

Change-Talk in German Youth Language

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Abstract

Commitment and change-talk are two of the central constructs in behavioral theory, which is intended to lead to change in behavior. Not only in Motivational Interviewing it is crucial that the therapist recognizes his client's content of change-talk and state of commitment. Depending on this language's strength and the way it is used, change-talk often reveals subliminal signs for ambivalence which is important in therapy. Up to now, it still lacks a concrete link to language itself: which expressions concerning motivated behavior and the motivation to go for action are used in everyday life? Do the expressions differ in age, gender and wealth of people? In this study, commitment in German youth language was examined. 102 adolescents and young adults (12-21 years old) were asked how often they use 129 different change-talk expressions in everyday life. Of the utterances, 66 revealed to be 'never' to 'rare' used by more than 50 % of the participants, which excluded them from further analyses. All expressions were categorized into the DARN-C system (Desire, Ability, Reason, Need or Commitment) plus Readiness. The final variable set including 63 final expressions, revealed gender-specific differences and influence of psychological problems, such as depression. This study enriches research with a new item set, integrating information about average usage frequency of German change-talk expressions among adolescents. Furthermore, a specific linguistic field, crucial for counseling and therapy is now been categorized more detailed in semantic meaning. This study helps to understand adolescent language concerning change and commitment. It provides a basic tool for future research and practice dealing with the therapy of psychological problems.

Keywords: Motivational Interviewing; Change-talk, German language, Adolescence and Commitment

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Commitment is, at least in international research, a widely explored construct. In terms of semantics, it means the dedication to something, the binding nature towards a behavior or intention. It is one of the key constructs in counseling and therapy, especially within the concept of Motivational Interviewing (Miller & Rollnick 2012). Motivational Interviewing is a client-centered approach, which is working with the client's way to resolve and explore ambivalence concerning e.g., addictions and linked behavioral patterns. This goal-directed method tries to elicit reasons and intrinsic motivation for change. This client's language in favor of change and mentioning of his/her desire, ability, reason, readiness, need or already commitment to change is the so called 'change-talk'. It is defined as the likelihood of changing a specific behavior and is seen as an active ingredient of successful intervention (Baer et al., 2008; Barnett et al., 2014; Moyers, Martin, Houck, Christopher, & Tonigan, 2009; Osilla, Ortiz, Miles, Pedersen, & Houck, 2015).

As reported by several authors (Amrhein, Miller, Yahne, Palmer, & Fulcher, 2003; Baer et al.,

2008; Gaume, Bertholet, Faouzi, Gmel, & Daeppen, 2013), change talk may be important in predicting therapy outcome for adults and adolescents in addiction research. According to Amrhein, Miller, Moyers, and Rollnick (2005), change talk contains the categories Commitment and 'preparatory' language. 'Preparatory' includes the following components: the client's **Desire**, **Ability**, **Reason** and **Need** to change a specific concern-related behavior; summarized with commitment, they build the acronym 'DARN-C'. A further category is **Readiness**. In other categorization and coding manuals, such as the Manual for the Client Language EAsy Rating (CLEAR; Glynn & Moyers, 2012) and the Sequential Code for Observing Process Exchanges (SCOPE; Martin, Moyers, Houck, Christopher, & Miller, 2005), this category is named 'Taking Steps'. Despite the different versions and names for these constructs, most researchers agree, that the expression of commitment and all underlying categories are

crucial for outcome. Osilla et al. (2015) recommended eliciting the exact category for easier and more specific outcome prediction, as they found for example that evoked **Commitment** and **Reason** work better for outcome than the other categories.

Obviously, most research concerning language expressions and their classification in change talk and Motivational Interviewing has been conducted for English linguistics. Still, German linguistics has a long-standing background of research. One of the very first expression- and vocabulary-collections was made by Georg Henisch in 1616, followed amongst others by the still popular Brothers Grimm dictionary (1854–1960). One of the first analyses, initially in English, was made by Roget in 1852. *Roget's Thesaurus* aimed for a collection of words, made for practical use with the purpose for an easier finding of the right expression (Ballmer & Brennstuhl, 1986). For German language, Sanders (1873-1877) followed this example and collected the “Deutscher Sprachschatz, geordnet nach Begriffen” in two volumes. Since then, a lot of language analyses and categorizations followed. Initially, the emphasis was onto collections of the entire vocabulary. Later, there were attempts to categorize language in many fields until some researchers focused on verbs only (e.g., Mater, 1966). Verbs in focus, language categorization experienced its most significant breakthrough with Ballmer and Brennenstuhl: In their work (1986, based on Mater's verb list from 1966) they not only structured verbs into groups of meaning, but extended their classification by allocating each verb a specific intensity. However, it remains unclear, how this intensity was determined. To sum up, despite the long-standing survey on German language, research on verbs or other specific language elements is still at its beginning. As the so far conducted studies showed that the living language depends on its epochal- and daily use, current research is needed to keep us informed.

