

Patient's psychological factors as predictors of treatment non-attendance in short- and long-term psychotherapy

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Tiivistelmä – Referat – Abstract <i>Tavoitteet.</i> Psykoterapiaan sitoutumattomuus heikentää terapian tuloksellisuutta sekä terveydenhuoltosektorin resurssien tehokasta käyttöä. Sitoutumattomuus ilmenee terapiasta kieltäytymisenä tai terapian keskeyttämisenä. Tutkimuksen tavoitteena on selvittää potilaan psykologisten muuttujien ja psykoterapiaan sitoutumattomuuden välistä yhteyttä. <i>Menetelmät.</i> Tutkimuksen aineisto käsitti yhteensä 326 Helsingin Psykoterapiatutkimukseen (Helsinki Psychotherapy Study, HPS) osallistunutta masennus- ja/ tai ahdistuneisuushäiriöistä kärsinyttä aikuisikäistä potilasta. Potilaat satunnaistettiin kolmeen tutkimusryhmään: voimavarasuuntautuneeseen terapiaan (n=97, 12 käyntiä), lyhyeen (n=101, 20 käyntiä) ja pitkään (n=128, 3 vuotta) psykodynaamiseen psykoterapiaan. Soveltuvuutta psykoterapiaan mitattiin Suitability for Psychotherapy Scale (SPS) –mittarin kokonaisasteikolla ja seitsemällä ala-asteikolla. Potilaan katsottiin kieltäytyneen terapiasta, mikäli hän satunnaistamisen jälkeen ei aloittanut tarjottua terapiaa. Terapia katsottiin keskeytyneeksi, mikäli se päättyi ennen terapian aiottua kestoja yksipuolisesti potilaan päätöksestä. Tilastollisissa analyyseissä käytettiin logistista regressio mallia ja Coxin mallia. <i>Tulokset ja johtopäätökset.</i> Terapian aloittamatta jättäminen oli suurinta pitkään psykodynaamiseen psykoterapiaan ohjautuneilla, mikä saattoi johtua satunnaistamisesta. Odotetusti huonompi psykoterapiasoveltuvuus (SPS:n kokonaisasteikko) ennusti riskiä sitoutumattomuuteen. Psykoterapia soveltuvuuden aladimensioista merkittävimmin sitoutumattomuuteen olivat yhteydessä ongelmallinen minäkuvan suhde ideaaliminään sekä huono vuorovaikutuksen sujuvuus ja reflektointikyky. Huono terapiasoveltuvuus johti korkeampaan riskiin keskeyttää voimavarasuuntautunut terapia tai pitkän psykodynaaminen terapia, mutta ei lyhyttä psykodynaamista terapiaa.			
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Tiivistelmä – Referat – Abstract <p><i>Aims.</i> Non-attendance reduces the effectiveness of psychotherapies and wastes resources in the health sector. It comprises both treatment refusal and drop-out. This study aims at investigating the association between patients' psychological suitability to psychotherapy and treatment non-attendance.</p> <p><i>Methods.</i> The study sample consisted of 326 Finnish adult outpatients suffering from mood or anxiety disorders and participating in the Helsinki Psychotherapy Study (HPS). The patients were randomized in three study groups: solution-focused therapy (n=97, 12 sessions), short (n=101, 20 sessions) and long (n=128, 3 years) psychodynamic therapies. Psychological suitability was measured with Suitability for Psychotherapy Scale (SPS) total score and seven subscores. Refusing the offered therapy after randomization was considered treatment refusal. Drop-out occurred if patient terminated therapy unilaterally before its anticipated length. Statistical analysis were carried out with linear model and Cox model.</p> <p><i>Results and Conclusions.</i> The risk of treatment refusal was associated with therapy length and highest in long-term psychodynamic psychotherapy, which might be related to the randomization. As expected, poor suitability measured with SPS total score predicted treatment non-attendance. This was most notably seen in case of poor reflective ability, problems in interaction and problematic self-concept in relation to ego ideal. Patients with poor suitability were more likely to drop-out from solution-focused therapy and long psychodynamic therapy than from short psychodynamic therapy.</p>			
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Preface

I am very grateful for the possibility to write my Master's Thesis as part of the Helsinki Psychotherapy Study (Finnish Institute for Health and Welfare), a unique randomized-controlled trial with extensive amounts research data on adult patients with mood and anxiety disorders and treated with short- and long-term psychotherapy. The more I have worked with the data from this project, the deeper has my respect for it grown. I am grateful for the extremely important and previously less studied topic on the association of psychological patient variables with treatment non-attendance. At this point, I want to give my sincere thanks to adjunct professor, psychoanalyst Olavi Lindfors for his guidance and deep knowledge on the psychological variables both on the theoretical level and as a clinician and emeritus professor Paul Knekt for supporting the analysis and his guidance and answers to my many questions in the world of the statistics. Furthermore, I'm thankful for professor Marjaana Lindeman at the University of Helsinki for her helpful comments to the manuscript. Mr. Julius Rissanen has been a great help in conducting the statistical analysis.

Traisa, 2nd November 2020

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1. Non-attendance in psychotherapy

The phenomenon of non-attendance in psychotherapy is multifaceted, including both treatment refusal and drop-out from treatment during its course (Oldham, Kellett, Miles, & Sheeran, 2012). It is a problem significantly impacting the effectiveness of mental health interventions. Through non-attendance health care resources are wasted (Barrett, Chua, Crits-Christoph, Gibbons & Thompson, 2008; Swift and Greenberg, 2012) and it may awaken a sense of failure and lead to demoralization of the therapist (Barrett et al, 2008). It is associated with worse psychotherapy results and dissatisfaction (Swift & Greenberg, 2012). Non-attendance, i.e., patient's negative attitudes toward the proposed treatment plan and advice (Hansen & Kessing, 2007) is a related, but wider concept which may cover treatment refusal and drop-out phenomena.

Various definitions for treatment refusal and drop-out can be found in literature. Treatment refusal is defined somewhat differently and for different reasons according to the setting. In randomized controlled trials treatment refusal is understood as signing the participation agreement in the study and subsequently not starting therapy after being assigned to a specific therapy group. In naturalistic studies and in clinical settings treatment refusal is defined as not showing up at the initial scheduled appointment (Swift, Greenberg, Tomkins & Parkin, 2017). Drop-out is defined as beginning an intervention but unilaterally terminating treatment against provider recommendations and prior to recovering from mental health problems (Swift et al, 2017). A historically widely used method of determining drop-out is therapist judgement on whether the patient has sufficiently attained the goals of the treatment, which however has low reliability since therapists have different views on the goals of therapy (Hatchett & Park, 2003). The most common operationalization, the patient leaving therapy before a specified number of sessions, is based on duration of the therapy – a somewhat arbitrary criterion as the cut-off value varies in published literature (Barrett et al, 2008). Other duration based methods include premature termination of therapy within a specific time limit, failure to return after an agreed semester pause or missed scheduled appointments, most notably missing the last scheduled appointment (Hatchett & Park, 2003).

Estimations vary regarding the prevalence of non-attendance. Older reviews and meta-analyses report higher values for the drop-out rate varying between 30-79% (Baekeland & Lundwall, 1975; Reis & Brown, 1999; Wierzbicki & Pekarik, 1993) whereas recent meta-analyses reported lower levels (20-30%) (Swift & Greenberg, 2012; Swift et al, 2017). One

explaining factor might lie in the varying definitions and operationalizations of non-attendance. In earlier research drop-out was often estimated by the therapist whereas the newer studies tend to use more objective measures, such as duration based methods or method of missed last appointment or a definition based on patient-initiated drop-out (Swift, Callahan & Levine, 2009; Swift & Greenberg, 2012; Wierzbicki & Pekarik, 1993). Some of the variation can also be explained through inclusion or exclusion of refusals, as publications with drop-out rates in the lower range include only therapy starters in the analysis (Ong, Lee & Twohig, 2018; Swift & Greenberg, 2012; Linardon, Fitzsimmons-Craft, Brennan, Barillaro & Wilfley, 2018). Swift and Greenberg (2012) report higher drop-out rates in naturalistic conditions (26%) in comparison to controlled study conditions (17%). Regarding diagnosis the prevalence of non-attendance is in the same range for both anxiety and depressive disorders varying from 16% to 36% (Cooper & Conklin, 2015; Fernandez et al, 2015; Linardon et al, 2018).

Existing research on psychological factors as predictors of treatment non-attendance for patients suffering from mood or anxiety disorders is limited. Previous studies stem predominantly from the psychodynamic tradition. Study samples are often very small or the articles concentrate on case studies, which were excluded from this literature search. In the previous years some research has been conducted also from the perspective of the cognitive psychology. Most of the existing articles observe psychological factors from a very limited perspective concentrating on one or two aspects. Studies with validated overall measures on psychological suitability are rare. Additionally the published literature concentrates on drop-out, whereas treatment refusal is not studied. Thus, there is an obvious need for more studies with larger sample sizes and a comprehensive view taking several psychological aspects into account in the modelling and differentiating between drop-outs and treatment refusers.

1.2 Predictors of treatment non-attendance

In order to reduce non-attendance, and thus to enhance the effectiveness of psychotherapies, we need to understand the underlying factors. Potential predictors of non-attendance related to therapist, therapy process or the socioeconomic and diagnostic patient characteristics have been in the center of the research over the last decades resulting in a rich variety of individual studies, reviews and meta-analyses for several disorders and types of psychotherapy.

