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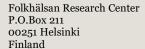
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Final draft

Empowerment-enabling home and school environments and self-rated health among Finnish adolescents

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Abstract

Perceived health during adolescence has not only immediate consequences for individuals and for society, but also long-term. We need to understand better the health development in this period of the lifespan. Empowerment may be one pathway through which social factors and conditions translate into health effects. This study aimed to examine whether empowermentenabling home and school environments are associated with self-rated health among adolescents, and whether the associations differ between genders, age or majority/minority language groups. Anonymous questionnaire data from respondents aged 11, 13 and 15 years were obtained from the Health Behaviour in School-aged Children study, conducted in Finland in 2014 in Finnish- and Swedish-speaking schools (N=5925/1877). The proportion rating their health as excellent varied between 33.6% (11-year-olds) and 23.1% (15-yearolds), boys rating their health as excellent more often than girls in all age groups. Findings showed that indicators of both empowerment-enabling home and school environments were independently and positively related to adolescents' self-rated health. Whereas a respectful, accepting, kind and helpful attitude among classmates and a good home atmosphere were quite consistently associated with excellent health, there were gender and age differences with concern to the other empowerment-enabling indicators. Moreover, there were gender-, ageand language-related differences regarding adolescents' perceptions of how empowerment enabling their environments were. Home and school environments that create opportunities through encouragement and care, and through strengthening feelings of being secure, accepted and respected are potentially empowerment enabling. This study suggests that such environmental qualities are important for the perceived health of young people.

Keywords: self-rated health, adolescents, empowerment-enabling environment, school, family, health promotion

Introduction

During the past 50 years, health among adolescents (10-19-year-olds) has improved less than among younger children (Sawyer et al., 2012). Perceived health in adolescence has not only immediate but also long-term consequences for individuals and for society, and a better understanding of the health development during this period of life is needed (Inchley et al., 2016; Viner et al., 2012). Health is a resource in everyday life (WHO, 1986) and promotion of health can be seen as an essential part of a healthy development. A positive youth development approach focusing on strengths and assets rather than problems and risks has been endorsed (Taliaferro and Borowsky, 2011; Wong et al., 2010). This kind of approach is crucial in the health promotion strategy of the World Health Organization (WHO) based on the Ottawa Charter (1986), which emphasizes empowerment as a core element.

Empowerment is a multilevel construct that has various definitions, and can be considered both as a process with beneficial outcomes and as an outcome in itself. Based on definitions by Rappaport (1987) and Zimmerman et al. (1992), empowerment can be characterized as a process by which people gain control over their lives, democratic participation in the lives of their community and a critical understanding of their environment (Perkins and Zimmerman, 1995). Prilleltensky et al. (2001), discussing the experience of power and control among children, define empowerment as 'a state of affairs in which people have enough power to satisfy their needs and work in concert with others to advance collective goals' (p. 145). Empowerment has also been described as an internal feeling of power, and as a process that is both personal and social (Siitonen, 1999). In health promotion, empowerment is defined as a process, where people – individually or collectively – gain greater control over actions and decisions affecting their health (Nutbeam, 1998).

Where powerlessness is associated with poor health (Strandmark, 2004; Wallerstein, 2002) empowerment can be regarded a health enhancing process. However, the association between empowerment and health *per se* has not been studied much, and, moreover, mainly among adults. A few studies have shown that empowerment is associated with perceived health among adolescents (Grealish et al., 2016; Jerdén et al., 2011, 2008). Adolescents with low empowerment scores have had poorer self-rated health and more unhealthy behaviours (Jerdén et al., 2011; 2008; Rissel et al., 1996). There also seems to be a positive association between parents' educational level and their children's empowerment scores (Jerdén et al., 2008). By facilitating empowerment, it might be possible to improve health among adolescents and support a positive health development through adolescence, and further on.

According to Wallerstein (2006), environments that include different supportive groups are part of the process to empowerment. Earlier studies have shown that safe and supportive families and schools, as well as positive and supportive peers, are essential both in adolescent development and for their health (Viner et al., 2012; Erhart et al., 2008). Likewise, Nation et al. (2007) state by referring to Bernstein and Watson (1997) that children's relationship with parents, peers and school personnel may promote or alternatively decrease empowerment. We suggest that empowerment may be regarded as one pathway through which social factors and conditions translate into health effects.