Why verbs and commitment expressions? The object and content of a sentence can change, due to a person's major concern in the current moment. In a clinical context, a smoker could talk about smoking and quitting, an anorectic person could talk about eating and therefore starting a new behavior. However, the always given common

ground is the subject's attitude to object and content. This attitude is expressed only by verbal and nonverbal action *in relation* to the object and the content. This communication contains distance or proximity, ability or fear, disavowal, suppression or the wish for change. In German language, expressions concerning these actions and relationships are grammatically positioned directly after the subject (Hoberg & Hoberg, 2014). Thus, the syntax immediately reveals a relationship, first to oneself and second to the object. In terms of revealing or expressing a message, those uttered actions or relations are the crucial part. Even more, when it comes to expressing behavioral goals, in terms of changing a manner, the verb is revealing the motivation behind them. Thus, whether chosen intentional or unconsciously, it expresses the person's relation to the change as well as her/his intention to carry it out.

Why youth language? The adolescence is the interim phase between childhood and adulthood. A lot of physical and psychological matters are changing. So does language, too. According to Eckert (1997), youth language gives hints for future linguistic changes as they are working it throughout the transition process from children's language to grown-up conversation. Furthermore, a lot of psychological issues, such as eating disorders and depressive symptoms appear first in adolescence (Bettge, Wille, Barkmann, Schulte-Markwort, & Ravens-Sieberer, 2008; Hofmann, Petermann, Glaeske, & Bachmann, 2012; Holling & Schlack, 2007; Holling et al., 2014; Klasen et al., 2016). Thus, for prevention, it is crucial to focus on that age group (Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011). Regardless of efficacious intervention models based on motivational enhancement like ecological family therapies (EFT), brief motivational intervention (BMI) and cognitive behavioral therapies (CBT) (Becker & Crurry, 2008), as well as guided self-change (GSC) (Wagner, Hospital, Graziano, Morris, & Gil, 2014), research on adolescent language in that specific language aspect is still missing. It is known, that motivational strategies to increase clients' commitment language are an important ingredient of successful intervention approaches. In addition, Gaume, Gmel, Faouzi, and Daeppen (2009) and

Glynn and Moyers (2010) found that clients produce more change talk in sessions, when the therapist was trained to evoke it. There is also evidence that these findings are also applicable to younger children and adolescents (e.g., Bear et al., 2008, Ingersoll et al., 2005). Amongst others, Engle, Macgowan, Wagner and Amrhein (2010) as well as Osilla et al., (2015), showed that these findings are applicable to adolescents in individual as well as in group sessions. Gaume, Bertholet, Faouzi, Gmel and Daeppen (2013) found that the frequency and strength of the categories **Desire**, **Ability** and **Need** predicted significant change. Therefore it is crucial for clinicians, consultants and therapists working with adolescents, to be able to recognize, reflect and reinforce change and commitment talk.

To sum up, the assessment of commitment language is relevant to guide the therapeutic process and a more pronounced commitment language is associated with better therapy outcomes. However, commitment expression is one of the most unexplored components in youth language so far. This study was designed to explore this psychological construct within the linguistics, mainly emphasizing German adolescent language.

Thus, the present study focuses on this part and narrows it even more by concentrating only on commitment expressions with the goal to explore, which of them are basically used by adolescents (in the age range of 12-21 years) nowadays. The overall objective of the present study was to create a descriptive collection of common commitment utterances in youth language as basis for further studies. Based on recent research among adults (Amrhein et al., 2003; Theoharova & Demmel, in press), the first aim was to examine the expressions' usage and reduce the variables of those previous studies to a usable set of items. The second aim was an even more detailed structure of German utterances in terms of their semantic categorization with respect to the DARN-C system (Amrhein et al., 2003). In an exploratory manner, we aimed to examine differences between groups of gender, age,

mono- or bilingual natives as well as between adolescents with a high versus low socioeconomic background. Furthermore, comparisons between groups with versus without depressive symptoms resp. disordered eating as an indicator for impaired mental health were computed.

METHOD

Procedere

Adolescents and young adults from different geographic regions of Germany took part in the questionnaire study. Including different geographical regions should ensure generalizability of the results. Subjects were contacted via youth and sports clubs, schools, emails and postings. Individuals were considered eligible if they were German native speakers and 12 to 21 years old. Moreover, bilingual speakers were included, as long as one of the mother tongues was German. Informed consent was obtained from all eligible participants after the procedure and content had been fully explained. The questionnaire was presented either online or in a paper version. 63.7% filled out the online version, which was programmed with *sosicisurvey* and took an average of 16 minutes to complete. There is evidence that online and paper & pencil questionnaires lead to comparable results and data can be combined (e.g., Bayazit & Aşkar, 2012; Fouladi, McCarthy, & Moller, 2002). We observed no significant differences in demographic data and therefore pooled the samples. All participants were invited to take part in tombola and win vouchers for an online store. The study was approved by the Ethics Committee of the University of Potsdam.

