and integrated motivation (e.g. ‘I want to receive support because otherwise it would be difficult to achieve my goals’). All items were measured on a 5-point Likert scale (Finlay & Lyons 2001), ranging from 1 (i.e. completely untrue) to 5 (i.e. completely true). To improve comprehension for people with mild to borderline IDs, all SRQ-S items began with the stem (e.g. ‘I want to receive support because ...’ or ‘I stick to my support appointments because ...’) rather than referring to the stem at the start of the questionnaire for each item. Frielink *et al.* (2017) confirmed the four-factor structure and found the internal consistency of the SRQ-S to be $\alpha = 0.59$. The internal consistency for each type of extrinsic motivation varied from 0.56 to 0.75, while the 2-week test–retest reliability varied from 0.62 to 0.77.

Given the remit of the study, scales for amotivation and intrinsic motivation were added to the new SRQ-S-II. The amotivation scale is not included in most versions of the SRQ and is only found in a few

studies (Williams *et al.* n.d.). Levesque *et al.* (2007) examined the validity of the Treatment SRQ, differentiating between amotivation and the four types of extrinsic motivation. The three items used by Levesque *et al.* to measure amotivation (e.g. 'I really don't think about it') have been used successfully in people with mild to borderline IDs in a multiple case experimental design (Frielink *et al.* 2015), and so these items were added to the SRQ-S-II. To ensure the SRQ-S-II has the appropriate behaviour as part of the items being considered (Williams *et al.* n.d.), the amotivation items were modified to fit the context of seeking professional support. A scale measuring intrinsic motivation is also not included in most versions of SRQ (Williams *et al.* n.d.). However, the SRQ – Exercise (SRQ-E; Ryan & Connell 1989) assessed domain-specific individual differences in regulatory motivations for exercise, differentiating between three of the four types of extrinsic motivation and intrinsic motivation. The SRQ-E includes four items to measure intrinsic motivation, for example, 'I try to exercise on a regular basis because I enjoy exercising'). These items were added to the SRQ-S-II as they capture the meaning of intrinsic motivation as per self-determination theory. To ensure the items captured the appropriate behaviour, the intrinsic motivation items were modified to fit the context of seeking professional support.

Moreover, to overcome the poor to acceptable Cronbach's alphas, and to enhance the reliability of the SRQ-S-II for people with mild to borderline IDs, experimental items were added to each scale to represent one of the four types of extrinsic motivation. The SRQ-E (Ryan & Connell 1989) served as the starting point for external motivation. Two out of the four SRQ-E items on external motivation were included in the initial SRQ-S, and so the other two items were simplified to aid comprehension for people with mild to borderline IDs and modified to fit the context of seeking professional support. The item 'I try to exercise on a regular basis because I feel like I have no choice about exercising; others make me do it' became 'I want to receive support because other people think I should'. Regarding introjected motivation, the initial SRQ-S did not distinguish between the two types of introjected motivation. Rather, both items in the initial SRQ-S focus on avoiding low self-worth, whereas introjected motivation also involves attaining high self-worth

(Assor *et al.* 2009). Therefore, in line with the SRQ-E (Ryan & Connell 1989), two items pertaining to the attainment of high self-worth (e.g. 'I stick to my support appointments to prove to myself that I am not a quitter') were added to the SRQ-S-II. These items were again simplified and modified to fit the context of seeking professional support. The Treatment SRQ (Levesque *et al.* 2007) served as the starting point for identified motivation. Two of the three Treatment SRQ items on identified motivation were included in the initial SRQ-S, and so the remaining item was simplified and modified to fit the context of seeking professional support. Hence, the item 'I have agreed to follow the procedures of the programme because I believe they will help me solve my problem' became 'I stick to my support appointments because it helps me solve my problems'. Concerning integrated motivation, there were no scales available for inputting additional items. Hence, one item (i.e. 'I stick to my support appointments because it fits who I am as a person') was added to this scale.

Finally, prior to data collection, five experts by experience with mild to borderline IDs completed the SRQ-S-II. All considered the questionnaire easy to understand. Upon their recommendations, minor alternations were made to enhance clarity. The SRQ-S-II can be requested from the first author (N. F.).