Therapist factors such as trainee level of experience (Swift & Greenberg, 2012) and factors related to treatment such as length are related to higher risk of treatment non-attendance (Swift & Greenberg, 2012; Cooper & Conklin, 2015) whereas therapy orientation does not

correlate with risk of treatment non-attendance (Swift & Greenberg, 2012). Some research evidence exists for an association between patient characteristics such as education or diagnosis and treatment non-attendance, whereas for other factors such as gender or age the findings are inconsistent (Wierzbicki&Pekarik, 1993; Swift & Greenberg 2012).

Psychological suitability for psychotherapy, i.e., intrapsychic and interpersonal characteristics favoring a choice of a certain type of treatment, (Laaksonen, 2014) as predictive factor for treatment non-attendance has been studied far less. The association of therapy motivation to treatment non-attendance, being an exception among the psychological suitability factors has been studied for several disorders and treatment orientations (Swift & Callahan, 2009). For the majority of psychological factors only a limited amount of research exists not fully covering the vast clinical field. Such is the case for focality of the psychological problem (Høglend, Engelstad, Øystein, Heyerdal & Amlo, 1994), modulation of affect (Frayn, 1992), flexibility of interaction (Hilsenroth, Handler, Tomand. & Padawer, 1995), self-concept in relation to ego ideal and reflective ability (Rubin, Dolev & Zilcha-Mano, 2018) and response to trial interpretation, which only has been subject of research once (Vaslamatzis& Verveniotis, 1985). Thus the need for further research is obvious.

As the information on patient factors in relation to non-attendance in psychotherapy is scattered and partly inconsistent, the existing literature was reviewed focusing on studies on individual outpatient psychotherapy for adults with depressive or anxiety disorders. The literature search covering both general patient factors (confounding variables) as well as psychological variables (predictive variables) was done in PubMed for the time span 01.01.1970-30.05.2020.

The following search terms and their various combinations were used in the search for psychological factors related to non-attendance: “psychological factors”, “emotion regulation”, “self-concept”, “motivation”, “circumscribed problem”, “focus”, “reflective ability”, “introspection”, “trial interpretation”, “flexibility of interaction”, “drop-out”, “attrition”, “refusal”, “premature termination” and “psychotherapy”. Further articles were found in the reference lists of the identified publications. To be included in the review, the publication had to report drop-out rates or refusal rates and assess the psychological factors association to it. The search yielded 26 articles including one meta-analysis and four review articles.

The following search terms and their various combinations were used in the search for general patient factors (i.e., sociodemographic and clinical factors) related to non-attendance: “drop-

out”, “attrition”, “refusal”, “premature termination”, “psychotherapy”, “meta-analysis”, “review”, “depression”, “anxiety”. Further articles were found in the reference lists of the identified publications. To be included in the literature review, the publication had to report at least drop-out rates or drop-out and refusal rates, analyze potential patient variables as predictors of non-attendance and be either a meta-analysis or a review article. The search yielded six meta-analysis and two reviews.

1.2.1. Psychological factors related to non-attendance

On the basis of a thorough literature review, Laaksonen (2014) presented altogether twelve psychological suitability characteristics forming five domains that have been studied as predictors of the outcome in psychotherapies with different modality or length.

Nature of the problem or circumscribed problem can be either focal or global and is defined as the patients’ ability to formulate key problems. Ego strength is measured with three criteria: modulation of affects consisting of a good accessibility and tolerance of affect, flexibility of interaction with the interviewer and self-concept in relation to ego ideal as a measure of a realisticity of the self-concept. Self-observing capacity covers aspects such as treatment motivation, reflective ability or psychological mindedness and response to trial interpretation understood as the ability to elaborate on the psychological interpretations of the problem offered by the therapist. Intelligence is related to capacity of problem solving. Intrapsychic and interpersonal behavior is measured with four factors: defence styles, coping styles and cognitive skills, personality and interpersonal relationships.

The following literature review concentrates on the association of the first three domains with non-attendance to psychotherapy. These three domains together form the SPS scale used in the analysis. Additionally studies on the prediction of overall suitability scales on non-attendance, were searched for. The results of the literature review are compiled in Table 1 listing one meta-analysis, four reviews and 21 individual prediction studies. The majority of the patients in the studies are suffering either from mood disorders or anxiety disorders.

Table 1: Psychological factors as predictors of non-attendance to psychotherapy.

Study and country	Type of study	N	% female	Diagnosis	Therapy form	Drop-out rates	Overall suitability	Nature of problems	Ego strength	Self-observing capacity
Swift & Callahan, 2009 (USA)	meta-analysis	26 studies, N=2356	NR	MIXED	MIXED	N/A	-	-	-	Motivation: engagement in preferred treatment reduces drop-out
Baekeland & Lundwall, 1975	review	62 studies,	NR	NR	NR	NR	-	-	Self-concept: drop-outs avoid self-criticism, less evasive and willing to reveal oneself. Interaction: Drop-outs are less evasive and less willing to reveal himself.	Reflective ability: dropouts less psychologically-minded; Motivation: Drop-outs poorly motivated and less likely self-referred
Reis & Brown, 1999	review	NR	NR	NR	NR	NR	-	-	Modulation of affects: non-impulsiveness, low frustration tolerance associated with drop-out	Reflective ability: non-psychological-mindedness associated with drop-out; Motivation: self-referred patients less likely to drop out
Eskildsen et al., 2010	review	28 studies	NR	SP	CBT	NR	-	-	Modulation of affects: no association between anxious arousal and dropout; drop-outs more likely to experience and express anger	-
Santana & Fontanelle, 2011	review	16 studies, N=16766	NR	Anx.	MIXED	10-85%	-	-	-	Motivation: Patient expectations and opinions about treatment related to drop-out.

Table2 continued

Study and country	Type of study	N	% female	Diagnosis	Therapy form	Drop-out rates	Overall suitability	Nature of problems	Ego strength	Self-observing capacity
Greenspan & Mann Kulish, 1985 (USA)	naturalistic	N=718	70%	Anx. 39%; dep. 29%; pers. 7%	dyn	38%	-	-	-	Reflective ability: Lower reflective ability related with drop-out. Motivation: Motivational factors other than related to the willingness to do psychological work related with drop-out.
Steidtmann et al., 2012 (USA)	RCT	N=473	56%	MDD	CBASP +med. 41% Supp. +med. 40% med. 19%	21%	-	-	-	Motivation: Patients preferring medication were more likely to drop out than patients preferring combined therapy and medication
Tarescavage et al., 2015 (USA)	naturalistic	N=453	58%	Dep. 29%; pers. 28%; adjust. dis. 32%	CBT 49% eclectic 13% supp. 8%	NR	-	-	Modulation of affect: Low positive affect and high negative affect predictors of premature termination	-
Kosics et al., 2009 (USA)	RCT	N=429	65%	MDD	CBASP 12% Med. 8% CBASP +med. 80%	28%	-	-	-	Motivation: Treatment preference (med./psychotherapy) was not associated with risk of drop-out.
Rubin et al., 2018 (Israel)	naturalistic	N=413	74%	Anx. 13% (OCD 1%); dep. 11%; eat. 9%	LTPP	21% refusal 17% dropout	-	-	Self concept: Coherent self-description associated with less drop-out	Reflective ability: Higher ability for self understanding associated with less drop-out

Table 2 continued

Study and country	Type of study	N	% female	Diagnosis	Therapy form	Drop-out rates	Overall suitability	Nature of problems	Ego strength	Self-observing capacity
Holma et al., 2010 (Finland)	naturalistic	N=269	73%	MDD; comorb. (57% anx; 25% subst. use dis.; 44% pers.)	Med. psychotherapy	12%	-	-	-	Motivation: Attitude towards psychosocial therapy or medication was no predictor of attendance.
Piper et al., 1998 (Canada)	RCT	N=258	61%	Dep. 75%; pers. 60%; anx. 8%;	IPT 50% Supp. 50%	27% refusal 10% dropout	-	-	-	Reflective ability: No significant relationship between PN and dropout in either therapy group.
Connolly Gibbons et al., 2019 (USA)	Randomized noninferiority trial	N=237	75%	MDD	supp. 50% CT 50%	27%	-	-	-	Reflective ability: Self-understanding and recognition (SUIP-R) not related with dropout. Motivation: Attitudes and expectations on treatment did not predict dropout.
Hilsenroth et al., 1995 (USA)	Between group comparison	N=178	66%	Dep. 46% Anx. 8% Pers. 72%	LTPP	N/A	-	-	Flexibility of interaction: Negative attitudes towards therapist are not related to drop-out.	Motivation: Negative attitudes towards treatment are not related to drop-out.
McFarland & Klein, 2005 (USA)	naturalistic	N=121	72%	Dep. 100% Anx. 31% Pers. 47% Subst. use 44%	Psychotherapy Psychotherapy +med	64%	-	-	Self concept: Self criticism not related with drop-out	
Markowitz et al., 2016 (USA)	RCT	N=110	73%	PTSD	exposure 25%; relaxation 25%; IPT 50%	25%	-	-	-	Motivation: Treatment preference/ disinclination did not predict dropout.
Charnas et al., 2010 (USA)	naturalistic	N=101	70%	Dep. 54% Anx. 13% Pers. 53%	STPP	22%	-	-	-	Motivation: PAI Treatment Rejection Scale (RXR) differentiated between drop-outs and continuers