Measures

Of the initial sample of 117 participants, fifteen subjects were excluded from the study due to incomplete data (Peugh & Enders, 2004). The final sample consisted of 102 participants (mean age 17.57 years, $SD = 2.50$; range 12 - 21). Detailed sample description is depicted in Table 1.

Table (1): *Participant characteristics*

Sociodemographic Data		N (%)	Screening Results	N (%)	
Age cohort (year range)	1 (12-15 years)	20 (19.6%)	PHQ-9 categorial	0 (no symptoms)	79 (77.5%)
	2 (16-18 years)	40 (39.2%)		1 (other depressive symptoms)	13 (12.7%)
	3 (19-21 years)	41 (40.2%)		2 (Major Depression)	10 (9.8%)
Gender	Female	57 (55.9%)	Scoff	0-1 (inconspicuous)	80 (78.4%)
	Male	45 (44.1%)		≥ 2 (conspicuous)	19 (18.6%)
Occupation	Pupil	63 (61.8%)	FAS	0+1 (low+middle)	39 (38.2%)
	Students, trainees or 'other'	39 (38.2%)		2 (high)	61 (59.8%)
Native Language	Monolingual	74 (72.5%)			
	Bilingual	28 (27.5%)			
Region	North	27 (26.5%)			
	East	49 (48%)			
	South	6 (5.9%)			
	West	18 (17.6%)			

Note. N= number of participants; PHQ-9: Patient Health Questionnaire; Scoff: Questionnaire for detecting tendencies towards eating disorders; FAS: Family Affluence Scale;

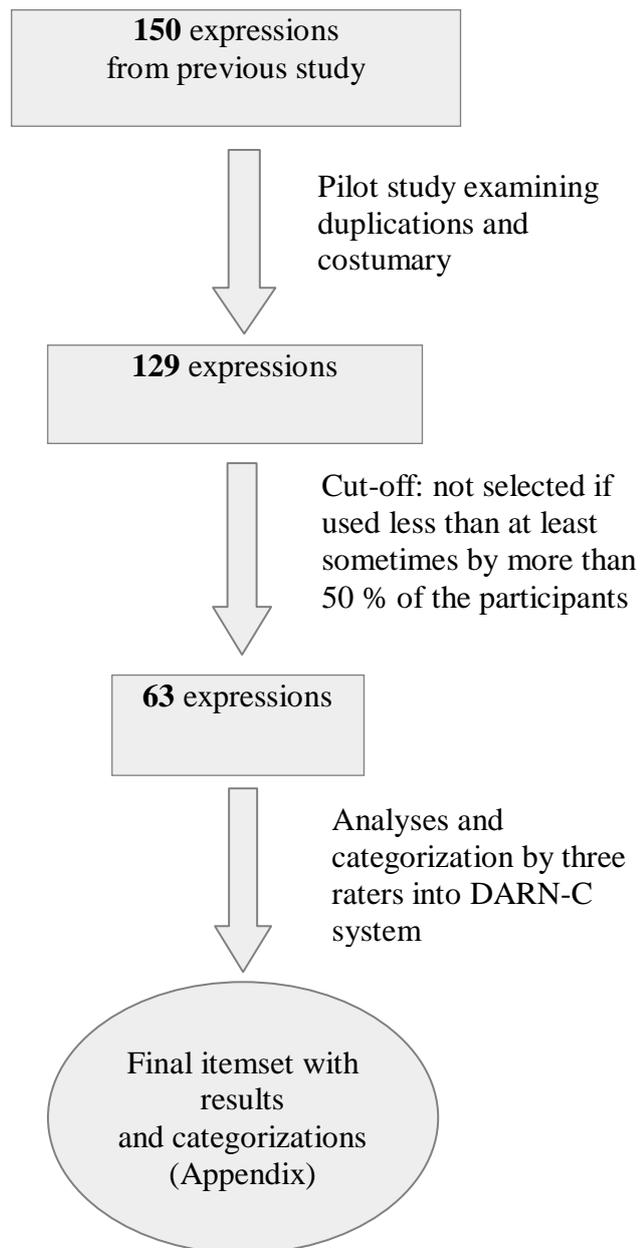
Compilation of the item set with commitment expressions

The item set with commitment expressions refers to a data set of 150 utterances from a previous study (Theoharova & Demmel, in press). Originally, it has been compiled in two steps: first, commitment expressions have been collected qualitatively and added to the English expressions provided by Amrhein (2004). Following, all duplications as well as all terms used predominately in written language were excluded. More details about the initial item collection can be found elsewhere (Theoharova & Demmel, in press).