Satisfaction with Life Scale

The Satisfaction with Life Scale (SWLS) (Diener *et al.* 1985) is a self-report questionnaire that measures global life satisfaction, comprising five items (e.g. 'In most ways, my life is ideal'). The psychometric properties of the SWLS for individuals with IDs have been examined, confirming its one-factor structure (Lucas-Carrasco & Salvador-Carulla 2012). Further, a good Cronbach's alpha ($\alpha = 0.79$) has been reported, while convergent validity indicated moderate to high associations with two WHOQOL-BREF items (WHOQOL Group 1998). Based on recommendations of five experts by experience, minor alterations were made to one item to enhance its clarity. Moreover, the original SWLS used a 7-point Likert scale. We reduced the response format to five response choices (Hartley & MacLean 2006), ranging from 1 (i.e. completely untrue) to 5 (i.e. completely true). The responses to

the five items were averaged, with higher scores indicating greater well-being.

Procedure

The participants received support from eight different ID services located in urban and rural areas in the Netherlands. They were recruited via two methods. First, the 186 randomly selected participants from Frielink *et al.* (2017) study were invited to participate. In total, 117 people accepted, resulting in a response rate of 62.9%. We required 150 people to conduct our analyses (Schönbrodt & Perugini 2013), and so additional participants were randomly selected from three Dutch ID services. Eligible participants had to have mild to borderline IDs, be 18 or older and have had weekly contact with support staff for at least 3 months. One hundred individuals were randomly selected from three ID services to take part, and 37 accepted the invitation. In total, 154 participants took part and gave their written informed consent.

The first author (N. F.) visited each participant at home on one or two occasions for 30 to 60 min, depending on their concentration, attention span, stamina and how well they understood the questions. The participants at times preferred other locations, such as their work or day-care centre. After a brief informal conversation to create a comfortable environment for the participant, the study's aim was explained once again, and if the participant consented to participate, a written informed consent form was completed. Based on previous experiences (Frielink *et al.* 2018), not all participants were able to read the questions themselves. To pursue the same procedure for all participants, each item was read aloud from the computer by the researcher while the participants could read along as they sat next to the researcher. During each measurement, the researcher read each question aloud. The participants verbally indicated their response by stating the number (1–5) or by using qualifiers (e.g. completely true), which the researcher logged via the online survey software QUALTRICS. If no Internet connection was available, the questionnaires were administered via pen and paper and then entered into QUALTRICS by the researcher. Whereas most participants comprehended all items and did not require any assistance when answering the items, some needed a standardised explanation of items. In the case this standardised explanation did

not ensure that the item was understood, the researcher recorded the item response as missing. The participants received a €10 voucher for participating.

To measure the 2-week test–retest reliability, 20% of the participants ($n = 30$) were randomly selected for a follow-up visit; all 30 agreed and received an additional €5 voucher.

Data analysis

The data analysis, performed using IBM SPSS for Windows (version 24), JASP software package (JASP Team 2019) and MPLUS version 8.1 (Muthén & Muthén 1998–2017), comprised five steps.

First, the latent factor structure of the SRQ-S-II was tested via confirmatory factor analyses. Three models were tested: a six-factor model in line with the self-determination continuum, which differentiated between amotivation, external motivation, introjected motivation, identified motivation, integrated motivation and intrinsic motivation (model 1; Ryan & Deci 2017); a four-factor model, which differentiated between amotivation, controlled motivation (i.e. external motivation and introjected motivation combined), autonomous motivation (i.e. identified motivation and integrated motivation combined) and intrinsic motivation (model 2; Deci & Ryan 2002); and a three-factor model that differentiated between amotivation, controlled motivation and autonomous motivation, including intrinsic motivation (model 3; Madigan *et al.* 2016). The robust maximum likelihood MLR estimator for continuous data was used. Although data were collected on a 5-point Likert scale, they were handled as continuous data because continuous MLR is deemed to be a good estimator for ordinal data with ≥ 5 categories (Rhemtulla *et al.* 2012). The model fit was examined via the normed χ^2 , the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the standardised root mean square residual (SRMR). For a good model fit, cut-off values of normed $\chi^2 < 3.00$, CFI > 0.90 , RMSEA < 0.08 and SRMR < 0.10 are required (Schweizer 2010; Kline 2011). As these traditional fit indices have limitations (i.e. they do not control for type I and II errors; Marsh *et al.* 2004), the 'detection of misspecification' procedure (Saris *et al.* 2009) was also used. To interpret the modification index test for

each restricted parameter of the model, the minimum size of the misspecification detected by the MI test with a high likelihood (i.e. power >0.80) was set at 0.10 (Saris *et al.* 2009). Hence, the modification index was used to enhance the model fit. That is, parameters that would enhance the model fit by freeing those parameters were identified. Further improvement was achieved by removing items with factor loadings <0.40 (Field 2013). Finally, to choose the best model, the Bayesian information criterion, CFI indices and χ^2 difference test were applied. Models with the lowest Bayesian information criterion are preferable, and decreases in CFI > 0.01 and non-significant increases of the χ^2 support the reduced model (Cheung & Rensvold 2002; Marsh *et al.* 2004).