Table 2 continued

Study and country	Type of study	N	% female	Diagnosis	Therapy form	Drop-out rates	Overall suitability	Nature of problems	Ego strength	Self-observing capacity
Frayn, 1992 (Canada)	between group comparison	N=85	NR	MIXED	Psychoanalysis psychotherapy	24%	-	-	Modulation of affect: Lower levels of affect availability, frustration tolerance and impulse control associated with drop-out.	Reflective ability: Lower introspection associated with dropout. Motivation: Lower degree of self-interest and commitment to understand self related to drop-out
Sasso & Strunk, 2013 (USA)	naturalistic	N=66	58%	MDD	CBT	33%	-	-	-	Motivation: interest in therapy predicted drop-out
Hoglend et al., 1994 (Norway)	naturalistic	N=43	67%	Axis I 65%; pers. 23%	dyn	19%	-	Focality of the problem not associated with drop-out.	-	Reflective ability: Level of insight inversely and significantly correlated with drop-out. Motivation inversely correlated with drop-out.
Callahan et al., 2009 (USA)	naturalistic	N=40	55%	Dep., anx.	CBT, trainee clinic	78%	-	-	-	Motivation: decreasing therapist role expectations associated with higher drop-out. Higher efficiency expectations associated with higher drop-out.
Hansen et al., 1992	Between group comparison	N=30	NR	OCD	CBT	N/A	-	-	-	Motivation: a mismatch between patient expectations and therapy reality associated with drop-out.
Vaslamatzis & Verveniotis, 1985 (Greece)	naturalistic	N=24	42%	Dep. Anx. Pers.	STPP	21%	Selection criteria	Non-ability to present a circumscribed problem associated with drop-out.	-	Trial interpretation: positive correlation between early transference confrontation and drop-out. Motivation: Lack of high motivation associated with drop-out.

Table 2 continued

Study and country	Type of study	N	% female	Diagnosis	Therapy form	Drop-out rates	Overall suitability	Nature of problems	Ego strength	Self-observing capacity
Myhr et al. 2007 (Canada)	naturalistic	N=231	NR	NR	CBT	18%	SSCT	-	-	-
Cromer & Hilsenroth, 2010 (USA)	naturalistic	N=71	73%	Dep. 54%, anx. 14%	STPP		CDPS	-	-	-
Baumann et al., 2001 (USA)	naturalistic	N=38	58%	MIXED	STPP	21%	CDPS	-	-	-

Abbreviations for diagnosis: anx= anxiety disorders; dep= depressive disorders; eat= eating disorders; MDD= major depressive disorder; OCD= obsessive-compulsive disorder; pers= personality disorders; PTSD= post-traumatic stress disorder; SP= social phobia; subst. use= substance use disorders.

Abbreviations for therapy orientations: CBASP= cognitive-behavioral system of psychotherapy; CBT=cognitive behavioral therapy; cogn.= cognitive therapies; CT= cognitive therapy; dyn.= psychodynamic or analytic therapies; eclectic = eclectic psychotherapy; INT= integrative therapies; IPT= interpersonal therapies; LTPP lon-term dynamic psychotherapy; med.= psychopharmaca; SF= solution focused therapies; STPP = shot-term dynamic psychotherapy; supp.= supportive therapies; eclectic.

1.2.2.1 Overall psychological suitability

Overall psychological suitability measures cover several psychological aspects to give an indication of patient's overall psychological suitability to therapy. The association between non-attendance to psychotherapy and an overall psychological suitability to psychotherapy was subject of research in four independent studies investigating three suitability measures. The measures cover aspects such as circumscribed problem, motivation, meaningful relationships, reflective ability or modulation of affect. Two of the measures were created and tested with respect to short-term psychodynamic therapy: selection criteria after Davanloo (Vaslamatzis & Verveniotis, 1985) and Capacity for Dynamic Process Scale CDPS (Baumann et al., 2001; Cromer & Hilsenroth, 2010). One measure selects patients suitable for short-term cognitive therapy: Suitability for Short-Term Cognitive Therapy SSCT (Myhr, Talbot, Annable & Pinard, 2007). All three validated suitability total scores are capable of differentiating treatment completers from non-completers.

1.2.2.2 Nature of problems

Nature of the psychological problem, which causes the need for psychotherapy, is described in the literature as being either focal or global. (Laaksonen, 2014). The association of focality of the problem to non-attendance in psychotherapy was investigated in two small to middle-sized studies for therapies of psychodynamic orientation. Non-completers are less able to present a circumscribed problem in a sample of patients suffering from mood disorder and personality disorders and treated with short-term dynamic therapy (Vazlamatzis and Vervenitis, 1985), whereas no association exists between circumscribed problem and drop-out in patients suffering predominantly from Axis I disorders and treated with open-end psychodynamic therapy (Høglend et al., 1994). Thus, the incapability to present a focal problem seems to enhance the risk of non-attendance in short-term therapies but not in long-term therapies. However, the number of studies is low and sample sizes are small.

1.2.2.3 Ego strength

A good ego strength is characterized by the ability to resolve inner conflicts, to cope with stress, tolerate a variety of emotions or postpone ones' desires in order to achieve a goal (APA, 2020), shown through successful modulation of affects, adaptive and flexible interaction and a realistic self-concept (Laaksonen, 2014).

The association of modulation of affects with non-attendance to psychotherapy has been investigated in two review articles and in two middle-sized to large studies covering a variety

of psychotherapy orientations. The findings are consistent in showing a positive association between low frustration tolerance and impulsiveness for a large spectrum of disorders (Reis & Brown, 1999), high levels of anxious arousal and anger in patients suffering from social phobia (Eskildsen, Hougaard and Rosenberg, 2010), low positive emotionality as well as high negative emotionality in a sample of patients suffering from depressive disorders (Tarescavage et al, 2015) and low levels of affect availability, frustration tolerance and impulse control (Frayn, 1992) with non-attendance. Based on the findings there seems to be an inverse association between modulation of affects and treatment non-attendance.

Flexibility of interaction is a measure for the ability to establish a good relationship with the interviewer. Active and flexible interaction is needed to form and maintain a good working alliance (Laaksonen, 2014). The association of flexibility of interaction with premature termination has been assessed in the review by Baekeland and Lundwall (1975). Early termination is associated with greater tendency to self-disclosure, evasiveness and less willingness to reveal himself.

Self-concept in relation to ego ideal can be understood as a balance between the patient's view of oneself in relation to the expectations and abilities (Laaksonen, 2014). It was subject of research in one review and two studies on long-term psychodynamic therapy and non-defined therapy orientation. Coherent self-description is associated with lower risk of drop-out in a large sample treated with open-end dynamic psychotherapy (Rubin et al, 2018). Dropouts are more likely to avoid self-criticism and are not able to see himself in objective light in a review covering several disorders (Baekeland & Lundwall, 1975). In a sample of patients suffering from depressive disorders and treated with non-defined long-term psychotherapy no association between treatment non-adherence and self-concept was found (McFarland & Klein, 2005). In the light of the previous research the association between self-concept to ego ideal and treatment non-attendance seems unclear.

1.2.2.4 Self-observing capacity

The capacity and readiness to self-observation can be assessed through the patient's response to trial interpretation, reflective ability and treatment motivation.

Response to trial interpretation refers to the interview situation, where the patient is given a first psychological interpretation of his or her problems. The patient's ability to receive the trial interpretation and elaborate it further is considered a prerequisite for a short-term interpretative therapy (Laaksonen, 2014). One paper investigated the association of the

response to trial interpretation and drop-out. Vaslamatzis and Verveniotis (1985) observe in a small sample of patients suffering from mood and anxiety disorders and treated with short-term psychodynamic therapy a positive correlation between early transference confrontation and drop-out. The limited number of studies, small sample size and missing research on long-term therapies allows no conclusions on the association to treatment non-attendance.

The ability to recognize one's desires and affects and to understand causalities between present life and past experiences is called reflective ability (APA, 2020). Two reviews focused on a broad variety of disorders and six studies with middle-sized to large samples assess the association of reflective ability to drop-out. The findings are fairly consistent. All reviews and four studies report an inverse correlation between reflective ability and drop-out, whereas two studies (Connolly Gibbons et al., 2019; Piper, Joyce, McCallum & Azim, 1998) find no correlation. Less psychologically minded patients are more likely to drop out according to two reviews (Baekeland & Lundwall, 1975, Reis & Brown, 1999). Limited reflective ability is correlated with drop-out in psychoanalytical therapy (Greenspan & Mann Kulish, 1985), in open-end psychodynamic therapy (Rubin et al, 2018; Høglend et al, 1994) and for a sample treated with psychoanalysis or a not specified long-term therapy (Frayn, 1992). Two studies assessing patients with depressive disorders find no association between psychological mindedness and drop-out for supportive therapy or IPT (Piper et al, 1998) and for cognitive therapy or supportive-expressive therapy (Connolly Gibbons et al, 2019). Based on the findings there is an inverse association between reflective ability and treatment non-attendance in long-term therapies and no association in short-term therapies.