Since this initial compilation was developed for adults its adequacy for adolescents had to be tested. In the first step, we tested the variable set in a pilot study with ten male and ten female adolescents at the age of 16. Participants were directly asked, whether they know or utilize the

randomly presented terms. In addition, the expressions should be marked when heard or read in social media and comments uttered by adolescents. Words were eligible, if they were marked as 'used' or 'known' by at least 5% of the participants and/or appeared within the top 95% of heard and read expressions. Twenty utterances appeared to be never used, respectively unknown, one term was a duplicate. These 21 expressions were omitted. Therefore, the final variable set for the main survey consisted of 129 items. Each item was presented randomly and had to be ranked in terms of how often it is used in everyday life. The different commitment expressions (e.g., 'I *intend* to do it'; 'I *have to* do it'; 'I *am able to* do it') had to be marked on a 5- point Likert-scale from 1 (*never*) to 5 (*very often*). Negations were not included into this collection. Cronbach's Alpha reached $\alpha = .95$.

Figure (1): Flowchart illustrating the process of the item compilation



Sociodemographic data

All adolescents self-reported on their age, gender, occupation and origins. In order to analyze the discriminant validity of the commitment scale, we asked the adolescents to fill in several screening questionnaires that focus on their psychosocial well-being. To assess the socio-economic background, we used the well-established Family Affluence Scale (FAS) from the 'Health Behaviour in School-aged Children Study' by Currie, Elton, Todd, and Platt (1997). The FAS II asks for the availability (0 = no; 1 = yes) of a family car, a private bedroom, a

computer and going on holidays as indicators for economic well-being. On that basis a sum score is calculated indicating low (0-3 affirmative answers), middle (4-5) and high (6-7) socio-economic status.

Psychological Well-being

As indicators for the psychological well-being we included depressive symptoms and disordered eating because these problems are common mental health problems in adolescence. We used the SCOFF by Morgan, Reid, and Lacey (1999; German

version by Hölling & Schlack, 2007) as a screening instrument for eating disorders. Respondents were asked to indicate on a dichotomous scale whether they had experienced one or more of the following states concerning eating and food: feeling sick because of feeling full, experiencing loss of control, weight- and self-assessment as well as a life strongly influenced by food. A sum score is built on the basis of the number of affirmative answers. Scores of at least 2 points are considered indicating pathological eating behavior. The SCOFF demonstrated good validity, high sensitivity and specificity (Hill, Reid, Morgan, & Lacey 2010). For the present sample, Cronbach's Alpha was low with $\alpha = .59$.

We used the Patient Health Questionnaire (Spitzer, Krönke, & Williams, 1999) as a screening tool for the detection of depressive symptoms. In this study, the German version of the 9-item Patient Health Questionnaire-Depression Scale (PHQ-9; Löwe, Spitzer, Zipfel, & Herzog, 2002) was applied. The nine items cover relevant indicators of depression such as loss of interest and pleasure in doing things, feeling down, problems with sleeping, appetite or concentration, negative self-perception and thoughts about death. Each item is to be answered on a 4-point Likert-scale from *never* (0) to *nearly every day* (3). The categorical analysis was computed for this screening, revealing the three categories *no symptoms*, *other depressive symptoms* (if there are 2 - 4 answers in at least 'More than half the days' (2), one of which corresponds to Question #1 or #2 which ask for low interest and joy and increased melancholy and hopelessness) and *Major Depression (MD)* (if there are at least 5 answers in at least 'more than half the days' (2), one of which corresponds to Question #1 or #2). In a validation study with adolescents by Richardson et al. (2010), a PHQ-9 score of 11 or more has a sensitivity of 89.5% and a specificity of 77.5% for detecting youth who met the criteria for major depression. In the present study, Cronbach's Alpha reached $\alpha = .96$.

DATA ANALYSIS

Item Categorization and Statistical analyses

Frequencies of usage were computed for each item. Since one of our primary aims was to provide a comprehensible tool for further studies a cut-off for

the usage of expressions was set in the first step. Those expressions being used 'less than at least sometimes by more than 50 % of the participants' were seen as negligible and consequently excluded from the subsequent item categorization (see Figure 1). All remaining expressions were categorized, independently of one another, by three raters into the DARN-C system, assigning every expression only to one main category: **D**esire, **A**bility, **R**eason, **R**eadiness, **N**eed or **C**ommitment. For example, the allotment would be as follows: *to wish* (**D**esire); *to be able to* (**A**bility); *it is time to* (**R**eadiness); *it makes sense to* (**R**eason); *to have to* (**N**eed); *to intend to* (**C**ommitment). Often, utterances can be interpreted both, in sense of the given or the missing dimension. For example, 'I first have to be sure' expresses given commitment but also missing readiness. In these cases, the *given* dimension was coded. In turn, other expressions cannot be finally classified until the sentence is completed and the additional information gives a secure hint towards the intended meaning and the real issue. For instance, 'to think' can be classified as **C**ommitment, but needs to be reconsidered, when '...that I can/ that I should' etc. follows. See for more detailed information Amrhein (2004; 2009). The interrater agreement reached Kappa = .88 ($p < .001$), 95% CI (.78; .97), albeit 5 utterances could not be clearly assigned to one category and thus were labelled 'ne' (no clear classification, 'nicht einzuordnen' in German).