Second, a quasi-simplex pattern of correlations was tested, investigating whether adjacent SRQ-S-II scales were more closely related to each other than non-adjacent scales. For instance, a large Pearson correlation coefficient is expected between amotivation and external motivation and between integrated motivation and intrinsic motivation, while a small correlation coefficient is expected between external motivation and intrinsic motivation. A correlation of $r < 0.05$ is interpreted as very small and $r = 0.10$ as small, while $r = 0.20$ is medium, $r = 0.30$ is large and $r > 0.40$ is very large (Funder & Ozer 2019). Third, descriptive statistics for the SRQ-S-II scales were calculated. Fourth, a multiple regression analysis of well-being for the six SRQ-S-II scales was conducted to measure the combined explained variance and the unique contributions of the scales to well-being. Fifth, internal reliability estimates and the test-retest reliability of the SRQ-S-II were measured. Specifically, Cronbach's alpha (α) and McDonald's

omega (ω) were computed to examine the internal reliability of the SRQ-S-II. While values of Cronbach's alpha and McDonald's omega between 0.70 and 0.80 are acceptable, values ≥ 0.80 are preferable (Field 2013). The 2-week test-retest reliability was gauged by computing Pearson correlations for the two measurements of the reinterviewed participants ($n = 30$).

Ethics approval

Ethics approval was obtained from the Ethics Committee of Tilburg University (no. EC-2017/48). The study was conducted in line with the Declaration of Helsinki and European guidelines on General Data Protection Regulation, based on the data representative of Tilburg University.

Results

Representation of the full spectrum of types of motivation for seeking support

A series of confirmatory factor analyses using MPLUS version 8.1 (Muthén & Muthén 1998–2017) were conducted to test the presence of the full spectrum of motivations for seeking support. Based on global fit measures (Table 2), the fit of model 1 was notably better than the other two models. While the χ^2 test for this model was significant and only the normed χ^2 met the recommended cut-off value, model 1 showed the best potential and thus served as the basis for further examination.

First, further improvement to the model was achieved by removing items with factor loadings <0.40 (Field 2013). Specifically, three items were removed: item 2 with a factor loading of

Table 2 Global fit measures of the three tested models regarding SRQ-S-II ($N = 154$)

Model	χ^2	d.f.	$\chi^2/d.f.$	RMSEA (90% CI)	CFI	SRMR	BIC	$\chi^2\Delta$ (d.f.) [†]
1. Six-factor model	600.83*	215	2.79	0.109 (0.099, 0.119)	0.76	0.147	6817.29	—
2. Four-factor model	684.41*	224	3.06	0.117 (0.107, 0.127)	0.71	0.150	6882.20	7.51 (9)
3. Three-factor model	692.60*	227	3.05	0.117 (0.107, 0.127)	0.71	0.150	6888.75	3.00 (5)

[†] $\chi^2\Delta$ (d.f.) = χ^2 difference test comparing the fit of models 2 and 3 with model 1; d.f. is the difference in degrees of freedom between the two compared models.

* $p < 0.05$.

BIC, Bayesian information criterion; CI, confidence interval; CFI, comparative fit index; d.f., degrees of freedom; RMSEA, root mean square error of approximation; SD, standard deviation; SRMR, standardised root mean square residual; SRQ-S-II, Self-Regulation Questionnaire – Support – II.

0.24 ($P = 0.11$), item 4 with a factor loading of 0.35 ($P = 0.011$) and item 14 with a factor loading of 0.37 ($P = 0.001$). The model fit substantially increased as a result (normed $\chi^2 = 2.41$, RMSEA = 0.097, CFI = 0.84 and SRMR = 0.097); however, the RMSEA and CFI criteria were still not met. Based on the 'detection of misspecification' procedure, modification index inspection showed 11 relevant misspecifications. The modification index between items 20 and 23 (both of which belonged to the same latent variable) most affected the model fit, and thus, a parameter between these items was added. Consequently, the model fit slightly increased (normed $\chi^2 = 2.32$, RMSEA = 0.094, CFI = 0.85 and SRMR = 0.095); however, the RMSEA and CFI criteria were still not met. Moreover, modification index examination showed eight relevant misspecifications. As these misspecifications were related to items belonging to different latent variables, it was not appropriate to add parameters between these items. Therefore, removing the item that was accountable for most of the high modification indices (item 22) was considered the best solution. This resulted in a substantially increased model fit (normed $\chi^2 = 2.07$, RMSEA = 0.084, CFI = 0.88 and SRMR = 0.092), containing four misspecifications (between items 10 and 19, items 12 and 16, items 12 and 20, and items 19 and 20). Although adding a parameter between any of these items improved the model fit, this was not appropriate as these items pertained to different latent variables. Therefore, removing one item (item 20) from the model was deemed to be the best solution; consequently, the additional parameter between items 20 and 23 disappeared, thus resulting in a comparable model fit (normed $\chi^2 = 2.14$, RMSEA = 0.087, CFI = 0.88 and SRMR = 0.094). Although this model contained misspecifications between items 10 and 19 and items 12 and 16, these did not substantially change the fit indices and were thus ignored. To summarise, the six-factor model without items 2, 4, 14, 22 and 20 was adopted (see Fig. 2), representing the full spectrum of types of motivation for seeking support.