Motivation (willingness and commitment to psychological working) as a criterion for suitability to psychotherapy has been well researched in terms of treatment continuation or drop-out. One meta-analysis on anxiety disorders and three review articles address the association of motivation and drop-out. Additionally fourteen studies investigate the relation of treatment motivation to treatment non-attendance for a variety of disorders and treatments. Two reviews find self-referrals to be less likely to drop out from psychotherapy (Reis & Brown, 1999, Baekeland & Lundwall, 1975). A review on anxiety disorders finds drop-outs to have less favorable attitudes toward therapy (Santana & Fontanelle, 2011). No consistent evidence for treatment expectancy as predictor of drop-out is found in the review on social phobia (Eskildsen et al, 2010). Eight papers covering a wide variety of Axis I disorders report an inverse association between treatment motivation and drop-out. Drop-outs are less motivated than treatment completers (Charnas, Hilsenroth, Zodan & Blais, 2010; Høglend et

al, 1994; Vaslamatzis & Verveniotis, 1985); show lower degree of self-interest and commitment to understand self and lower desire to change (Frayn, 1992); have less interest in therapy (Sasso & Strunk, 2013); or have unrealistic expectations either regarding therapy or therapist role (Callahan, Aubuchon-Endsley, Borja & Swift, 2009; Hansen, Hoogduin, Schaap & de Haan, 1992) or are not self-referred (Greenspan & Mann Kulish, 1985). Additionally patients receiving preferred treatment are less likely to drop out (Swift & Callahan, 2009). Steidtmann and colleagues (2012) find patients preferring psychopharmaca over psychotherapy to have a higher risk of drop-out. Further five large studies report no association between motivational factors and treatment attendance in major depressive disorder (Connolly Gibbon et al, 2019; Holma, Holma, Melartin & Isometsä 2010; Kocsis et al, 2009), in PTSD (Markowitz et al, 2016) and in one study on Axis I disorders (Hilsenroth, Handler, Toman & Padawer, 1995). Based on the large amount of research evidence it can be concluded that motivation is inversely associated to treatment non-attendance.

1.2.2 General patient factors related to non-attendance

Previous research has studied several sociodemographic and clinical patient factors' relation to non-attendance in psychotherapy (Table 2). Most of the publications reported only drop-out rates whereas some authors gave separate values for refusal rates, which are given in Table 2 in parenthesis. Cooper & Conklin (2015) reported refusals and drop-outs as one aggregated value.

1.2.2.1 Sociodemographic factors

The findings for sociodemographic factors were mostly inconsistent. Age and gender are either nonrelevant factors or drop-outs are younger and more often men (Swift and Greenberg, 2012) or older and more likely female (Linardon et al., 2018) than treatment completers. Effect of marital status on drop-out rate was studied in five publications but only Swift and Greenberg (2012) find a statistically significant effect size associating higher drop-out rates with the lack of committed relationship. Findings are consistent for race with higher drop-out rates for minority status races, such as African-American (Wierzbicki & Pekarik, 1993; Cooper & Conklin, 2015) and for less educated patients (Wierzbicki & Pekarik, 1993; Swift and Greenberg, 2012).

1.2.2.2 Clinical factors

Diagnosis is found to be a statistically significant predictor of drop-out in three of five publications: drop-out rates are highest among depressed patients (Fernandez et al, 2015), for

patients suffering from eating disorders and personality disorders (Swift & Greenberg, 2012) and among GAD patients in a comparison to other types of anxiety disorders (Smits & Hofmann, 2009). Primary diagnosis or symptom severity was subject of study in one publication with no association to treatment non-attendance (Gersh et al, 2017). Findings for comorbidity are inconsistent with higher non-attendance rates for depressive patients in case a personality disorder comorbidity existed (Cooper & Conklin, 2015) and no evidence for altered non-attendance for patients suffering from generalized anxiety disorder (Gersh et al, 2017). Prior treatment does not correlate with attrition (Wierzbicki & Pekarik, 1993).

Table 2: Sociodemographic and clinical factors predicting non-attendance to psychotherapy.

	1	2	3	4	5	6	7	8
Public. year	1993	2009	2012	2015	2015	2017	2018	2018
Type of study	meta-analysis	meta-analysis	meta-analysis	meta-analysis	meta-analysis	review/meta-analysis	review/meta-analysis	meta-analysis
Country	nr	nr	nr	mainly North America	nr	North America & Europe	nr	nr
N (studies)	125	19	669	54	115	45	72	68
N (patients)	nr	454	83834	5852	20995	2224	nr	4729
% female diagnosis	nr	nr	nr	nr	nr	71%	77%	65%
	Subst. use disorders excluded	Anx. (15% ASD 11% GAD 21% OCD 3% PD 28% PTSD 22% SAD)	30% anx. 22% dep. 8% eat. 7% pers. 4% psychotic 11% trauma	MDD	29% anx. 17% dep. 19% eat. 9% psychotic 7% subst.use	GAD	79% dep. 13% anx. 20% eat.	anx. dep. eat.
Therapy form	nr	CBT	66% cogn. 10% dyn. 2% SF, 8% supp. 7% INT	51% cogn 14% dyn 13% IPT 9% supp 5% SF	CBT	91% cogn 7% dyn. 2% INT 4% supp 2% SF	IPT	49% ACT 9% CBT 1% CT 2% BT
Drop-out rate	46.9%		19.7%		26.2% (15.9%)		20.6%	16.0%
<i>All diagnosis</i>								
<i>Dep.</i>				19.9% *	36.4% (21.6%)		20.9%	
<i>Anx.</i>		7-25% ¹			19.6% (11.4%) ²	GAD 17%	GAD 16%	
Predictive factors								
<i>Diagnosis</i>	nr	+	+	nr	+	nr	nr	-
<i>Age</i>	-	nr	+	-	-	-	+	-
<i>Race</i>	+	nr	-	+	nr	nr	-	nr
<i>Gender</i>	-	nr	+	-	nr	-	+ dep.	nr
<i>Marital</i>	-	nr	+	-	nr	nr	-	nr
<i>Employment</i>	+	nr	-	nr	nr	nr	nr	nr
<i>Education</i>	+	nr	+	nr	nr	nr	nr	nr
<i>Comorbid.</i>	nr	nr	nr	+	nr	-	nr	nr
<i>Sympt. level</i>	nr	nr	nr	nr	nr	-	nr	nr
<i>Prior treatm.</i>	-	nr	nr	nr	nr	nr	nr	nr

Studies included: 1. Wierzbicki&Pekarik (1993), 2. Smits & Hofmann (2009), 3. Swift& Greenberg (2012), 4. Cooper&Conklin (2015), 5. Fernandez et al. (2015), 6. Gersh et al. (2017), 7. Linardon et al. (2018), 8. Ong et al. (2018).

Abbreviations for disorders: anx= anxiety disorders; ASD= acute stress disorder; dep= depressive disorders; eat= eating disorders; GAD= generalized anxiety disorder; MDD= major depressive disorder; OCD= obsessive-compulsive disorder; PD= panic disorder; pers= personality disorders; psychotic= psychotic disorders; PTSD= post-traumatic stress disorder; SAD= social anxiety disorder; SP= social phobia; subst. use= substance use disorders.

Abbreviations for therapy orientations: ACT= acceptance and commitment therapy; BT= behavioral therapy; CBT=cognitive behavioral therapy; cogn.= cognitive therapies; CT= cognitive therapy; dyn.= psychodynamic or analytic therapies; INT= integrative therapies; IPT= interpersonal therapies; ; SF= solution focused therapies; supp.= supportive therapies.

¹ GAD 25%; OCD 11%; PTSD 16%; SAD 16%; PD 7%; ² PTSD 27.2% (7.8%)

* aggregated value (refusal and drop-out rate)

+ statistically significant association; - no statistically significant association, nr = not relevant

1.3 Research question and hypothesis

The objective of this study is to investigate patients' psychological suitability factors (suitability total score, nature of problem, modulation of affects, flexibility of interaction, self concept in relation to ego ideal, response to trial interpretation, reflective ability, motivation) as predictors of treatment refusal and drop-out. Based on the literature review following hypothesis were made regarding treatment non-attendance. Due to missing previous literature no differentiation between drop-outs and treatment refusers could be made:

1. Poor suitability measured with total suitability score predicts treatment non-attendance.
2. There is an inverse correlation between modulation of affects and non-attendance to psychotherapy.
3. Low level of motivation is associated with higher risk of non-attendance.

Regarding the interaction of therapy group and psychological suitability following hypothesis, based on previous research, was formulated:

4. Low reflective ability is associated higher risk of treatment non-attendance in long-term psychodynamic therapy but not in short-term therapies.

2 Method

2.1 Study design

This study is an observational study which investigated patients' psychological suitability factors as predictors of non-attendance and drop-out in two types of short-term psychotherapy and in long-term psychodynamic psychotherapy, based on the data base of the Helsinki Psychotherapy Study (HPS) (Knekt & Lindfors, 2004).

2.1.2 Patients

Outpatients in the Helsinki area were referred to the study by local psychotherapists from 1994 to 2000 (Knekt & Lindfors, 2004). The eligibility criteria included an age between 20 to 45 years, psychiatric symptoms with a duration of more than one year and causing work dysfunction. The patients had to meet the criteria of anxiety or mood disorder assessed by DSM-IV and the criteria for neurosis to higher-level borderline personality organization based on the psychodynamic assessment interview of Kernberg (1996). Exclusion criteria included psychotic disorder, severe personality disorder, Bipolar I disorder, adjustment disorder, substance abuse, organic brain disease or other severe organic disease or mental retardation. A previous psychotherapy within the last 2 years was an additional exclusion criterion. The patients gave written informed consent and the study protocol was approved by the Helsinki University Central Hospital's ethics council.