For group comparisons, adolescents were divided in subgroups. First, the sample was divided into three age cohorts: early adolescence (12-15 years), middle adolescence (16-18 years) and emerging adulthood (19-21 years). Furthermore, the sample was divided into two language groups: monolingual and bilingual natives. Additionally, participants ranking high on one of the screenings concerning psychological well-being were grouped and compared to those ranking low, respectively showing no symptoms. As shown in Table 1, only $n = 3$ participants were rated as representatives of the low socio-economic status group. Therefore, 'low' and 'middle' socio-economic statuses were pooled for further analyses. Because of a non-parametric distribution of the data, exploratory analyses were performed with Kruskal-Wallis respectively Mann-

U-Whitney for group comparisons. All statistical analyses were performed with the SPSS software package (version 21.0).

RESULTS

Item set and categorization

On the basis of descriptive analyses we checked how often each expression was used. 66 expressions

did not fulfill the criterion that at least 50% of the participants use this specific expression at least “sometimes”. Thus the final variable set encompassed 63 expressions with an average usage of $M = 3.13$ ($SD = 0.38$; $Min = 2.58$ $Max = 4.07$; $Median = 3.02$). These items were coded by the three raters and affiliated to one main DARN-C category. Results are depicted in Table 2. Table 2

DARN-C affiliation

DARN-C	<i>N</i> = 63 (129)	Mean	SD
<i>D</i>	3 (4)	3.46	0.46
<i>A</i>	9 (19)	3.09	0.40
<i>Rd</i>	5 (13)	2.85	0.14
<i>Rs</i>	5 (13)	2.96	0.29
<i>N</i>	10 (14)	3.43	0.27
<i>C</i>	26 (56)	3.12	0.40
<i>ne</i>	5 (10)	2.97	0.39

Note: *N* (column)= number of selected utterances after and (before) cut-off; *M*= Mean; *SD*= Standard Deviation; *D*= desire; *A*= ability; *Rd*= readiness; *Rs*= reasons; *N* (row)= need; *C*= commitment, *ne*= no clear classification

As shown in Table 2, most items were assigned to Commitment ($n = 26$) and only very few to Desire ($n = 3$). In general, Desire-expressions with a mean usage of $M = 3.46$ ($SD = 0.46$) seem to be most often used, overall analysis with Mann-U tests revealed that it is Need- expressions ($M = 3.43$, $SD = 0.27$) that were in total used significantly more often than expressions in other categories: Reason ($U = 1$, $p = .003$), Readiness ($U = 5$, $p = .01$), Commitment ($U = 67.5$, $p = .03$) and *ne* ($U = 8$, $p = .04$). All 63 expressions (in German and its English translation) with their respective mean and standard deviations as well as DARN-C membership are shown in the appendix.

Group comparisons

Exploratory group comparisons were performed to analyze the representativeness of the results for the whole sample. No differences with respect to age, socio-economic status, mono- vs. bilingual speakers and the occurrence of disordered eating were observed, but differences with respect to gender and depression scores. Female adolescents used Ability ($M_f = 3.06$ vs. $M_m = 2.84$; $U = 17$, $p = .04$), Need ($M_f = 3.41$ vs. $M_m = 3.24$; $U = 23$, $p = .04$) and Commitment ($M_f = 3.09$ vs. $M_m = 2.92$; $U = 202$, $p =$

$.01$) expressions significantly more often than their male peers. With respect to depressive symptoms, differences appeared between participants *with other symptoms* and *without symptoms* as well as *with Major Depression* symptoms. Similarly to the gender comparison, Ability, Need and Commitment expression differed here, too: Participants with *other symptoms* scored the highest frequency in Ability ($M = 3.59$, $SD = 0.47$) and Commitment ($M = 3.48$, $SD = 0.43$), those *without symptoms* the lowest (Ability: $M = 2.99$, $SD = 0.41$; Commitment: $M = 3.06$, $SD = 0.43$). Those differences were statistically significant (Ability: $U = 11$, $p = .009$; Commitment: $U = 167.5$, $p = .002$). Concerning the usage of Need expressions, again the group of participants indicating *other symptoms* showed the most frequent use ($M = 3.82$, $SD = 0.25$), whereas the group indicating *Major Depression* used Need-expressions comparably rare with $M = 3.34$ ($SD = 0.39$; $U = 14$, $p = .006$). Furthermore the group *without symptoms* ($M = 3.38$, $SD = 0.30$) used Need-expressions significantly less often ($U = 12.5$, $p = .005$).