All factor loadings were significant for this model at the $P < 0.001$ level. The standardised factor loadings varied between 0.45 and 0.95 (see Fig. 2). Overall, the correlation coefficients provided evidence for a quasi-simplex pattern of correlations among the SRQ-S-II scales, indicating that adjacent scales were

more closely related to each other than non-adjacent scales (see Fig. 2 for the correlations between the scales). That is, for example, amotivation and external motivation were substantially more correlated ($r = 0.53$) than amotivation and introjected motivation ($r = -0.20$).

The means, standard deviations and range of scores on the SRQ-S-II scales are shown in Table 3. As can be seen in Table 3, participants reported the highest scores for identified motivation and integrated motivation; lowest scores were related to amotivation and external motivation.

Associations between the different types of motivation for seeking support and well-being

A multiple regression analysis of well-being on the six SRS-S-II scales was conducted to measure the combined explained variance and the unique contributions of the scales to well-being. The results indicated that the model explained 56.6% of the variance and, hence, that the model was a good predictor of well-being, $F_{6, 144} = 31.26$, $P < 0.001$. Further, the significant factors that explained the highest percentage of variance in well-being were intrinsic motivation ($\beta = 0.361$, $P < 0.001$) and identified motivation ($\beta = 0.381$, $P = 0.001$). Amotivation ($\beta = -0.247$, $P = 0.004$) and introjected motivation ($\beta = -0.145$, $P = 0.03$) also contributed significantly to the model, although the beta coefficients were negative. External motivation ($\beta = -0.026$, $P = 0.71$) and integrated motivation ($\beta = -0.108$, $P = 0.24$) were not significant predictors of well-being.

Reliability of the Self-Regulation Questionnaire – Support – II

The internal consistency of the SRQ-S-II was found to be Cronbach's alpha 0.72 and MacDonald's omega 0.78. The internal consistency for each SRQ-S-II scale is reported in Table 4; the Cronbach's alphas ranged from 0.64 to 0.90, while the MacDonald's omegas ranged from 0.65 to 0.91. The 2-week test-retest reliability ($M = 14.2$ days, $SD = 2.25$, range = 9.0–21.0) of the SRQ-S-II scales ranged from 0.73 to 0.88 (see Table 4).