According to a computerized randomization the patients were assigned to one of three psychotherapy groups as shown in Figure 1.

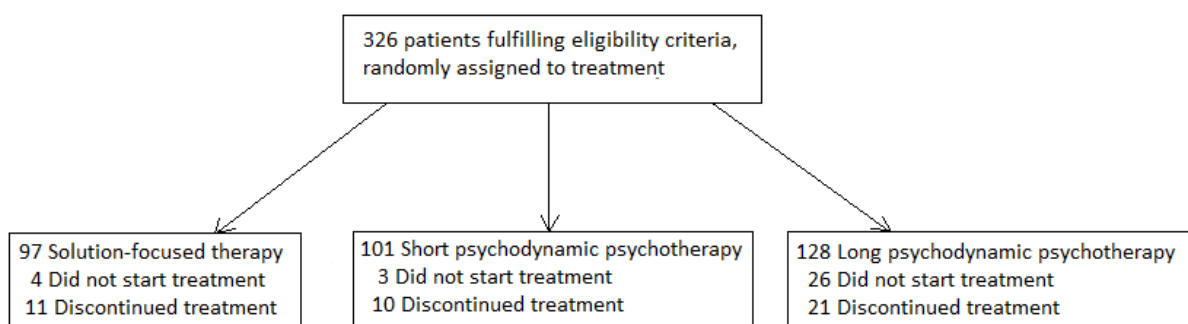


Figure 1. Number of eligible patients in each study group.

2.1.3 Therapies and therapists

Solution-focused therapy (SFT) is a brief goal and resource oriented form of therapy. SFT is based on no single theory, but it draws on narrative theory and language theory. A core

problem is identified on which the focus is kept throughout the course of the therapy.

Frequency of sessions was flexible with a maximum of 12 session during no longer than 8 months (Knekt & Lindfors, 2004).

Short-term psychodynamic psychotherapy (SPP) is another brief focal therapy. It focuses on interpersonal and intrapersonal conflicts. The role of the therapist is active in reaffirming a positive working alliance. Working methods consist of confrontation, clarification and interpretation. The frequency of the sessions was once a week over 5-6 months with a total of 20 sessions (Knekt & Lindfors, 2004).

The central element in long-term psychodynamic psychotherapy (LPP) is the exploring and gradual understanding of unconscious conflicts and deficits in the structure of the psyche. The goal of the therapy is a resolution of the innerpsychic conflicts and increasing self-awareness. The therapy consisted of 2-3 weekly sessions over a period of up to 3 years (Knekt & Lindfors, 2004).

Altogether 55 therapists participated in the study; six providing SFT, 12 providing SPP and 41 LPP, all of them trained in their respective therapy form. The minimum practicing experience after training was 2 years. The mean years of experience was 9 (SD 4.8) for both short-term therapy forms and 18 (SD 5.6) for long-term psychodynamic psychotherapy. No therapy manuals were used and there was no video or audiotaping during the therapy sessions (Knekt & Lindfors, 2004).

2.2 Measurements

2.2.1 Potential confounding factors

The baseline assessment was carried out before the randomization process. The assessment of socioeconomic variables (age, gender, living situation, education, employment), were based on self-report questionnaires; psychiatric diagnoses (DSM-IV, Axis I and II) (APA 1994) on semi-structured interviews. Further measures included psychiatric symptoms: global symptoms SCL-90-Symptom Checklist (Holi, 2003), depression symptoms BDI, SCL-90-DEP, HDRS (Beck, Steer, & Garbin, 1988; Hamilton, 1980, Holi, 2003), anxiety symptoms SCL-90-ANX, HARS (Holi, 2003; Thompson, 2015), global functioning GAF (Aas, 2014) and psychiatric history (medication, hospitalization, duration of the disorder, age at the onset of disorder) based on self-report questionnaires. Further social functioning and work ability were measured through social adjustment SAS-SR (Gameloff, Wickramaratne, Weissman, 2011), coherence SOC (Eriksson & Lindström, 2006), optimism LOT (Smith, Pope,

Rhodewalt & Poulton, 1989), quality of life LSS (Chubon, 1999), work ability index WAI (Ilmarinen, 2007).

2.2.2 Suitability for psychotherapy

The suitability for psychotherapy was assessed by the 7-item Suitability for Psychotherapy Scale (SPS) (Laaksonen, Lindfors, Knekt, Aalberg, 2012). The scale is divided into three domains according to the scope of the items.

The domain “ego-strength” consists of three items (modulation of affects, flexibility of interaction, self-concept in relation to ego ideal). It measures self-structure and interpersonal relations and is based on psychodynamic understanding of ego. Modulation of affects refers to recognition, regulation and expression of the whole spectrum of emotions. Flexibility of interaction consists of the ability to develop a good working alliance with the therapist with the mutual aim of reaching the goals of the therapy through collaboration. Self-concept in relation to ego-ideal is a measure of the balance between the current self-concept, abilities of the self and expectancies which one has of one self. (Laaksonen et al, 2012).

The domain “self-observing capacity” is based on three items (reflective ability, trial interpretation, motivation). These items measure the patient’s orientation towards the therapy and capacities available. Reflective ability consists of the ability to recognize and elaborate on one’s desires and impulses and the understanding of links between earlier and current life circumstances and psychological contents. The item trial interpretation covers the recognition of the problem area and the patient’s ability to elaborate on it with concrete examples from experience. Motivation is defined as one’s willingness and commitment to working psychologically on the identified problems (Laaksonen et al, 2012).

The last domain “nature of problems” covers the determination of the circumscribed focus. It is based on the ability to mentalize on the psychological conflicts related to the key problems and to understand their etiology and dynamic nature (Laaksonen, et al, 2012).

All seven items are based on a 7-point scale (1 to 7). Good and intermediate values (for most subscales values 1 to 3) indicate good suitability and higher values poor suitability. For the subscale “self-concept in relation to ego ideal“ the threshold between good and poor suitability is 4 (good 1-2, intermediate 3-4). An exception are the items “motivation” and “focus” for which only good values (1 or 2) indicate good suitability whereas intermediate and poor values (3 to 7) indicate poor suitability. A SPS score is a cumulative value of the seven dichotomous subitems (good suitability = 0, poor suitability = 1). Therefore, the SPS

score can vary between 0 to 7. Low values of the SPS score (0 to 3, more good than poor values) are considered as an indication of good suitability. If the patient has more poor than good values (4-7), it is considered to be an indication of poor suitability (Laaksonen et al, 2012).

The reliability of both the original SPS measure as well as the dichotomized measure was evaluated by seven raters through repeatability over time and agreement between the raters. The evaluation showed fair to good agreement (Laaksonen et al, 2012).

2.2.3 Assessment of non-attendance

Non-attendance comprised two phenomena. A patient was regarded as treatment refuser if after initial assessments and randomization to the psychotherapy group he or she decided not to start with the assigned psychotherapy. Drop-out occurred if the therapy began, but the patient prematurely and unilaterally terminated the therapy.

2.3 Statistical methods

2.3.1 Confounding factors

Because of the observational study frame, potential confounding factors, which are the major possible source of bias, needed to be taken into account. According to Lammi (1995), the statistical correlations between the confounding variable Z and dependent variable Y as well as confounding variable Z and independent variable X are the central criteria to the identification of confounding factors. A cutoff value $p < 0.3$ was used.

Literature review on socioeconomic and clinical patient factors (Table 2) indicated that diagnosis, education, comorbidities and symptom severity might be confounding factors. In this analysis the tested potential confounding variables were the baseline socioeconomic and clinical variables described above. p-values based on the linear regression model between the possible confounding variables and the independent variable (dichotomous SPS, 7 subitems and the SPS score) and the dependent variables (treatment refusal and drop-out) were calculated. A variable was chosen as a confounding factor if the p-value with five or more of the eight SPS variables fulfilled the cutoff criteria $p < 0.3$. Simultaneously at least one of the dependent variables had to fulfill the criteria $p < 0.3$.

Based on these criteria following variables were chosen as confounding factors: sex, duration of primary psychiatric disorder, Global Assessment of Functioning GAF and Hamilton

Depression Rating scale HDRS. Personality disorder fulfilled the criteria, is however not among the confounding factors as the SPS measures partly the same dimension.

2.3.2 Cox proportional hazards model

The Cox proportional hazard model is a commonly used multivariate survival analysis tool in medical research allowing simultaneously the assessment of several risk factors on survival time (Bradburn, Clark, Love, Altman, 2003).

