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RELIABILITY AND VALIDITY OF AN ARABIC VERSION OF THE SELF-DETERMINATION ASSESSMENT – INTERNET (SDA-i)

by

MONA ALAMRI

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

2017

MAJOR: EVALUATION & RESEARCH

Approved By:

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Advisor Date

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DEDICATION

This dissertation is dedicated to my parents, for giving me their endless love and support.

For my family, my kids, my siblings, and my husband

They are the reason why I live and study.

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CHAPTER 1 INTRODUCTION

"Self-determination knowledge and skills are important life skills for success throughout one's life" (Field & Hoffman, 1994, p. 164). Self-determination has garnered an increasing amount of attention as fields including education, sociology, psychology, and other fields related to human behavior and performance have shifted from focusing on individuals' deficits to placing a greater emphasis on individuals' strengths (i.e., strength-based approaches). Strength-based approaches motivate individuals to recognize and embrace their positive traits. Such approaches nurture the development and enhancement of strengths, such as resolve, fortitude, inquisitiveness, and honesty, to improve individuals' emotional and physical well-being, instead of concentrating on repairing weaknesses.

When Deci and Ryan's self-determination theory (1985, 1991) is used within educational constructs, the theory is largely utilized to help increase students' interest in learning, teach students to appreciate the value of education, and improve students' self-confidence regarding their capabilities and attributes. Positive outcomes of the self-determination theory occur when individuals adopt values and regulatory processes due to their intrinsic motivations. The adoption of values and regulatory processes produces high-quality, effective learning and concrete understanding, as well as heightened personal growth. Field and Hoffman (1994) explained self-determination knowledge and skills are crucial "life skills for success throughout one's life. Therefore, it is important to assess the component skills that lead to self-determination so appropriate instructional programs, support, and accommodations to increase students' self-determination can be provided" (p. 132). Self-determination theory and self-determination knowledge are powerful tools that can be used to enhance students' well-being and create long-lasting, positive changes.

Psychologically, self-determination describes voluntary actions performed by individuals due to their own free will. Therefore, self-determined behavior refers to deliberate

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and mindful choices and decisions (Nota, Soresi, Ferrari, & Wehmeyer, 2011). The characterization and meaning of self-determination vary depending on its theoretical orientations. For example, Deci and Ryan's self-determination theory (Deci & Ryan, 2000) concentrated on the motivational aspect of self-determination as the theory thoroughly examined how self-determined motivation and autonomy affected students' learning and academic progress (Chirkov, 2009). In the context of creating positive changes in youth, self-determination is defined as "the ability to think for oneself and to take action consistent with that thought" (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004, p. 105). The self-determination of youth is promoted and cultivated through the use of positive youth development programs. Such programs focus on encouraging autonomy, liberated thinking, self-promotion, the empowerment of youth, and the ability of youth to live according to beliefs, ideals, and standards. Such conceptualization is in accordance with positive psychology, which highlights the promotion of individuals' strengths (Seligman & Csikszentmihalyi, 2000).

Learning planning and decision-making practice is the best method in which to teach goal setting, problem solving and decision making for all students as well as using self-determination training help inspire students to do well academically, and teach students how to take more responsibility for their lives by enabling them to identify their needs and create effective strategies to meet those needs (Wehmeyer, Agran, & Hughes, 1998). School-led programs to foster self-determination help students acquire the knowledge needed to meet their needs for self-sufficiency, kinship, and proficiency in day-to-day skills. Such programs also provide education intended to help students play a more dynamic role in educational planning (Wehmeyer, M. L. 2002).

Instructional interventions and support programs were designed to help students become self-determined. Many programs were intended for students to use (American

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Psychological Association, 2004). Field and Hoffman (1994) developed a model to direct the creation of self-determination instructional interventions. According to Field and Hoffman's model, instructional activities that improve students' self-awareness, decision-making, goal-setting, goal-attainment, communication, relationship, and self-reflection skills increase students' self-determination (Field & Hoffman, 1994).