DISCUSSION

On the basis of 129 expressions from a former study (Theoharova & Demmel, in press) youth language concerning commitment to change was examined. On the basis of a written survey we could compact the data set to the 63 most frequently used expressions among youth. Assigning these 63 expressions to the DARN-C categories, we created a descriptive youth-commitment-vocabulary collection. Our first results support that (1) there are gender-differences in the usage of change talk, (2) there are differences in the usage of change talk between people concerned or not by depressive symptoms or MD respectively, and (3) most usual change talk utterances in German youth language are Commitment expressions ($n = 26$), the fewest Desire expressions ($n = 3$).

With respect to the item set compilation, several aspects should be discussed. As cut-off-score the expression had to be used at least 'sometimes by at least 50% of the participants'. This makes sense in practice because it can ensure that these expressions are relatively likely to be uttered in therapy or consultation. Limiting and reducing the item pool to those that are most commonly used is a two-sided sword: On the one side, we were able to provide an economic tool for further studies, but on the other side this might disregard individuality, minorities and uncommon language habits. As every patient is to be treated individually, there is no way to cover all possible expressions and biases of language use. Therefore, this set of expressions is to be used and understood as an anchor to suit the tailored therapy for an individual and to sensitize for language use.

Choosing the DARN-C theory, the rating made it possible to assign nearly all expressions unambiguously to one category of change-talk. According to McHugh (2012) the interrater-reliability was strong with Kappa = .88. This supports the validity and stability of the categorization. Still, some expressions revealed to be difficult to rate, notably those coded with **ne** (no clear classification, 'nicht einzuordnen' in German). In these cases, it became evident that more details about the context are needed to correctly interpret the direction of meaning. This is similarly the case, when expressions of different categories are uttered combined in one sentence and therefore open up the

possibility to be rated in more than one category. In those cases it should be individually investigated, which expression is the stronger one. By using the DARN-C assignment, we excluded the categories 'Other' and 'Taking Steps' included in MI-SCOPE (Martin et al., 2005) or CLEAR (Glynn & Moyers, 2012). However, **ne** somewhat covers 'other' and Readiness 'Taking Steps'.

In the next step, potential group differences in the use of Commitment expressions were explored to analyze the generalizability. Taken together, only few differences emerged. The lacks of differences between subsamples from different regions, between those with a different language background or of different age, reveal a quite homogeneous picture of language usage concerning commitment and motivation. Therefore, our results suggest that the categorization can be applied and generalized to many subgroups. While no differences between youth with conspicuous and inconspicuous eating emerged, significant differences were observed between all subsamples of the PHQ-9-screening *without symptoms*, *with other symptoms* and *Major Depression (MD)* indicating a difference in commitment language usage between participants differing in their depressive characteristics. This is interesting for further research and supported by previous studies, which – concerning the usage of language – mainly explored differences between participants with and without symptoms: e.g., linkage between depression and language (Bernard, Baddeley, Rodriguez, & Burke, 2016; Şimşek, 2013) or linkage between psychosis including depression and language (Fineberg et al., 2016). Considering our findings, the significant higher usage of Ability, Need and Commitment expressions could be interpret as a sign of the person's realization that there is need for action and still a lot positive thinking of one's own ability to change. But maybe a lack of desire and readiness are holding back from actual change. This thesis needs to be examined in future studies. However, the significant differences in the usage of Need and Commitment expressions make sense and point out the expressions' validity. Given the small sample size in the respective subgroups all results should be interpreted with caution. Nevertheless these explorative analyses

might be fruitful in initiating new research questions. It should be mentioned that there was no gender difference with respect to the depression scores observed suggesting that gender differences might not explain the reported pattern. In our sample we observed small albeit significant differences between male and female adolescents in the categories **Ability**, **Need** und **Commitment**. These findings are similar to the previous study by Theoharova and Demmel (in press), where gender differences were found: female adults ranked preparatory utterances higher than men. So far, specific language research focused often on either only male or female participants. However, Charles and Walters (2008) examined gender-related differences in health talk and support the findings that the cultural constructions of gender have an impact on health talk. They even go further and broaden it to risk and risk management, which is a big topic in addictive therapy, where Motivational Interviewing is mostly used. Further studies are warranted to explore gender-related differences.

Limitations

The results of this study should be considered in light of its strengths and limitations. First, the sample size is relatively small limiting the generalizability of the results. Second, within the context of this study, some questions remain open, such as the expression's strength in spite of its frequency as supposed by Amrhein (2004) and done for adults by Theoharova and Demmel (in press). Third, we asked for the *overall* usage, whereas the usage in specific situations, the examination of sustain talk resp. counter change talk were neglected. It could be interesting to compare these results with data based on asking about concrete situations, e.g., doing homework or stopping smoking. Furthermore, exploring the negations could be useful and would widen the field to counter change talk. Finally, integrating some utterances which are only a bit less than 50% used sometimes could make sense: expressions could be less often used but high in strength of commitment and therefore interesting for Motivational Interviewing and therapy. Those words could have been excluded by the cut-off. To give an example, the **Commitment**-utterance 'I SWEAR' was used only

by 35.4% of the adolescents at least sometimes ($M = 2.11$; $SD = 1.36$). However, Theoharova and Demmel (in press) observed that adults ranked this utterance with a mean of approximately 5, which means the highest level of strength. This could be interpreted as a very strong and therefore less often used commitment. In addition, the **Desire**-item 'I WISH' seems spontaneously to be very common, but only 48% used this term at least sometimes ($M = 2.55$; $SD = 2.27$).