In survival analysis a hazard function expresses the probability of an individual experiencing an event (treatment refusal or drop-out) within a small time interval Δt at t , given that this individual has survived until the interval begins. The hazard $h(t)$ can vary with time. The hazard can also vary depending on explanatory variables X_k (confounding factors, psychological suitability and therapy group). Baseline hazard $h_0(t)$ refers to the situation where all explanatory variables are equal to zero. A proportional hazard is tied to the baseline hazard:

$$\frac{\ln h(t)}{\ln h_0(t)} = \beta_1 \times X_1 + \dots + \beta_k \times X_k \quad (1)$$

This leads to the key feature of the Cox model: the hazard of the event (treatment refusal or drop-out) in comparison to the baseline hazard is constant over time. That means the hazard varies as a function of time in the same manner as the baseline hazard (Bradburn, Clark, Love & Altman, 2003). The coefficients β_k of the explanatory variables (confounding factors, psychological suitability, therapy group) measure the impact of each covariate. If the hazard ratio is equal to 1, the covariate has no effect. A hazard ratio above 1 indicates a positive association of the covariate to the event and thus the risk of treatment non-attendance increases. A hazard ratio below 1 indicates a reduction of the risk.

2.3.4 Execution of the analysis

The analysis was performed for three different study populations:

- the whole study population (N=326) including all patients fulfilling the eligibility criteria
- excluding drop-outs but including patients refusing the assigned treatment (N=284)
- excluding patients refusing the assigned treatment but including drop-outs (N=293).

For each of the three study populations two analysis methods (linear regression model and Cox proportional hazard model) were applied. Confounding variables (sex, duration of the primary psychiatric disorder, GAF and HDRS) were identical throughout the analysis. The hazard ratio of drop-out and treatment refusal were estimated with respect to the

psychotherapy group and suitability to psychotherapy. The independent variables SPS total score and seven SPS sub-scores were tested one by one. In addition, the interaction of the SPS score with the psychotherapy group (SFT, SPP or LPP) as well as the interaction of the seven SPS items with the psychotherapy group were tested for all three study populations and two analysis methods.

The statistical analyses were carried out with the SAS software (SAS Institute Inc., 2011).

3. Results

3.1 Description of the study population and baseline characteristics

The study population consisted of 326 patients of which 25% were male (Table 3). The age ranged at the beginning of the therapy from 20 to 46 years with a mean value of 32 years. Approximately 80% of the patients were either employed or studying and half of the patients were living alone. The most common disorder was mood disorder (85%) whereas 44% of the patients had anxiety disorder, and 18% personality disorder. In addition, 43% of the patients suffered from comorbidity (mood and anxiety disorder). In total, 19% of the patients had been in a previous psychotherapy. Almost 80% of the patients showed good overall suitability for psychotherapy in each therapy group.

Table 3. Mean levels (SD) of baseline characteristics of the 326 patients intended to treat.

	SPP (N=101)	LPP (N=128)	SFT (N=97)	p-value for difference
Socioeconomic variables				
Age	32.1 (7.0)	31.6 (6.6)	33.6 (6.6)	0.08
Males (%)	25.7	21.1	25.8	0.63
Academic education (%)	19.8	28.1	28.9	0.26
Currently employed or studying (%)	85.1	75.4	83.2	0.14
Living alone (%)	48.5	49.2	56.7	0.44
Psychiatric diagnosis and symptoms				
Mood disorder (%)	78.2	88.3	86.6	0.09
Anxiety disorder (%)	49.5	36.7	46.4	0.12
Personality disorder (%)	24.8	12.5	18.6	0.06
Psychiatric co-morbidity (%)	48.5	36.7	45.4	0.17
SCL-90-Global Severity Index	1.26 (0.53)	1.27 (0.55)	1.31 (0.50)	0.84
GAF	54.3 (7.5)	55.9 (6.6)	55.5 (8.1)	0.28
Hamilton Depression Rating Scale	15.4 (5.0)	15.8 (5.0)	15.8 (4.5)	0.84
Psychiatric history				
Duration of disorder over 5 years (%)	33.0	29.9	36.5	
Previous psychotherapy (%)	18.8	19.0	20.0	0.98
Psychotropic medication (%)	21.8	17.6	27.8	0.19
Hospitalization (%)	0.0	2.4	2.1	0.31
Suitability for psychotherapy				
Ego strength				
Modulation of affects (%) ^a	65.3	71.9	66	0.24
Flexibility of interaction (%) ^a	87.1	90.6	88.7	0.44
Self-concept / ego ideal (%) ^a	80.2	85.2	81.4	0.31
Self-observing capacity				
Reflective ability (%) ^a	80.2	82.8	81.4	0.65
Trial interpretation (%) ^a	64.4	64.8	74.2	0.41
Motivation (%) ^a	38.6	39.1	39.2	0.98
Nature of problems				
Focus (%) ^a	34	36.7	39.2	0.98

Suitability for Psychotherapy Scale (SPS) score (%)^a	78	79.7	78.4	0.75
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^a Proportion of patients with good values of the suitability measure.

3.2 Relative risk of non-attendance

3.2.1. Effect of psychotherapy group

The effect of psychotherapy group on treatment non-attendance was tested.

The hazard ratio (HR) of refusal or drop-out was higher in the LPP group than in the short-term psychotherapy groups (HR = 1.95, 95% Confidence interval (95% CI) = 1.01 – 3.78 for LPP vs. SPP), see Table 4. This difference was mainly caused through a higher refusal rate in the LPP group after assignment to the therapy groups (HR = 7.68, 95% CI = 2.28 – 25.80).

For drop-out the data lacks statistical significance. Both the linear regression method and Cox regression yielded similar results.

Table 4: Relative risk of treatment non-attendance by therapy group.

Group	n	N	Ins.(%)	HR	95% CI
Refusal or drop-out in the whole study sample (N=326)					
SPP	13	101	12.61	1	
LPP	47	128	37.38	1.95	1.01, 3.78
SFT	15	97	14.87	1.09	0.51, 2.31
p-value			<0.0001	0.06	
Refusal vs. those finishing their therapy (N=284).					
SPP	3	91	3.43	1	
LPP	26	107	24.62	7.68	2.28, 25.80
SFT	4	86	4.1	1.39	0.30, 6.28
p-value			<0.0001	<0.00001	
Drop-out in those participating (N=293).					
SPP	10	98	9.35	1	
LPP	21	102	21.15	N/A	0.15, 1.26
SFT	11	93	12.11	1.03	0.42, 2.52
p-value			0.08	0.15	

3.2.2. Effect of suitability for psychotherapy

Dichotomous suitability measure SPS (good or poor suitability) was used to estimate the risk of treatment refusal or drop-out from therapy (hypothesis 1 – 3). The analysis was carried out for the SPS total score as well as for each of the seven SPS subscores individually.

On the aggregated level of SPS (hypothesis 1) the risk of refusal or drop-out was higher in the poor group than in the good group (HR = 1.84, 95% CI = 1.09 – 3.10, p-value = 0.03), in the whole study population (N=326) (**Fehler! Verweisquelle konnte nicht gefunden werden.**).

This was mainly due to the differences between the good and poor groups in reflective ability (HR = 1.62, 95% CI = 0.94 – 2.81) and flexibility of interaction (HR = 1.84, 95% CI = 0.98 – 3.46), although the difference in these items was not statistically significant but only suggestive.

Table 5. Hazard ratio of non-attendance at poor vs. good values of SPS-scores in the whole study sample (N = 326).

SPS	Level	n	N	Inc. (%)	HR	95% CI
Total Score	Good	51	256	20.33	1	
	Poor	24	70	32.80	1.84	1.09, 3.10
	p-value			0.03	0.03	
Modulation of affects	Good	48	222	21.80	1	
	Poor	27	104	25.59	1.23	0.76, 1.99
	p-value			0.44	N/A	
Reflective ability	Good	56	266	21.41	1	
	Poor	19	60	30.10	1.62	0.94, 2.81
	p-value			0.15	0.09	
Flexibility of interaction	Good	62	290	21.48	1	
	Poor	13	36	35.27	1.84	0.98, 3.46
	p-value			0.06	0.07	
Trial interpretation	Good	45	220	21.09	1	
	Poor	30	106	26.98	1.39	0.87, 2.22
	p-value			0.23	0.18	
Self concept in relation to ego ideal	Good	59	269	21.90	1	
	Poor	16	57	28.19	1.45	0.81, 2.60
	p-value			0.31	0.22	
Focus	Good	27	119	23.65	1	
	Poor	48	206	22.74	0.99	0.60, 1.62
	p-value			0.85	0.96	
Motivation	Good	26	127	21.53	1	
	Poor	49	199	23.95	1.16	0.71, 1.89
	p-value			0.61	0.56	

The differences between poor and good suitability groups were mainly due to treatment refusal (Table 6). Refusal was more common in those with poor values of the SPS total score than in those with good values (20.7 vs. 9.4% incidence, HR = 2.32, 95% CI = 1.07 – 5.01). This was mainly due to differences in self-concept in relation to the ego ideal (HR = 2.4, 95% CI = 1.09 – 5.27, p-value = 0.04) where refusal was more common in the group of poor suitability. A suggestive association was found in reflective ability.

Table 6. Hazard ratio of refusal Poor vs. Good values of SPS-scores vs. those finishing their therapy (N = 284).