Empowerment is not a permanent state, and empowerment cannot be given to anyone: it has to emerge from within – however, it is possible to facilitate empowerment (Crondahl and Eklund Karlsson, 2016; Laverack, 2006; Siitonen, 1999). In this study, we focus on conditions that may enable and support empowerment among youth, and refer to the social environment as a possibly 'empowerment-enabling environment'. It has been suggested that an empowering process for adolescents requires certain mechanisms, such as adequate family support and other

social support, opportunities to participate, learn and have responsibilities (Kim et al., 1998; Rissel et al., 1996). The importance of participation has also been highlighted by others (Marr-Lyon et al., 2008; Holden et al., 2004; Jensen and Simovska, 2003). Cargo and colleagues (2003), in their study, found that an empowering environment can be created through adults believing, respecting, encouraging, caring and providing opportunities for youths. Similarly, findings by Siitonen (1999) concerning students in teacher education imply that empowerment may be supported and strengthened in an environment where adolescents experience openness, freedom of action and encouragement, and where they feel secure, accepted and respected. It has been argued that empowerment emerges in a transactional process between youth and adults, and, thus, adult involvement and support is seen essential in the youth empowerment process (Wong et al., 2010; Holden et al., 2004; Cargo et al., 2003). Consequently, important social environments as concerns empowerment may especially be environments including adults, such as family and school.

Research setting and objectives of the study

Finland is a bilingual country with both Finnish and Swedish as official languages. Of the total population 5.3% have Swedish as mother tongue (Official statistics of Finland 2017). Children in Finland have the right to attend day-care, preschool and school in their own language, either Swedish or Finnish.

Studies have shown that the Swedish-speaking minority in Finland is somewhat healthier than the Finnish-speaking population. The differences are not great, but can in the adult population be seen in different aspects of health (Suominen, 2014). Causes for the health differences are somewhat unknown since health behaviour or socioeconomic status does not seem to contribute markedly to the differences, neither in the adult nor in the adolescent population (Suominen, 2014; Suominen et al., 2000). It has been suggested that social interaction and social capital

would partly explain the health differences (Nyqvist et al., 2008; Hyyppä and Mäki, 2001); heritability and culture might also be a possible explanation (Suominen et al., 2000). Studies have mainly focused on adults, but differences in health have also been seen among adolescents. Swedish-speaking adolescents of different age have reported better self-rated health than their Finnish-speaking peers (Suominen et al., 2000). Saarela and Finnäs (2004), however, found the Swedish-speaking adolescents to be healthier when measuring objectively, whereas no differences were observed in perceived health.

Earlier research among adolescents suggest that there might be gender and age differences concerning the importance of different sources of social support (Inchley et al., 2016; Jerdén et al., 2011). Whether there are differences based on minority and majority linguistic status is not known.

The aim of this study was to explore whether empowerment-enabling home and school environments are associated with self-rated health among Finnish- and Swedish-speaking adolescents in Finland, and whether there are differences in these associations between boys and girls, language groups or between different age groups.

Methods

Data collection

This study is part of the international 'Health Behaviour in School-aged Children' (HBSC) - study conducted in several countries across Europe and North America every four years since the beginning of 1980s (Inchley et al., 2016). The HBSC-study collects survey-data on 11-, 13- and 15-year-olds' health and well-being, social contexts and health behaviour. In international HBSC-reports, the data from Finland include answers only from students in schools with Finnish as the main teaching language of the school (i.e. Finnish-speaking schools). The data

(N=7802) for this study were obtained from the anonymous classroom survey conducted both in Finnish- and Swedish-speaking primary and secondary schools (i.e. comprehensive schools) among approximately 11.5-, 13.5- and 15.5-year-olds (here after referred to as 11-, 13- and 15-year-olds) in Finland in 2014. The samples were chosen from the Finnish school register by using a special sampling program. The sample frame was the number of pupils at each class level. Schools were selected using a cluster sampling method that took the size of schools (probability proportionate to size, PPS) into consideration, and inside a selected school the class was randomly chosen. School principals decided whether their school, if selected, took part in the survey. Of the selected schools, 90% agreed to participate. Data were collected under supervised conditions in the classroom, responding was voluntary and confidentiality was ensured.