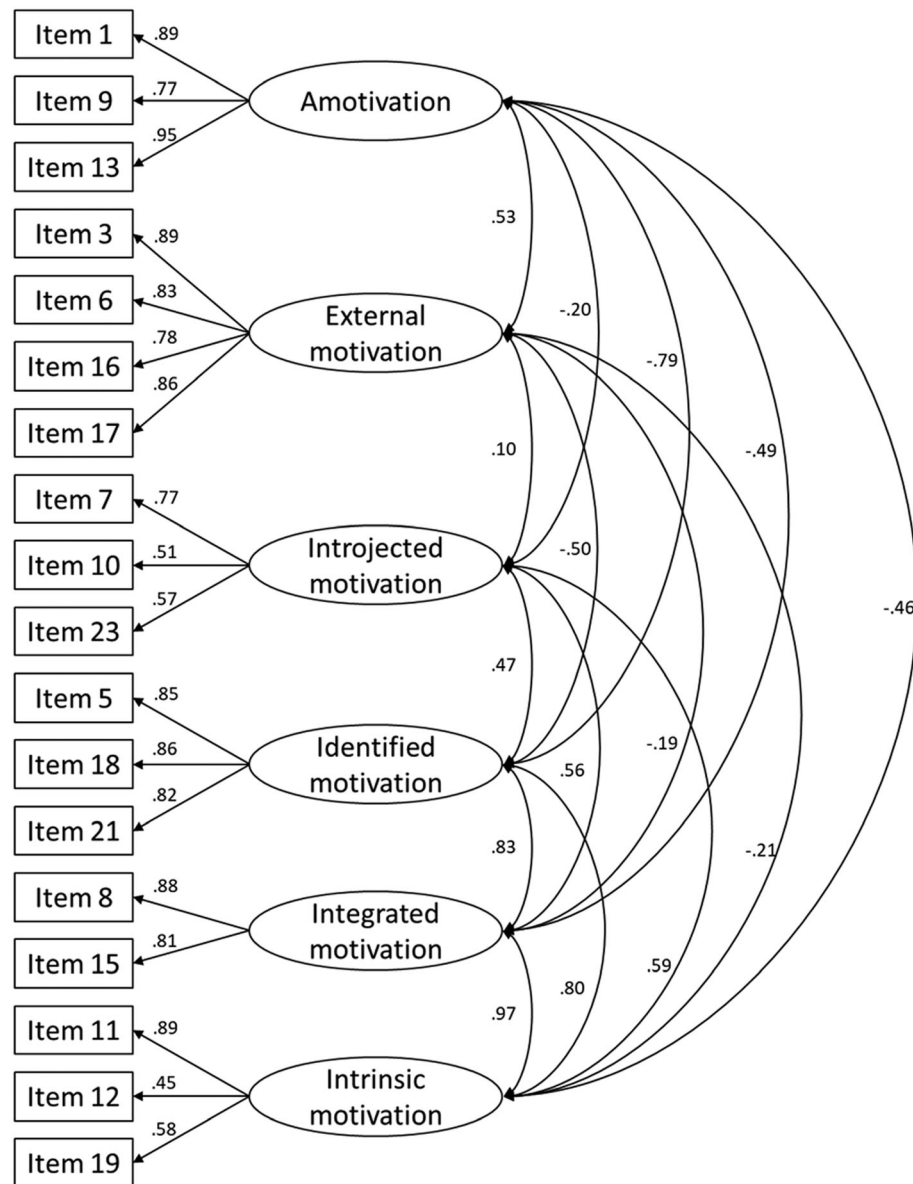


Figure 2. Visual representation of the six-factor model regarding the Self-Regulation Questionnaire – Support – II ($N = 154$). The ellipses represent the latent variables, and the rectangles represent items. Numbers between the single-arrow lines connecting latent variables and items indicate a hypothesised direct effect (expressed as standardised regression coefficients). Numbers between the bidirectional arrows connecting the latent variables imply a relationship between factors (expressed as covariance).

Discussion

The full spectrum of motivation for seeking support was found among people with mild to borderline IDs. Specifically, people with mild to borderline IDs

reported the six types of motivation on the self-determination continuum (i.e. amotivation, extrinsic motivation, introjected motivation, identified motivation, integrated motivation and intrinsic motivation) for seeking support. Participants

Table 3 Means, standard deviations and ranges of scores on the SRQ-S-II scales

Type of motivation	SRQ-S-II		Min–max
	Mean	SD	
Amotivation	1.88	0.59	1.00–4.33
External motivation	2.13	0.69	1.00–4.25
Introjected motivation	3.32	0.67	1.00–5.00
Identified motivation	3.97	0.59	1.00–5.00
Integrated regulation	3.81	0.73	1.00–5.00
Intrinsic motivation	3.52	0.70	1.00–5.00

SD, standard deviation; SRQ-S-II, Self-Regulation Questionnaire – Support – II.

reported the highest scores for identified motivation and integrated motivation, indicating that they sought support because they thought it was the best way to help themselves and it was fully consistent with their other values. The lowest scores were related to amotivation and external motivation. Intrinsic motivation and identified motivation were significant positive predictors in terms of explaining the highest percentage of variance in well-being; amotivation and introjected motivation were significant negative predictors.

It should be noted, however, that the observed associations between introjected motivation and the other variables did not entirely match expectations. For instance, introjected motivation was strongly related to higher quality types of motivation (including integrated motivation and intrinsic motivation), whereas no significant relation was

found with external motivation and well-being. This finding is, however, not uncommon, notably with youngsters (e.g. Soenens *et al.* 2009; Gagné *et al.* 2015; van der Kaap-Deeder *et al.* 2016; Aelterman *et al.* 2019). For example, Gagné *et al.* (2015) found that introjected motivation was often positively related to desirable outcomes, whereas Aelterman *et al.* (2019) did not find any association between introjected motivation and desirable outcomes. Nevertheless, more research on introjected motivation among people with mild to borderline ID should thus be conducted, to examine whether this is a function of how introjected motivation is operationalised in self-determination theory measures for this population. It might be that introjected motivation would yield different outcomes depending on how it is paired with other types of motivation (Gagné *et al.* 2015).