Self-determination instructional programs teach students how to become active participants in educational decision-making by allowing them to understand the educational planning process, helping them access information they would like to discuss during educational planning meetings, and supporting their development of effective communication skills. Activities used during self-determination instructional programs include self-reflection that allows students to examine what is important to them and showing students how to set useful and practical goals that can be reached with support from friends, family members, and teachers. Such programs should also provide contextual support for students to increase their self-determination, such as such as mentoring or tutoring, to help them as they investigate their new problem-solving and decision-making skills (Field & Hoffman, 2002).

Self-determination instruments can be used in numerous ways in the field of education. They can be used during the educational planning process because they take into account the perspectives of each group involved in educational planning (i.e., students, teachers, and parents). Thus, the instruments allow educators to identify areas of similarity and divergence amid these three perspectives.

Identified areas of similarity and divergence may provide students with insight regarding how they function or how they are perceived in various aspects of their lives. For example, a student may receive high ratings from the parents regarding homework habits, but the student may be rated poorly by the teacher for the same task because the student frequently submits late assignments. This divergence in ratings should give the student pause,

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and it provides the student with an opportunity to discuss the homework habits with the teacher and his parents in order to pinpoint the reasons for the discrepancy. The reasons for the discrepancy likely vary; the student might demonstrate skills at home that the student does not exhibit in the classroom, or it may be that the teacher and the parents assessed the student performance using different criteria. Discussions that arise from such discrepancies can provide students with valuable feedback and can lead to the determination of appropriate instructional interventions (Wehmeyer et al., 2000).

When self-determination instruments are used, students are rated from three different perspectives, and they are also evaluated in three diverse areas: cognition/knowledge, behavior, and affect. Investigating the differences among the three areas helps to determine appropriate interventions. For example, a student's self-determination instrument results may denote adequate knowledge of crucial self-determination concepts, but a poor understanding of the important behaviors associated with self-determination. Such results may signify the student's need for additional experiences in the student's school and community, during which the student is provided with support while applying newfound self-determination skills.

Self-determination instruments have numerous uses in educational planning. In addition to being used during educational planning and as tools to help identify appropriate interventions, the instruments can be utilized for program evaluation or research purposes. By using self-determination instruments as pre- and post-tests before and after an instructional intervention, data can be acquired to examine the effectiveness of the intervention.

ARC Self-Determination Scale

Included among the scales that purport to measure self-determination and have been validated in different populations is the Arc *Self-Determination Scale* – Adolescent Version (Wehmeyer & Kelchner, 1995). It is a student self-report measure of self-determination with

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psychometric properties that is intended for use with "adolescents with cognitive and developmental disabilities" (p. 1). It has 72 items divided into four sections. Each section examines an essential characteristic of self-determined behavior, including Autonomy, Self-Regulation, Psychological Empowerment, and Self-Realization. Each section has specific directions that must be read before completing the relevant items. Five subscale scores are calculated: a total self-determination score and four subdomain scores in each of the four essential characteristics of self-determined behavior (Wehmeyer & Kelchner, 1995).

AIR Self-Determination Scale

The AIR *Self-Determination Scale* was developed by the American Institutes for Research (AIR, date), and, in collaboration with the Teachers College of Columbia University, student, parent, and educator versions of the AIR Self-Determination Assessments were developed. The AIR Self-Determination Scale generates a profile of each student's level of self-determination; detects areas of strength or weakness that require improvement; and suggests educational goals (Wolman et al., 1994).

Self-Determination Assessment Battery

The *Self-Determination Assessment – Internet* measures the cognitive, emotional, and behavioral factors related to self-determination. These factors are examined from the perspectives of the student, the advisor, and the parent(s). The complete assessment includes three instruments: The *Self-Determination Student Scale (SDSS*), the *Self-Determination Parent Perception Scale* (*SDPPS*), and the *Self-Determination Advisor Perception Scale (SDAPS)*. These three instruments can be used alone, or in concert, to provide information to students and those who provide them with support, such as teachers, counselors, parents, and advisors. During the assessment, information is gathered regarding students' knowledge, skills, and beliefs related to self-determination. The instruments can also be used on a

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recurrent basis to measure students' growth in self-determination over a period of time (Hoffman, Field, & Sawilowsky, 2004).