There was a pre-planned over-representation of Swedish-speaking students in the sample and thus the data was weighted in the statistical analyses: students from Finnish/Swedish-speaking schools 1.24/0.26. The response rate for students from Finnish-speaking schools was 85% and from Swedish-speaking schools 83%.

Study variables

For the purposes of this study, we use data related to student reports on self-rated health and perceptions of their school and home environment. We conceptualized an empowerment-enabling environment as an environment where adolescents experience encouragement and care, and where they feel secure, accepted and respected and have the possibility to participate in decision-making.

Self-rated health, or perceived health, was determined by asking 'How would you rate your health?' The response alternatives were: 1. Excellent, 2. Good, 3. Fair and 4. Poor. The scale

was reversed before analysis, and the variable was classified into two classes by combining alternatives good, fair and poor. According to Schnohr et al. (2016), due to differences in the slant of the word 'fair' in different languages, the response option 'fair' should be combined with poor and good health if the research interest is excellent health. Similarly, if the research interest would be poor health, the alternative fair should be combined with excellent and good health. We focused on excellent health, and as we included both Finnish- and Swedish-speaking students we classified the response alternatives into 1. excellent health, and 2. good/fair/poor health.

Empowerment-enabling school environment included three sum variables, which were formed based on a factor analysis: Classmate support, Teacher support and Student participation. The response scale ranged from one (completely agree) to five (completely disagree). The scales were reversed before further analysis. Classmate support consisted of four items and included three items from the classmate dimension of the validated Teacher and Classmate Support Scale (TCMS; Torsheim et al., 2000) (Cronbach's alpha 0.78). Teacher support consisted of six items of which two are included in the TCMS (Torsheim et al., 2000), and three items earlier used as a Teacher connectedness scale (García-Moya et al., 2017) (alpha 0.89). Student participation consisted of three items adapted from Stornes et al. 2008 (alpha 0.77). Empowerment-enabling home environment included two variables: Home atmosphere and Family support. Home atmosphere consisted of a single question: 'How would you rate the atmosphere at your home?' (e.g. Suominen et al., 2000). The response scale ranged from one (very good) to five (very bad). The scale was reversed before analysis. Family support consisted of four items (alpha 0.96) based on the multidimensional scale of perceived social support (MSPSS) by Zimet et al. (1988) that measures perceived availability and adequacy of support in a general way. The validity and reliability of the scale have been demonstrated in earlier studies (e.g. Canty-Mitchell and Zimet, 2000). The response scale ranged from one (strongly disagree) to seven (strongly agree). The empowerment-enabling environment dimensions and items are shown in the Appendix.

Background information included gender, age, language and socioeconomic status (SES). Language (Finnish/Swedish) was based on the teaching language of the school. SES was evaluated in two ways: based on the revised Family Affluence Scale (FASIII) and on perceived SES. FASIII consists of six items measuring the family's material affluence: number of computers, number of cars, own bedroom, holidays abroad, dishwasher and bathroom (Torsheim et al., 2016). Based on the answers a variable was formed and classified into three classes: high, middle and low. Perceived SES was evaluated by asking the students: 'How well off do you think your family is?' There were five response alternatives, which were classified into three classes: 1. very well or well off, 2. average and 3. not very well or not at all well off. In the regression analysis the variable was used as a dichotomized variable by combining classes 2 and 3.

The data were analyzed using SPSS 23 statistical software. The level of significance was set at p <0.05. Descriptive data were analyzed using Spearman's correlation, crosstabs, analysis of variance (ANOVA) and Mann-Whitney U-test, as appropriate. Associations between empowerment-enabling environments and self-rated health were analyzed using univariate and multivariate logistic regression analysis.

Results

Of the participants 76% (n=5925) were from Finnish- and 24% (N=1877) from Swedish-speaking schools. The proportion of boys was 49.4% (N=3858) and girls 50.6% (N=3944). The participants were comprehensive school students: 35.3% (N=2707) were 11-year-old, 32.1% (N=2462) 13- and 32.6% (N=2495) 15-year-old students. Three quarters (74.3%) reported their

family to be economically well or very well off, whereas one fifth (20.2%) reported average family economy and 5.5% reported their family to be economically not very well or not at all well off. The distribution was different when exploring the FASIII-variable: 16.1% of the participants had a high SES, 57.7% a middle and 26.3% a low SES.