This paper focuses on motivation for seeking support. Identifying reasons to do so is important, and being able to assess the degree of self-determination is key for future research for several reasons. First, to the best of our knowledge, this is the first study examining the association between the full self-determination continuum and subjective well-being among people with mild to borderline IDs. By doing so, this study may add a potential dynamic factor to more static factors in well-being, such as age, gender and education (e.g. Kahneman *et al.* 1999). Second, when people with mild to borderline ID report lesser self-determined types of motivation for seeking support, which is associated with decreased well-being, professionals may be prompted to reflect on the autonomy

Table 4 Internal consistencies and test–retest correlations of the six types of motivation according to the self-determination theory

Factor	Internal consistencies		
	Cronbach's alpha	McDonald's omega	Test–retest reliabilities [†]
Amotivation	0.89	0.91	0.87
External motivation	0.90	0.91	0.86
Introjected motivation	0.64	0.65	0.81
Identified motivation	0.87	0.88	0.82
Integrated regulation	0.83	0.83	0.73
Intrinsic motivation	0.68	0.69	0.88

[†]Test–retest reliabilities are measured as Pearson correlations.

supportive quality of their interactions with their clients. Autonomy supportive environments create opportunities for becoming a self-determined individual (Ryan & Deci 2000) and refer to minimising control and pressure while providing choices, supporting self-initiatives, taking the views of the person into account and offering pertinent information (Williams *et al.* 2006). Satisfaction of three basic psychological needs (i.e. autonomy, relatedness and competence) is important for such an environment (Ryan & Deci, 2017; Frielink *et al.* 2018). Theoretical and psychometric studies, in which the psychometric properties of self-report questionnaires for people with mild to borderline IDs are being examined, provide direction and tools to promote autonomy supportive care.

In this study, motivation for seeking support was measured via the new SRQ-S-II. Alongside a satisfactory factor structure, the present study also showed acceptable to good Cronbach's alphas, MacDonald's omegas and test-retest reliabilities, especially given that most scales consisted of merely three items. Hence, the SRQ-S-II outperformed the initial SRQ-S of Frielink *et al.* (2017). This might be due to the increased numbers of items for most scales (three to four instead of two). Moreover, the inclusion of items aimed at attaining high self-worth rather than merely items aimed at avoiding low self-worth might also explain the increase in reliability (Assor *et al.* 2009). Furthermore, in the SRQ-S, the external motivation items were mostly centred on avoidance of fear and anger from other people, whereas the SRQ-S-II also included external motivation items focused on social rewards, such as acknowledgement.

People with mild to borderline IDs are often presumed to be less motivated and more passive (Emond Pelletier & Joussemet 2016). Similar to our previous study (Frielink *et al.* 2017), the present findings do not support this generalisation. Indeed, the results show that participants scored highest for identified motivation and integrated motivation. This finding is important, as it may imply that people with mild to borderline IDs recognise that they are often lifelong dependent from professional support and that they consider this support as essential for them to function optimally in daily live. It should be noted, however, that this finding merely applies to the context of seeking professional support, which means that the current findings linking the types of

motivation for support to well-being cannot be generalised to other domains. Therefore, it would be interesting for future research to explore the motivations of people with mild to borderline IDs in other domains using the SRQ-S-II items, while, simultaneously, ensuring the stem is targeting the appropriate behaviour (Williams *et al.* n.d.).

The results need to be interpreted in light of some limitations. The first of these pertains to the cross-sectional nature of the study and the small number of participants involved in the test-retest reliability ($n = 30$). Second, participants had mild to borderline IDs, as both sample sizes ($n = 82$ for people with mild IDs and $n = 72$ for people with borderline intellectual functioning) were too small to conduct separate analyses. Future research should thus increase the size of both groups. Third, no cross-validation sample was available to test the generalisability of the models. Fourth, only 117 of the 186 individuals from the previous study (Frielink *et al.* 2017) and 37 of the 100 newly selected individuals accepted the invitation to participate. Because of General Data Protection Regulation, no demographics are available for the non-participants. Hence, no comparison could be made between participants and non-participants to compute any potential nonresponse bias.

Overall, the results showed that people with mild to borderline IDs displayed the full spectrum of quality of motivation for seeking support, including intrinsic motivation. Studying these motivations, and enhancing our awareness of their importance for this population, can lead to more effective support predicated on self-determination and well-being. The SRQ-S-II is thus a helpful and important instrument for understanding the role of support in well-being.