The three instruments in the *Self-Determination Assessment – Internet* were initially created at Wayne State University as part of a package of five instruments titled the Self-Determination Assessment Battery (Hoffman et al., 2004). The *Self-Determination Assessment* Battery was developed due to a grant from the United States Department of Education, Office of Special Education and Rehabilitative Services. In 2013, three instruments from the *Self-Determination Assessment Battery (SDSS, SDPPS, and SDTPS)* were modified for internet use and distributed as the *Self-Determination Assessment – Internet*. The changes that were made to the instruments to adapt them for use via the internet were slight, and the three instruments in the *Self-Determination Assessment – Internet* are practically identical to the instruments in the original version (Hoffman et al., 2004).

The self-determination model created by Field and Hoffman (1994), and updated in 2006 and 2014, provided the basis for the *Self-Determination Assessment – Internet* approach (Field & Hoffman, 1994, 2006, 2014). Research that led to the creation of the self-determination model stated that self-determination is affected by the characteristics of the environments in which one interacts, such as opportunities to make decisions, how much support is provided for the individual, and if appropriate risk-taking is encouraged. Self-determination is also affected by the knowledge, skills, and beliefs that individuals bring to each environment in which they interact. The self-determination model focuses on the aspects of self-determination that are within the individual's control and are possible instructional intervention targets. The model contains five components: (I) Know Yourself, (II) Value Yourself, (III) Plan, (IV) Act, and (V) Experience Outcomes and Learn (Hoffman et al., 2004).

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It was found that supporting students' self-determination is an effective strategy to help students achieve educational goals. Numerous studies have demonstrated that students who help choose school activities show an enhanced motivation to perform such tasks and are more likely to be successful in achieving their goals (Benz, Lindstrom, & Yovanoff, 2000; Realon, Favell, & Lowerre, 1990; Schunk, 1985). Furthermore, research conducted by Deci and Ryan (2000) found intrinsic motivation, and thus higher-quality learning, thrives in settings that are supportive of students' self-determination.

The psychometric properties (i.e., reliability and validity) of the *Self-Determination Student Scale (SDSS)* were extensively researched as noted above (additional references include Eke, 1996; Holt, 2006). Using the *SDSS* to predict students' self-determination levels was supported by Hoffman and Field (1994) and Sarver (2000).

Arabic

Arabic is the most prevalently spoken language in the Semitic family. It is the first language for more than 280 million, most of whom live in the Middle East and North Africa (Ambos & Procha, 2006). An additional 250 million people speak Arabic as a second language (Lewis, 2009). It is the official language of 25 countries, the third most after English and French (Wright, 2002), and it has many geographically distributed dialects.

Michigan

The Arabic-speaking population in Michigan represents the second-biggest linguistic group, and it is the largest of its kind in the United States. There are about 300,000 Arabs who settled in the southeastern part of Michigan from Saudi Arabia, Lebanon, Yemen, Palestine, Syria, and other Arabic-speaking countries (Youssef & Simpkins, 1985). Most live in the Detroit metropolitan area, particularly in the cities of Dearborn and Dearborn Heights. Many are employed by the automobile factories in the region.

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About 420 million people around the world speak and write using Arabic, making it the sixth-most spoken language. The word Arab means nomad, which is logical considering Arabic originated from nomadic tribes in the desert areas of the Arabian Peninsula. At present, the Arabic world is a region containing countries that are mostly located in the Middle East and North Africa, where Arabic is an official language. Arabic-speaking countries are diverse, and each one is unique in terms of its history, culture, politics, and dialects.

It is important to develop an Arabic version of the *SDAi* that is suitable for all Arabic-speaking individuals. A simple Arabic dialect is important in order to be understood by individuals from numerous cultures or countries. Multiple cultures, which share Arabic as a common language, would benefit from the creation of an Arabic version of this scale, which will add further evidence regarding the reliability and validity of the *SDAi*.

Purpose of the Study

Therefore, the aim of this study will be to develop and then test the reliability and validity of an Arabic version of the *SDAi*. In addition, the use of the Arabic *SDAi* as an effective tool to assess self-determination among Arabic-speaking students' parents and teachers will be evaluated by correlating scale scores with demographic data.