The proportion of students rating their health as excellent varied between 33.6% (all 11-year-olds) and 23.1% (all 15-year-olds), the 11-year-olds rating their health as excellent more often than the 13- and 15-year-olds (p<0.001) and boys rating their health as excellent more often than girls in all age-groups (p<0.01; p<0.05; p<0.001). There were no statistically significant differences in self-rated health between the language groups. (Table 1)

Empowerment-enabling environments were associated with self-rated health: students – across gender, age and language groups – who reported their health as excellent had a higher mean value in family support, home atmosphere, student participation and both classmate and teacher support, compared with students who reported their health as good/fair/poor. Differences were significant at level p<0.001, except the difference in student participation among the 13-year-olds (p<0.01).

Using analysis of variance (ANOVA) or Mann-Whitney U-test, we compared how empowering the students evaluated their environments (Table 1). In the whole sample, boys rated their home atmosphere and classmate support to be more favourable than girls did (p< 0.001), whereas girls perceived teacher support to be on a higher level than boys did (p< 0.05). Among the 11-year-olds, the only statistically significant difference between genders was the higher ratings for teacher support among girls (p< 0.001). Among the 13- and 15-year-olds, boys rated both home atmosphere (p< 0.001) and classmate support (p \leq 0.001) more favourably than girls. When comparing Finnish- and Swedish-speaking students, there were more differences: students in Swedish-speaking schools rated their home atmosphere (p< 0.05) and both

classmate and teacher support more favourably (p< 0.001), whereas students in Finnish-speaking schools gave higher ratings for student participation (p< 0.05).

[Insert Table 1. approximately here]

Univariate regression analysis was run for both genders separately. In the univariate analysis all variables except for language were associated with self-rated health. Students' perception of their family's economic status and FASIII were both associated with self-rated health, and used in the multivariate analyses as controlling variables in different models.

Before further analysis, we explored possible interactions between background variables, empowerment-enabling environment variables and perceived excellent health. There were statistically significant interactions between the effects of age and home atmosphere as well as age and classmate support on perceived excellent health: a) the strength of the association between home atmosphere and self-rated health decreased significantly with age (13-year-olds: p<0.01; 15-year-olds: p<0.001) and b) the strength of classmate support was lower among the 15-year-olds as compared with the 11-year-olds (p<0.01). Interactions were also present between the effects of gender and teacher support (p<0.001) and gender and student participation (p<0.01) on perceived excellent health, both being more important for girls than boys. There were no interactions between language and empowerment-enabling environment variables on perceived excellent health.

Moreover, we explored correlations between empowerment-enabling environment variables using Spearman's correlation. The correlations were highest between home atmosphere and family support (0.49; p < 0.001) and between teacher and classmate support (0.43; p < 0.001).

Multivariate logistic regression analysis was conducted separately for boys and girls and for the three age groups, based on the interaction effects. First, multivariate logistic regression analysis was conducted for girls and boys (Table 2). In the fully adjusted models, a good home atmosphere had a positive association with perceived excellent health among both boys and girls. Family support was associated with perceived health among boys only. Of the variables relating to an empowerment-enabling school environment, classmate support had a positive association with perceived excellent health among both boys and girls, whereas teacher support was related to perceived health only among girls. Student participation was not associated with perceived health, neither among girls nor boys. When in separate analyses controlling for FASIII (data not shown), instead of perceived SES, the findings did not change for boys. However, among girls there was a difference related to age so that both the 13- and the 15-year-olds (p< 0.05; p< 0.01) were less probable to report excellent health as compared with the 11-year-olds when controlling for FASIII, whereas this was the case only for the 15-year-olds (p< 0.05) when controlling for perceived SES.

[Insert Table 2. approximately here]

Secondly, multivariate logistic regression analysis was conducted for the different age groups (Table 3). Concerning an empowerment-enabling home environment, there was a positive association between a good home atmosphere and perceived excellent health across all age groups. However, with higher age the strength of the association decreased (based on the findings from the analyses of interactions between study variables). On the other hand, among 13- and 15-year-olds there was a positive association also between family support and perceived excellent health. Of the items reflecting an empowerment-enabling school environment, classmate support had a positive association with excellent health across all age groups, though the strength decreased among the 15-year-olds. Moreover, teacher support was positively related to health among 11- and 15-year-olds. Student participation was not associated with

health in any age group. When controlling for FASIII, instead of perceived SES, the findings changed among the 15-year-olds so that classmate support was no longer associated with health.