Due to the explorative nature of the group analyses we did not control for the problem of alpha error accumulation as recommended in the literature (Field, 2009). Therefore, these data should be interpreted with caution. Further studies are warranted including larger sample sizes to allow more reliable statements as the generalizability is limited in several ways. For instance, only 5.9% of the participants were from the southern part of Germany and the number of low FAS scorers ($n = 3$) indicated a bias to middle and higher social class participants. Further research is needed to examine possible regional language effects and whether the results are applicable to youth ranking low in socio-economic status, too. Third, the reliability of the SCOFF-screening was only fair with Cronbach's Alpha = .59. Finally, only self-report data were collected. Applying a questionnaire means the results are dependent on the participants' self-reflection and self-perception as well as self-estimation of their language. In further studies, the frequencies could be compared to objective observation maybe carried out by another method, e.g., coding recorded sessions or digital analyses of chats as done by Morgenstern et al. (2012) or Smith, Huey, and McDaniel (2015). However, it can be accounted for that the intuition leads the participants to the right answer: Words that are used more often, are more familiar and thus faster activated as shown by neuroscientific research on change talk (Houck, Moyers, & Tesche, 2013).

This study is the first of its kind, empirically exploring youth change-talk language. In combination with the socio-economic questionnaire and both screenings concerning psychological well-being, the research broadened its scope to different groups of participants and increased its validity. Furthermore, the initially extensive item pool

assured that the majority of German change-talk expressions were included and examined.

Keeping these strengths and limitations in mind, further studies are needed to explore if the signs, revealed in this study, are pointing the way. It needs to be explored, if there are severe differences in usage and perceived meaning of commitment expressions between adolescents and adults. Additionally, the linkage between these expressions and actual outcome, thus to what degree they indicate behavioral change, should be examined. Similar to Ballmer and Brennstuhl's (1986) intensity categorization, the terms will be used in a second study examining their commitment strength and association to the stages of change (Prochaska & DiClemente, 1983).

Considerations and Suggestions

To the best of our knowledge the present study is the first to focus on commitment language use among adolescents. We were able to provide a list of 63 commitment utterances and their DARN-C-affiliation used by adolescents and young adults. This catalogue might be a basis to explore in more detail how these commitment expressions are used

in different situations and during therapy. The collection itself is already helpful since it associates the expressions with their degree of Change Talk. The classification in the DARN-C-system is important for being able to categorize and detect the expression's reference. Thus more concrete reflections, framings and tailored treatment can be developed. As Osilla et al. (2015) reported, the frequency of change talk was almost twice as prevalent for treatment outcome as the use of sustain talk. Additionally, as stated by Naar-King (2011), the reflection must be closely tied to what the adolescent has expressed or implied. Meaning, a proper recognition is even more decisive. Finally, the frequency reference gives a hint, whether the expression just uttered is usually said barely but more intentionally, with the purpose to communicate a certain state of mind. Still, it is remarkable that the German language has such a variety of commitment expressions used at least sometimes in everyday life. Although nonverbal communication and circumstances as well as the context always have to be considered as well, this collection is a useful basis and orientating tool for use in therapy and consultations.

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Appendix: Catalogue of German change-talk expressions with their English translation and distribution parameters