The proposed study is the first to translate the *SDAi* into Arabic, and further to assess its reliability and internal structure validity as an Arabic translation, specifically the *Self-Determination Parent Perception Scale (SDPPS)* and the *Self-Determination Teacher Perception Scale (SDTPS)* (Field, Hoffman, & Sawilowsky, 2004).

Research Questions

Research question 1: Does the Arabic Translation of the *SDSS-SF*yield acceptable internal consistency coefficients when administered to a selected sample of Saudi students?

Research question 2: Does the internal factor structure of the Arabic version of the

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SDSS-SF have evidence of internal factor structure validation evidence based on the administration to a sample of Saudi students who study in the US?

Research question 3: Does the Arabic translation of the *SDPPS* yield acceptable internal consistency coefficients when administered to a selected sample of Arabic parents?

Research question 4: Does the Arabic translation of the *SDPTS* yield acceptable internal consistency coefficients when administered to a selected sample of Arabic teachers in Wayne County schools?

Research question 5: Does the internal factor structure of the Arabic version of the *SDPPS* and *SDTPS* have evidence of internal factor structure validation evidence based on the administration to a sample of Arabic parents and teachers selected from Wayne County schools?

Study Limitation

The current study will be limited to two independent groups. The first group is Arab Americans currently living in Southeast Michigan who speak and write the Arabic language. The second group is Saudi university students who are studying in the United States.

Definition of Terms

Self-determination: A dispositional feature that is frequently expressed by practical behaviors (Farmer, 2011). Self-determination is "a combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior" (Field, Martin, Miller, Ward, & Wehmeyer, 1998, p. 2).

Test reliability: Reliability refers to the consistency of assessment scores (Moskal & Leydens, 2000). In this study, internal reliability will be investigated.

Test validity: The extent to which a measure actually evaluates what it intends to measure (Maruyama, 1992). In this study, the construct validity-factor analysis will be examined.

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CHAPTER 2 LITERATURE REVIEW

Mallory (1996), intending to help individuals with disabilities find meaning in their lives, cited Aristotle that the capacity to settle on decisions about one's life is the most essential element of human presence. Hayden and Abery (1994), who also cited Aristotle, explained that self-determination is a key aspect of human life. This perspective correlates with an idea that has guided Western thought for quite a long time: opportunity and obligation are fundamental characteristics of a satisfied human life. The capacity to make crucial, life-changing decisions and execute plans in accordance with those decisions is a vital part of human existence. A lot of Western thought has concentrated on people's ability to use sound judgment to process data and assess choices once they are made. Being able to settle on choices and adequately follow through with one's decisions is a fundamental component of self-determination as it is utilized in this study (Saver, 2000).

The effects of self-determination on students' outcomes are of interest to educators around the world. Numerous research studies designed to explore how self-determination affects students' academic achievement and outcome variables have been conducted in various contexts in recent years. (Goldberg et al., 2003; Lackaye & Margalit, 2006; Madaus, 2006a, 2006b; Meltzer et al., 2004).

Zheng, Erickson, Kingston, & Noonan (2014) conducted an empirical study of how self-determination and self-concept affect academic achievement for adolescents with learning disabilities. It was found self-determination skills were positively correlated with self-concept and academic achievement. Black and Deci (2000) reported that college students who got higher autonomous self-regulation for learning organic chemistry achieved higher apparent competence and interest/satisfaction in their classes. Grolnick et al. (1991) stated that elementary students who obtained higher autonomous self-regulation for learning were

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evaluated by their teachers as higher on both academic performance and classroom adjustment

Self-determination is an essential educational outcome for all students. Students struggle to become self-determined and can be better served if they receive direct instruction in skills related to self-determination and are given the opportunity to put their skills into practice (Argan, Snow, & Swaner, 1999; Malone, 2008; Peralte, Gonzalez-Torres, & Sobrino, 2005). It would benefit educators to know more about what and how to teach students to help them become more self-determined (Mason, Field, & Sawilowsky, 2004; Wehmeyer, Agran, & Hughes, 2000).