SPS	Level	n	N	Inc. (%)	HR	95% CI
Total Score	Good	22	227	9.35	1	
	Poor	11	57	20.65	2.32	1.07, 5.01
	p-value			0.01	0.04	

Modulation of affects	Good	21	195	10.57	1	
	Poor	12	89	13.93	1.32	0.64, 2.72
	p-value			0.40	0.45	
Reflective ability	Good	24	234	9.87	1	
	Poor	9	50	19.80	1.99	0.91, 4.36
	p-value			0.04	0.10	
Flexibility of interaction	Good	28	256	10.72	1	
	Poor	5	28	19.86	1.95	0.71, 5.36
	p-value			0.14	0.22	
Trial interpretation	Good	18	193	9.57	1	
	Poor	15	91	15.97	1.59	0.79, 3.21
	p-value			0.10	0.20	
Self concept in relation to ego ideal	Good	24	234	9.44	1	
	Poor	9	50	21.80	2.40	1.09, 5.27
	p-value			0.01	0.04	
Focus	Good	11	103	10.31	1	
	Poor	22	180	12.43	1.19	0.56, 2.53
	p-value			0.59	0.64	
Motivation	Good	12	113	10.16	1	
	Poor	21	171	12.59	1.26	0.60, 2.62
	p-value			0.52	0.54	

No differences between the relative risk of drop-out in patients with poor and good suitability were found in the SPS total score or its seven sub-scores when all the therapy groups were combined (Table 7).

Table 7. Hazard ratio of drop-out Poor vs. Good values of SPS-scores in the participants (N = 293).

SPS	Level	n	N	Inc. (%)	HR	95% CI
Total Score	Good	29	234	13.01	1	
	Poor	13	59	19.4	1.47	0.72, 2.98
	p-value			0.06	0.30	
Modulation of affects	Good	27	201	14.03	1	
	Poor	15	92	15.00	1.16	0.60, 2.12
	p-value			0.83	0.61	
Reflective ability	Good	32	242	13.84	1	
	Poor	10	51	16.67	1.12	0.52, 2.41
	p-value			0.0009	0.77	
Flexibility of interaction	Good	34	262	13.11	1	
	Poor	8	31	24.71	2.0	0.89, 4.48
	p-value			0.09	0.11	
Trial interpretation	Good	27	202	13.61	1	
	Poor	15	91	15.94	1.23	0.65, 2.34
	p-value			0.60	0.53	
Self concept in relation to ego ideal	Good	35	245	14.96	1	
	Poor	7	48	11.12	0.75	0.31, 1.81
	p-value			0.50	0.51	
Focus	Good	16	108	16.32	1	
	Poor	26	184	13.24	0.81	0.42, 1.58
	p-value			0.48	0.54	

Motivation	Good	14	115	13.78	1	0.55, 2.08
	Poor	28	178	14.69	1.07	
	p-value			0.83	0.85	

3.2.3. Interaction of therapy group and SPS score

However, when analysing drop-out with the interaction of therapy group and suitability, several findings could be made.

The hazard ratio of drop-out (N = 293) was smaller for patients with good suitability than for patients with poor suitability in LPP (HR = 0.21, 95% CI = 0.07 – 0.66 versus HR = 0.49 95% CI = 0.15 – 1.67). The same pattern was also evident in SFT group to a lesser extent (HR = 0.42, 95% CI = 0.13 – 1.29 versus HR = 1.52, 95% CI = 0.52 – 4.42) (Table 8). However, for patients in SPP group the opposite was true with no patients with poor suitability dropping out of treatment. The interaction of therapy group and SPS total score was statistically significant (p = 0.002). The subscore most notably showing this phenomenon was reflective ability (p = .004) (hypothesis 4). When comparing patients refusing therapy with patients completing therapy (data not shown) the pattern was not evident, due to too few cases in SFT and SPP.

Table 8. Hazard ratio of drop-out by therapy group and SPS score (N=293).

Total Score									
Group	Good				Poor				p
	n	N	HR	95% CI	n	N	HR	95% CI	
SPP	10	76	1		0	22	0	N/A	
LPP	14	86	0.21	0.07, 0.66	7	16	0.49	0.15, 1.67	
SFT	5	72	0.42	0.13, 1.29	6	21	1.52	0.52, 4.42	0.002
Modulation of affects									
Group	Good				Poor				P
	n	N	HR	95% CI	n	N	HR	95% CI	
SPP	8	65	1		2	33	0.35	0.07, 1.67	
LPP	16	75	0.29	0.09, 0.92	5	27	0.26	0.06, 1.01	
SFT	3	61	0.31	0.08, 1.22	8	32	1.49	0.53, 4.15	0.02
Reflective ability									
Group	Good				Poor				p
	n	N	HR	95% CI	n	N	HR	95% CI	
SPP	10	78	1		0	20	0	N/A	
LPP	14	89	0.26	0.07, 0.69	7	13	0.65	0.19, 2.19	
SFT	8	75	0.70	0.26, 1.86	3	18	0.72	0.19, 2.75	0.004
Flexibility of interaction									
Group	Good				Poor				p
	n	N	HR	95% CI	n	N	HR	95% CI	
SPP	9	85	1		1	13	0.66	0.08, 5.35	
LPP	17	95	0.33	0.11, 1.00	4	7	0.94	0.24, 3.64	
SFT	8	82	0.81	0.30, 2.20	3	11	2.04	0.54, 7.79	0.39
Trial interpretation									

Group	Good				Poor				p
	n	N	HR	95% CI	n	N	HR	95% CI	
SPP	9	63	1		1	35	0.16	0.02, 1.30	
LPP	13	70	0.26	0.08, 0.79	8	32	0.37	0.11, 1.22	
SFT	5	69	0.42	0.13, 1.30	6	24	1.53	0.52, 4.49	0.01

Self concept in relation to ego ideal

Group	Good				Poor				p
	N	N	HR	95% CI	n	N	HR	95% CI	
SPP	10	79	1		0	19	0	N/A	
LPP	16	90	0.26	0.09, 0.81	5	12	0.44	0.12, 1.65	
SFT	9	76	0.78	0.31, 1.98	2	17	0.67	0.14, 3.13	0.02

Focus

Group	Good				Poor				p
	n	N	HR	95% CI	n	N	HR	95% CI	
SPP	4	33	1		6	64	0.42	0.11, 1.58	
LPP	10	38	0.32	0.08, 1.26	11	64	0.19	0.05, 0.74	
SFT	2	37	0.25	0.04, 1.42	9	56	0.78	0.23, 2.68	0.08

Motivation

Group	Good				Poor				p
	n	N	HR	95% CI	n	N	HR	95% CI	
SPP	4	38	1		6	60	0.70	0.19, 2.55	
LPP	7	42	0.30	0.07, 1.28	14	60	0.37	0.10, 1.40	
SFT	3	35	0.73	0.16, 3.40	8	58	0.89	0.26, 3.04	0.77

4. Discussion

4.1 Main findings

Therapy group as predictor of treatment non-attendance

In this study psychotherapy group was one relevant risk factor for non-attendance and showed significantly higher prevalence in the long-term psychodynamic therapy group in comparison to the short-term therapies. The main differences were due to a higher refusal rate in the LPP group after assignment to the therapy groups. The differences in the drop-out rate (higher in LPP group than in short-term therapy groups) were statistically suggestive.

The higher refusal rate in LPP group might reflect the RCT setting. A three-year psychodynamic therapy with sessions twice or three times a week requires a different level of commitment than a short-term therapy over 12-20 sessions. In clinical work patients with higher level of symptoms and a more burdensome suffering might be willing to seek longer treatments. However, in a RCT the situation is different. Patients are randomized to treatment groups irrespective of their symptomatic level. Patients with lower level of symptoms might not be willing to engage in an intensive psychotherapy for three years and might show a higher tendency of refusing treatment in the LPP group than in the SFT or SPP groups. The anticipated cost of a long-term psychotherapy might not be in balance with the anticipated benefits, if the symptomatic level is low (Swift et al., 2012).

When considering drop-out the picture becomes different. The observed drop-out rate in LPP group (21%) is approximately twice as high as in both short-term groups. The difference is statistically suggestive and in line with previous findings. Swift and Greenberg report higher attrition in treatments without time limitation and Cooper and Conkling (2015) observe higher attrition for depressed patients in long-term therapies over short-term therapies.

Prediction of treatment non-attendance with psychotherapy suitability

In this study patients with poor suitability had a higher risk of treatment non-attendance compared with patients estimated to have good suitability, which is in line with previous results and hypothesis 1 (“Poor suitability measured with total suitability score predicts treatment non-attendance”). This was mainly due to higher risk of refusal and for treatment drop-out the statistical significance was suggestive.

Of the seven individual psychological factors comprising the SPS score, reflective ability and flexibility of interaction showed a suggestive statistical difference between treatment completers and non-completers. Regarding the remaining five psychological factors in SPS

(modulation of affects, trial interpretation, self-concept in relation to ego ideal, focus and motivation) no statistically significant or suggestive association was found with treatment non-attendance in this study and therefore hypothesis 2 (There is an inverse correlation between modulation of affects and non-attendance to psychotherapy.) and hypothesis 3 (Low level of motivation is associated with higher risk of non-attendance.) could not be supported.

In earlier research a positive association between non-attendance and a suitability total score is reported for three suitability measures and four independent samples: for short-term psychodynamic psychotherapies (Vaslamatzis & Verveniotis, 1985; Cromer & Hilsenroth, 2010; Baumann et al., 2001) and for CBT (Myhr et al., 2007).