Acknowledgements

We thank clients of Dichterbij, Lunet Zorg, SDW, Severinus, S&L Zorg, Trangel, Unik and Zuidwester who participated in this study.

Source of Funding

The research was funded by ZonMw and RINO Zuid. ZonMw and RINO Zuid have not imposed any restrictions on free access to or publication of the research data.

Conflict of Interest

All authors declare that they have no conflict of interest.

References

- Aelterman N., Vansteenkiste M. & Haerens L. (2019) Correlates of students' internalization and defiance of classroom rules: a self-determination theory perspective. *British Journal of Educational Psychology* **89**, 22–40.
- Assor A., Vansteenkiste M. & Kaplan A. (2009) Identified versus introjected approach and introjected avoidance motivations in school and in sports: the limited benefits of self-worth strivings. *Journal of Educational Psychology* **101**, 482–97.
- Bandura A. (1996) Failures in self-regulation: energy depletion or selective disengagement? *Psychological Inquiry* **7**, 20–4.
- Baumeister R. F. & Vohs K. D. (2007) Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass* **1**, 115–28.
- Cheung G. W. & Rensvold R. B. (2002) Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling* **9**, 233–55.
- Deci E. L. & Ryan R. M. (2000) The “what” and “why” of goal pursuits: human needs and the self-determination of behaviours. *Psychological Inquiry* **11**, 227–68.
- Deci E. L. & Ryan R. M. (2002) *Handbook of Self-determination Research*. University of Rochester Press, Rochester, NY.
- Deci E. L. & Ryan R. M. (2008) Facilitating optimal motivation and psychological well-being across life's domains. *Canadian Psychology* **49**, 14–23.
- Diener E. D., Emmons R. A., Larsen R. J. & Griffin S. (1985) The satisfaction with life scale. *Journal of Personality Assessment* **49**, 71–5.
- Emerson E., Einfeld S. & Stancliffe R. J. (2010) The mental health of young children with intellectual disabilities or borderline intellectual functioning. *Social Psychiatry and Psychiatric Epidemiology* **45**, 579–87.
- Emond P. J. & Joussemet M. (2016) The benefits of supporting the autonomy of individuals with mild intellectual disabilities: an experimental study. *Journal of Applied Research in Intellectual Disabilities* **30**, 830–46.
- Field A. (2013) *Discovering Statistics Using IBM SPSS Statistics*. Sage Publications, London, UK.
- Finlay W. M. L. & Lyons E. (2001) Methodological issues in interviewing and using self-report questionnaires with people with mental retardation. *Psychological Assessment* **45**, 319–35.
- Frielink N., Schuengel C. & Embregts P. J. C. M. (2017) Distinguishing subtypes of extrinsic motivation among people with mild to borderline intellectual disability. *Journal of Intellectual Disability Research* **61**, 625–36.
- Frielink N., Schuengel C. & Embregts P. J. C. M. (2018) Autonomy support, need satisfaction, and motivation for support among adults with intellectual disability: testing a self-determination theory model. *American Journal on Intellectual and Developmental Disabilities* **123**, 33–49.
- Frielink N., Schuengel C., Kroon A. & Embregts P. J. C. M. (2015) Pretreatment for substance abusing people with intellectual disabilities: intervening on autonomous motivation for treatment entry. *Journal of Intellectual Disability Research* **59**, 1168–82.
- Funder D. C. & Ozer D. J. (2019) Evaluating effect size in psychological research: sense and nonsense. *Advances in Methods and Practices in Psychological Science* **2**, 156–68.
- Gagné M., Forest J., Vansteenkiste M., Crevier-Braud L., van den Broeck A., Aspel J. K. et al. (2015) The Multidimensional Work Motivation Scale: validation evidence in seven languages and nine countries. *European Journal of Work and Organizational Psychology* **24**, 178–96.
- Hartley S. L. & MacLean W. E. (2006) A review of the reliability and validity of Likert-type scales for people with intellectual disability. *Journal of Intellectual Disability Research* **50**, 813–27.
- JASP Team (2019) *JASP Software Package (Version 0.10.2)*. University of Amsterdam, Amsterdam, the Netherlands.
- Kahneman D., Diener E. & Schwarz N. (eds) (1999) *Well-being: Foundations of Hedonic Psychology*. Russell Sage Foundation, New York, NY.
- Kline R. B. (2011) *Principles and Practice of Structural Equation Modeling*. Guilford Press, London, UK.
- Levesque C. S., Williams G. C., Elliot D., Pickering M. A., Bodenhamer B. & Finley P. J. (2007) Validating the theoretical structure of the Treatment Self-Regulation Questionnaire (TSRQ) across three different health behaviours. *Health Education Research* **22**, 691–702.
- Lucas-Carrasco R. & Salvador-Carulla L. (2012) Life satisfaction in persons with intellectual disabilities. *Research in Developmental Disabilities* **33**, 1103–9.
- Madigan D. J., Stoerber J. & Passfield L. (2016) Motivation mediates the perfectionism–burnout relationship: a three-wave longitudinal study with junior athletes. *Journal of Sport and Exercise Psychology* **38**, 341–54.
- Marsh H. W., Hau K.-T. & Wen Z. (2004) In search of golden rules: comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling* **11**, 320–41.
- Muthén L. K. & Muthén B. O. (1998–2017) *Mplus User's Guide*, Eight edn. Muthén & Muthén, Los Angeles.
- Rhemtulla M., Brosseau-Liard P. E. & Savalei V. (2012) When can categorical variables be treated as continuous? A comparison of robust continuous and categorical SEM