[Insert Table 3. approximately here]

Discussion

Empowerment-enabling school and home environments were associated with self-rated health among adolescents of different age, gender and language background, regardless of socioeconomic status. Previous studies have shown that empowerment measured on the individual level is positively associated with self-rated health and health-related behaviours (Jerden et al., 2011, 2008; Rissel et al., 1996). According to our study, a respectful, accepting, kind and helpful attitude among classmates and a good home atmosphere, in particular, seem to be important empowerment-enabling qualities in terms of positive associations with health. This was true for girls and boys of different language background and across all age groups, that is, for 11-, 13- and 15-year-old adolescents.

Among girls, an empowerment-enabling school environment, as a whole, appears to be important, since beside classmate support, also teacher support was associated with their self-rated health. This could imply that for girls, the possibility to attend a school with a secure, accepting, respectful and caring environment both as regards classmates and teachers may enable and support empowerment, and may have a positive impact on health. Moreover, according to an earlier study, positive school experiences (i.e. liking school) among 12-13-year-old girls, predicted their self-rated health two years later (Jerdén et al., 2011). An empowerment-enabling school environment may thus pave the way for a positive health development also later on, especially among girls. As concerns boys, both measures reflecting an empowerment-enabling home environment, i.e. family support and the atmosphere at home,

were associated with health. The above mentioned study (Jerdén et al., 2011) found that a better mood at home predicted self-rated health two years later among boys. Hence, the home-environment might influence boys slightly more than girls. However, as our findings suggest, there might be differences between genders relating to which qualities of a certain environment that are of greater importance.

Although a good home atmosphere was associated with perceived excellent health across all age groups, the strength of the association decreased significantly with age. Nevertheless, among the 15-year-olds, it was still the most important factor, of the studied ones, associated with excellent health. Moreover, family support reached statistical significance among 13- and 15-year-old adolescents. This suggests the significance of an empowerment-enabling home environment also for teenagers. Our findings thus supports the notion of parents' continuing role as key health assets for adolescents as they grow up (Inchley et al., 2016). Though the role of empowerment-enabling classmates seems to be essential in terms of associations with health among adolescents — and especially among the 13-year-old — we could see a decrease in the strength of the association among the 15-year-olds. At the same time, teachers' role reached statistical significance. These findings could imply a need for various empowerment-enabling sources among the 15-year-olds, that is, different environments and situations where they can feel secure, respected and accepted and also cared for.

Based on our findings, students in Swedish-speaking schools might perceive especially their school environment more empowering than students in Finnish-speaking schools. There may be some differences in the social culture in the Swedish-speaking minority as compared with the Finnish-speaking majority, which possibly could enhance empowerment and health. According to Hyyppä and Mäki (2003), social capital is related to health differences in the adult Finnish- and Swedish-speaking population, and may also be relevant for empowerment.

However, according to the findings from the current study, there were no differences in selfreported health among the language groups. Earlier findings from studies among Finnish- and Swedish-speaking adolescents in Finland are inconsistent, and, moreover, reflect the situation in the late 90's. Saarela and Finnäs (2004), for example, found that Swedish-speaking adolescents, as compared with Finnish-speaking, were less likely to have a diagnosed disease, and less likely to have had inflammation in the respiratory organs, but they found no differences in perceived health when adjusting for risk factors and health behaviors. Having a disease or having had an inflammation did increase the probability of reporting poor health. In this context, especially weight issues and physical activity contributed to eliminating differences in perceived health between the language groups (Saarela and Finnäs, 2004). We found, in an earlier study among the language groups, that students from Finnish-speaking school reported being physically more active, whereas, in contrast, students in Swedish-speaking schools reported less overweight or obesity (Simonsen et al. 2016). There seem to be, also in other respects, some differences in both assets and risks, but no consistent pattern. Nevertheless, possibly, the perceptions of more empowerment-enabling environments among students in Swedish-speaking schools might predict better health later on (cp. Jerdén et al., 2011) and longitudinal studies on this subject, in general, would be valuable.