In line with this study, previous findings for reflective ability are fairly consistent showing an inverse association between psychological mindedness and treatment non-attendance in psychodynamic therapy (Rubin et al., 2018; Høglend et al., 1994; Frayn, 1992; Greenspan & Mann Kulish 1985) with two studies finding no association for CT, IPT and supportive therapies (Connolly Gibbons et al, 2019; Piper et al, 1998). Regarding flexibility of interaction only one earlier reference exists (Baekeland & Lundwall, 1975) stating that early terminators show more self-disclosure, are more evasive and less willing to reveal himself, which is in line with the findings of this study.

For treatment motivation an inverse association to treatment non-attendance has been observed in various therapy orientations: psychodynamic therapies (Vaslamatzis & Verveniotis, 1985; Høglend et al., 1994; Charnas et al., 2010; Frayn, 1992; Greenspan & Mann Kulish, 1985), cognitive therapies (Sasso & Strunk, 2013; Callahan et al., 2009; Hansen et al., 1992), various forms of psychotherapy (Swift & Callahan, 2009) and in a comparison between medication and various forms of psychotherapy (Steidtmann et al, 2012). The finding of this study with no association between motivation and treatment refusal or drop-out is thus unexpected. This might be due to the fact that in HPS the participating patients showed generally relatively high motivation (Laaksonen, 2014).

Likewise unexpectedly modulation of affect (hypothesis 2) did not predict treatment non-attendance in this study when all the therapy groups were considered in combination.

Previous research showed a correlation of drop-out with the level of anxious arousal for patients suffering from social phobia (Eskildsen et al., 2010), with low frustration tolerance for patients treated with psychoanalysis (Frayn, 1992) and with low positive and high negative emotionality for patients suffering from MDD and treated with CBT (Tarescavage et

al., 2015). More research is needed to clarify to which extent modulation of affect can predict treatment non-attendance.

In summary, overall suitability, reflective ability and flexibility of interaction were found to be predictors of treatment non-attendance both in this study as well as in several previous studies.

Interaction of therapy group and suitability

Regarding drop-out the interaction of therapy group and suitability showed new, interesting results in this study. As expected, the risk of drop-out was higher for patients with poor overall suitability in LPP and SFT groups, but, unlike expected, in the SPP group none of the patients with poor suitability dropped out of treatment. Reflective ability was the SPS subscore most notably indicating this phenomenon. The incidence of dropping out was lower for patients with poor suitability for all SPS subscores.

The finding is partly in line with hypotheses 4 (low reflective ability is associated with higher risk of treatment non-attendance in long-term psychodynamic therapy but shows no association in short-term therapies). No existing research on the association of suitability and non-attendance for solution-focused therapy could be found. Two other suitability measures show an association with drop-out in short-term psychodynamic therapy: selection criteria after Davanloo (Vaslamatzis & Verveniotis, 1985) and Capacity for Dynamic Process Scale (Baumann et al., 2001; Cromer & Hilsenroth, 2010). Of the seven psychological factors in SPS, four were studied previously for short-term therapies. No findings indicate that poor psychological suitability is associated with lower risk of non-attendance, on the contrary evidence exists for an inverse correlation (focality, motivation, modulation of affect) or no association at all (reflective ability) (Vaslamatzis & Verveniotis, 1985; Tarescavage et al., 2010; Rubin et al., 2018; Høglend et al., 1994; Charnas et al., 2010; Sasso&Strunk, 2013; Callahan et al., 2009; Hansen et al., 1992; Piper et al., 1998; Connolly Gibbons et al., 2019; Kosics et al., 2009; Markowitz et al., 2016) predominantly for SPP and CBT. Thus the finding of this study is in contradiction with previous literature.

The mechanisms how suitability predicts treatment attendance are not known. Solution-focused therapy is goal and resource oriented with emphasis on the core problem of the patient (Knekt & Lindfors, 2004). Patients with poor suitability might have difficulties in understanding psychological connections and their own role in the problems and might therefore become frustrated and more willing to prematurely terminate. The subscales differentiating best treatment completers from drop-outs in SFT group were focus and trial

interpretation. This can be an indication of problems by patients with poor suitability with understanding the main core and aim of the therapy.

In psychodynamic therapy, both short- and long-term, therapeutic alliance is an important working tool. Poorer patient suitability might lead to more obstacles in the development of the alliance over the course of the therapy. A poor alliance between the patient and the therapist is a known factor strongly predicting treatment non-attendance (Sharf, Primavera & Diener, 2010). In LPP the basic principle – transference - is regarded primary source of understanding and therapeutic change. The emphasis on the supportive-interpretive continuum is on the interpretive side and the role of the therapist is to be more passive (Leichsenring, Hiller, Weissberg & Leibing, 2006). Flexibility of interaction is the SPS subscale most notably differentiating the risk for drop-out. Patients showing poor flexibility of interaction might be more prone to difficulties in working alliance and therefore drop-out in such a therapy setting unless the problem could be successfully addressed in treatment. In SPP none of the patients with poor suitability dropped out of treatment. The role of the therapist is more active in reaffirming a positive working alliance (Knekt & Lindfors, 2004), which may have been carried out successfully and been a needed help for patients with poor suitability, and thus reduced the risk of dropping out from therapy. Additionally in LPP attendance to treatment and possible obstacles in the alliance could have become more challenging for patients with poor suitability. However, further details regarding for which subscales the results are statistically significant, is needed.

Possibly other factors than psychological suitability of the patient could affect the otherwise unexpected results. Previous research has shown that factors related to the therapist such as level of experience (Swift & Greenberg, 2012) or attitudes and behaviour towards the patient (Gold & Sticker, 2011) other patient factors not included in the analysis as confounding factor such as marital status (Swift & Greenberg, 2012) or influence of third parties (Taylor, Abramowitz & McKay, 2012) could further explain the results.

4.2 Methodological aspects

The data for the current study was derived from the Helsinki Psychotherapy Study, which had several methodological advantages. HPS is the first randomized clinical trial comparing the effectiveness of short- and long-term psychodynamic therapies (Knekt & Lindfors, 2004) in patients with anxiety and depressive disorders. To the author's knowledge this is the first cohort study to assess patient predictors of treatment non-attendance comparing short- and long-term therapies. The suitability measure used, the SPS, is a validated measure found to

predict differential outcomes in short- and long-term psychotherapy (Laaksonen et al, 2012). The sample size was large (N=326) in comparison to previous studies. A further strength, increasing the possibility to generalize the results, was that the therapies were carried out as in normal clinical practice. There was also a fairly equal distribution of patients with good and poor suitability over the three therapy groups (Laaksonen, Knekt, Sares-Jäske, Lindfors, 2013a; Laaksonen, Knekt, Lindfors, 2013b). Furthermore, the use of confounding factors was to ensure a fair comparison between the groups.

However, some issues may cause problems in the interpretation of the results. As HPS was a randomized clinical trial with selection criteria for the patients regarding age and clinical variables, it can be assumed that sample is not fully representative of a clinical setting. This is evident for example through the fairly good suitability and high treatment motivation which is not always the case in clinical work. The problem was addressed by adjusting the threshold of the dichotomous variable (value poor consisting of both poor and intermediate level of motivation). Additionally there were discrepancies in the waiting time before treatment start, which might have caused biases in the refusal rate (Knekt et al., 2008) as it is well known that symptoms are at the highest level when seeking treatment. However, the waiting time was adjusted in the statistical model. The psychodynamic therapies were not manualized (Knekt et al, 2008), but a large number of therapists both in LPP and SPP were used to cover various theoretical models. This however reflects better the clinical reality and allows generalizability of the results. In the statistical models confounding factors were acknowledged. However, a possible residual due to missing confounding factors cannot be ruled out. Lastly, even though the study sample was large, there was a relatively small number of patients in some subgroups (interaction between therapy group and poor or good suitability in some factors), and thus some actual differences might not have been observed.

4.3 Conclusions and suggestions for further research

This study used the validated Suitability to Psychotherapy SPS measure to predict treatment non-attendance – both treatment refusal and drop-out – in a large sample of patients suffering from either mood or anxiety disorders.

Risk of treatment refusal was higher in the LPP group than both short-term therapy groups. This might reflect the RCT setting, where patients are randomized to treatment irrespective of original symptomatic level. The anticipated cost of a long-term psychotherapy might not be in balance with the anticipated benefits, if the symptomatic level is low. The SPS total score differentiated reliably treatment completers from non-completers. SPS subscales, which best

differentiated treatment completers from non-completers were reflective ability and flexibility of interaction in line with previous findings in literature. In contradiction to previous research, motivation did not predict treatment non-attendance in this study. This might be due to the high treatment motivation of the participating patients thus this subscale missed its differentiating potential. The interaction of therapy group and suitability showed partly expected results as the risk of drop-out was higher for patients with poor overall suitability in LPP and SFT groups, but in the SPP group none of the patients with poor suitability dropped out of treatment. The mechanisms how suitability predicts treatment attendance are not known.

More research is needed in terms of replication and generalization of the findings of this study. The current study was the first study to compare the prediction of psychotherapy suitability on non-attendance between LPP and short-term therapies. The existing literature concentrates on prediction of non-attendance in psychodynamic and cognitive therapies. More research is needed with respect to other forms of therapies and on other potential predictors of non-attendance. The findings of this study indicate that treatment refusal and drop-out are two different phenomena in terms of patient suitability. Therefore, a clear distinction between treatment refusal and drop-out should be made and these two groups of patients should be analysed separately.

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