Expression German	Expression English	Mean	Standard deviation	Variance	DARN-C affiliation	% participants use 'at least sometimes'
WERDEN	going to do it	4.07	0.8	0.63	C	99
MÜSSEN	to have to	3.94	0.96	0.93	N	94
WOLLEN	to want	3.81	1.1	1.21	D	90.1
Ich SOLLTE	to ought	3.69	1.04	1.08	N	89.8
MÖCHTEN	would like to	3.63	1.06	1.11	D	85.9
VORHABEN	to be up to s.th.	3.57	1.03	1.07	C	84.2
WENN ES SEIN MUSS	if needs be (if it has to be done)	3.57	1.01	1.03	N	84.2
WENN NICHT, DANN	elsewise	3.67	1.14	1.29	ne	83.3
KÖNNEN	to be able	3.66	1.13	1.27	A	82.8
AM MONTAG	on monday I'll do it	3.63	1.21	1.45	C	82.2
BALD MÜSSEN	to have to do it soon	3.48	1.11	1.23	N	82.2
ES IST WICHTIG	to be important (the topic or change)	3.37	1.13	1.29	Rs	82
GLAUBEN	to believe	3.62	1.22	1.5	C	81.2
VERSUCHEN	to try	3.61	1.19	1.42	A	81.2
ÜBERLEGEN	to think about s.th.	3.27	1.09	1.2	C	81.2
Ich MÜSSTE	should	3.47	1.19	1.42	N	80.4
Ich WÜRDE	would	3.5	1.22	1.49	C	80.2
SICH DARUM KÜMMERN	to attend to s.th.	3.39	1.15	1.33	C	79.6
DENKEN	to think	3.56	1.21	1.47	C	78.2
DRINGEND MÜSSEN	urgently having to do s.th.	3.45	1.2	1.43	N	78.2
Ich KÖNNTE	could	3.53	1.19	1.4	A	78
SOLLEN	shall	3.35	1.16	1.34	N	78
VERPSRECHEN	to promise	3.29	1.13	1.27	C	74.3
SCHON LÄNGST	for a long time	3.32	1.26	1.59	C	73.7
AM LIEBSTEN SOFORT	to want to start off with it immediately	3.05	1.15	1.31	Rd	72.7
WISSEN	to know	3.36	1.34	1.8	C	72.5
FEST VORNEHMEN	to undertake s.th.	3.22	1.19	1.43	C	71
Es WÄRE NICHT SCHLECHT	would not go amiss	3.13	1.24	1.53	N	70.3
WENN ES NICHT ANDERS GEHT	if needs be (if there's no other way)	3.03	1	0.99	N	70.3
SCHAFFEN MÜSSEN	to have to manage it	3.19	1.17	1.37	N	69
Es WÄRE BLÖD	it would be silly	3.09	1.26	1.59	Rs	67.7

Expression German	Expression English	Mean	Standard deviation	Variance	DARN-C affiliation	% partici-pants use 'at least some-times'
FRÜHER ODER SPÄTER	sooner or later	3.02	1.16	1.35	C	67
Ich kann es SCHAFFEN, WENN ICH ES WILL	I can make it if I want to	3.02	1.3	1.7	A	66
Es GEHT NICHT ANDERS	it won't work otherwise	3	1.3	1.69	C	65.6
Es IST SINNVOLL	to make sense/ to be reasonable	2.98	1.16	1.33	Rs	65
VERSTEHEN	to comprehend	2.98	1.31	1.72	A	64.7
NACHDENKEN	to brood over s.th.	2.9	1.28	1.64	C	64.6
ALLES GEBEN	to give one's all to do s.th	2.98	1.2	1.44	C	64.4
Ich WÜRDE GERNE	I'd love to	2.93	1.13	1.27	D	64.4
PLANEN	to plan/to arrange	2.89	1.26	1.59	Rd	63.3
WIE WÄRE ES WENN	how about	2.88	1.28	1.63	Rd	62.4
EGAL WAS	no matter what	2.93	1.21	1.46	C	62
SO ODER SO	either way	2.97	1.21	1.46	C	61.6
BEREIT SEIN	to be ready	2.72	1.08	1.17	Rd	61
BEI GELEGENHEIT	at the next opportunity	2.81	1.12	1.25	C	60.4
DÜRFEN	to be allowed	2.84	1.28	1.64	ne	60.2
HÖCHSTE ZEIT SEIN	it's high time	2.73	1.15	1.31	Rd	59
SICH BEMÜHEN	to strive to do s.th.	2.72	1.11	1.23	A	59
EINVERSTANDEN SEIN	to agree	2.61	1.19	1.42	C	58.4
PROBIEREN	to try	2.83	1.19	1.41	A	57.6
HOFFEN	to hope	2.83	1.32	1.74	ne	57
WENN ich WÜSSTE WIE	if I knew how	2.76	1.15	1.33	A	56.9
ÜBERREDEN	to persuade	2.74	1.19	1.41	C	56.4
Es IST GUT	it is good	2.87	1.38	1.91	C	56
NICHT DRUMHERUM KOMMEN	can not avoid it	2.74	1.2	1.45	ne	55
BEREUEEN	to regret s.th.	2.7	1.22	1.49	Rs	55
Es STEHT FEST	to be set /it is set	2.69	1.08	1.17	C	55
TROTZ ALLEM	despite everything	2.66	1.25	1.55	Rs	54.5
FEST ÜBERZEUGT SEIN	to believe devoutly	2.51	1.13	1.28	C	54
BEFÜRCHTEN	to fear	2.67	1.12	1.25	A	53.9
DER MEINUNG SEIN	to hold that	2.77	1.35	1.82	ne	52.5
NICHT SO ANSTELLEN	not to act as if	2.64	1.33	1.77	C	51
ENTSCHEIDEN	to decide	2.56	1.25	1.56	C	50

Note.

D = desire, A = ability, Rs = reason, N = need, C = commitment, Rd = readiness, ne = no clear classification