- estimation methods under suboptimal conditions. *Psychological Methods* **17**, 354–73.
- Ryan R. M. & Connell J. P. (1989) Perceived locus of causality and internalization: examining reasons for acting in two domains. *Journal of Personality and Social Psychology* **57**, 749–61.
- Ryan, R.M., & Deci, E.L. (2017) *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications, New York.
- Ryan R. M. & Deci E. L. (2000) Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist* **55**, 68–78.
- Saris W. E., Satorra A. & van der Veld W. M. (2009) Testing structural equation models or detection of misspecifications? *Structural Equation Modeling* **16**, 561–82.
- Schönbrodt F. D. & Perugini M. (2013) At what sample size do correlations stabilize? *Journal of Research in Personality* **47**, 609–12.
- Schweizer K. (2010) Some guidelines concerning the modeling of traits and abilities in test construction. *European Journal of Psychological Assessment* **26**, 1–2.
- Shogren K. A., Wehmeyer M. L., Palmer S. B., Forber-Pratt A. J., Little T. J. & Lopez S. (2015) Causal agency theory: reconceptualizing a functional model of self-determination. *Education and Training in Autism and Developmental Disabilities* **50**, 251–63.
- Soenens B., Vansteenkiste M. & Niemiec C. P. (2009) Should parental prohibition of adolescents' peer relationships be prohibited? *Personal Relationships* **16**, 507–30.
- Thompson J. R., Bradley V., Buntinx W. H. E., Schalock R. L., Shogren K. A., Snell M. E. *et al.* (2009) Conceptualizing supports and the support needs of people with intellectual disability. *Intellectual and Developmental Disabilities*, **47**, 135–46.
- van der Kaap-Deeder J., Wouters S., Verschueren K., Briers V., Deeren B. & Vansteenkiste M. (2016) The pursuit of self-esteem and its motivational implications. *Psychologica Belgica* **56**, 143–68.
- VGN (2020) *Facts and numbers in the care for people with intellectual disabilities*. Available at: <https://www.vgn.nl/feiten-en-cijfers-de-gehandicaptenzorg>
- Wehmeyer M. L. (1992) Self-determination and the education of students with mental retardation. *Education and Training in Mental Retardation* **27**, 302–14.
- WHOQOL Group (1998) The World Health Organization quality of life assessment (WHOQOL): development and general psychometric properties. *Social Science and Medicine* **46**, 1569–85.
- Williams G. C., Grow V. M., Freedman Z. R., Ryan R. M. & Deci E. L. (1996) Motivational predictors of weight loss and weight-loss maintenance. *Journal of Personality and Social Psychology* **70**, 115–26.
- Williams G. C., McGregor H. A., Sharp D., Levesque C. S., Kouides R. W., Ryan R. M. *et al.* (2006) Testing a self-determination theory intervention for motivating tobacco cessation: supporting autonomy and competence in a clinical trial. *Health Psychology* **25**, 91–101.
- Williams G. C., Ryan R.M. & Deci E. L. (n.d.) Health-Care, Self-Determination Theory Questionnaire packet. Available at: <http://www.selfdeterminationtheory.org/health-care-self-determination-theory> (accessed 20 September 2019).
- Zuroff D. C., Koestner R., Moskowitz D., McBride C., Marshall M. & Bagby M. R. (2007) Autonomous motivation for therapy: a new common factor in brief treatments for depression. *Psychotherapy Research* **17**, 137–47.

Accepted 19 January 2021