Participation and empowerment are seen to be closely interrelated (e.g. Marr-Lyon et al., 2008; Jensen and Simovska, 2003). However, in our study, student participation in school decision-making processes concerning studying methods, tasks and rules was not associated with self-rated health. Student participation was rated the lowest of the different empowerment-enabling measures, and there might have been too little variation in the students' answers. It seems that the comprehensive school system in Finland still may allow only little student participation in planning schoolwork and classes. In addition, participation should perhaps be measured in

various ways to discover significant associations with health. The interaction analyses, however, suggest that the possibility for student participation in schools might be more important for girls than for boys. As regards empowerment, the significance of participation in meaningful activities and encouragement of self-determination, that is, more equal relationships between adults and young people, as well as proper recognition for one's efforts, has been emphasized (Prilleltensky et al., 2001; Chinman & Linney, 1998). Participation that is merely aesthetic, having an adult-driven agenda, might even lead to disempowerment (Wong et al., 2010).

Adults are in a key position in creating a welcoming social climate and an environment which provides opportunities and offers care and respect (Cargo et al., 2003). In these kinds of environments, adolescents are able and willing to share their views and participatory colearning is possible (Wong et al., 2010). According to Tengland (2007) an increase in knowledge, self-esteem, self-confidence and autonomy contribute to increased control and empowerment. Moreover, the interrelationship between individual development and building group strength needs to be emphasized, especially in the school context (Scriven and Stiddard, 2003). An environment characterized by qualities such as encouragement, security, equality, and trust and respect, may support and enable empowerment (Siitonen, 1999). Such empowerment-enabling school and family environments seem to be associated with perceived excellent health among adolescents.

Strengths and limitations

The methodological strength of this study is a large sample and excellent response rates. Hence the findings can certainly be generalized at least to adolescents in Finland. The proportion of Swedish-speaking students is, however, larger than in the general population. This was adjusted for by using weights in the analyses. Whether the importance of different empowermentenabling environments is the same in different cultural settings is worth further studies.

This study has some limitations. We only studied home and school environments, as possibly empowerment-enabling. Future studies could include also other contexts, such as, community organizations and sports/leisure organizations to investigate the relative effect of different contexts. The HBSC-study data are of overall high quality; however, the study was not designed for the purposes of the current study and future studies could include more comprehensive measures of empowerment enabling, especially with regard to student participation in decision-making as well as an empowerment-enabling home environment, where one of the indicators consisted of a single item. Moreover, this was a cross-sectional study and conclusions about direction of influences cannot be made.

Conclusions

This study, in a bilingual country, focused on 11-, 13- and 15-year-old adolescents who experience great developmental and social changes in their lives. Research findings showed that indicators of both empowerment-enabling home and school environments were independently and positively associated with perceived excellent health among adolescents of different age and language background, regardless of socioeconomic status. However, there seems to be gender-, age- and language-related differences regarding adolescents' perceptions of how empowerment enabling their environments are. Home and school environments that create opportunities through encouragement and care, and through strengthening feelings of being secure, accepted and respected are potentially empowerment enabling. This study underlines the potential importance of such environmental qualities for the perceived health of young people.

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Appendix. Empowerment-enabling environments: dimensions and items

Empowerment-enabling school environment

Classmate support

Most of the students in my class are kind and helpful

Other students accept me as I am

The students in my class enjoy being together

I feel safe in this school

Teacher support

I feel a lot of trust in my teachers

I feel that my teachers care about me as a person

I feel that my teachers accept me as I am

Our teachers treat us fairly

My teachers are interested in knowing how I'm doing

Teachers encourage me to express my own views in my class(es)

Student participation (in decision-making)

In my classes, students have some control in deciding which tasks to work on

In my classes, students get to participate in deciding how to work on tasks

In my classes, students get to participate in deciding class rules

Empowerment-enabling home environment

Home atmosphere

How would you rate the atmosphere at your home?

Family support (MSPSS)

I can talk about my problems with my family

I get the emotional help and support I need from my family

My family really tries to help me

My family is willing to help me make decisions

The references are shown in the Methods section of the paper.