Self-Determination Concepts

Several definitions of self-determination have been offered in regard to working with students with disabilities and in the field of special education. Deci and Ryan (1985) characterized self-determination as an individual's ability to make decisions and have those decisions be the determinants of the student activities (i.e., student feelings regarding decision-making and individual activities), as opposed to external pressure. They contended self-determination was motivational rather than subjective in light of the fact that it addresses stimulation and the bearing of human behaviors (Eke, 1996). Field, Martin, Miller, Ward, and Wehmeyer (1998) defined self-determination as "a mix of aptitudes, information, and convictions that empower an individual to participate in objective, guided, self-managed, and self-sufficient conduct" (p. 123). A thorough understanding of one's characteristics and personal restrictions, in coordination with the belief that oneself is a competent person, is vital to self-determination. When individuals follow up on the premise of these aptitudes and states of mind, they are able to take control of their lives and become effective role models and leaders in their communities (Field, Sarver, & Shaw, 2003, p. 2).

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Wehmeyer (1996a) characterized self-determination as the attitudes and capacities of an individual regarding his or ability to engage in the essential, everyday activities of day-to-day life and to make decisions and choices with respect to his or her personal satisfaction, free from undue outer impact or impedance. The development of an individual's ability to smoothly navigate everyday life is also called the individual's causal operators, and such development is fundamental to his or her meaning of self-determination. Inside of this development, an essential causal agent is an individual or thing whose force is applied to create change and/or activity in one's life (Wehmeyer & Bolding, 2001). Therefore, a causal agent's activity is deliberate and arranged (Wehmeyer, 2004).

Wehmeyer stressed the significant role that situations play in improving one's self-determination (Wehmeyer & Bolding, 1999; Wehmeyer, Kelchner, & Richards, 1995). Wehmeyer's (1996a) theory places prominent accentuation on the individual attributes of people, such as people's ability to create, upgrade, and evolve their aptitudes and attitudes, as opposed to changes in the individuals' atmosphere and environment. Therefore, this theory is understood as a psycho-educational perspective (Stancliffe, 2001).

Abery and Stancliffe (1996) characterized self-determination as the level of individual control that one wishes to practice over the regions of life that they consider vital. Individual control alludes to the total control levels regarding what happens throughout one's life; individual control shifts and varies from person to person. Even so, self-determination can be comprehended as a more extensive idea that incorporates individual control, self-determination capabilities, and ecological impacts (Stancliffe, Abery, & Smith, 2000). Abery and Stancliffe's (1996) theory places the utmost importance on the impact of the atmosphere on the individual's life, and it places secondary importance on the individual's self-determination comprehension, attitudes, and skills. Consequently, Abery and Stancliffe's hypothesis is comprehended as an environmental perspective (Stancliffe, 2001). Mithaug

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explained, “the greater an individual’s capacity and opportunity to be self-determined are, the greater would be one’s prospectus for self-determination” (Mithaug et al., 2003, as cited in Cho, 2009). Mithaug (1998) characterized self-determination as having the open door and ability to seek the objectives in life that are compatible with one’s needs and hobbies and communicated in a way that improves an individual’s self-determination.

Alongside the different individual meanings of self-determination, there are a few models of how self-determination works that will be examined later in this section. First, before examining what self-determination is and how it is conceptualized, it is vital to illuminate the basic misguided judgments of self-determination. Wehmeyer (2003) distinguished three common misguided judgments of self-determination: (1) it requires free execution of all practices; (2) it is simply about settling on decisions; and (3) it is something an individual does. Individuals are mindboggling social creatures who routinely interact with others; only once in a while do individuals act completely independent of others. Being self-determined is identified by the measure of control over decisions one applies and the decision-making process. This incorporates the privilege an individual has to pick one or none of the accessible choices. Self-determination does not require that individuals work freely of others. Also, although decision- and choice-making are segments of self-determination, they are pieces of a more complex development that incorporate multiple segments, such as self-promotion and objective accomplishment. Self-determination is not a movement in which individuals engage or an activity that individuals are prepared to perform. It is about who they are and “enabling people to make things happen in their lives” (Wehmeyer, 2003, p. 20).

In the realm of educational research, the Self-Determination Student Scale (SDSS) is the most widely used assessment. Most research studies examined self-determination from

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students' perspectives; studies that assessed self-determination from the perspectives of teachers and parents were generally less of a focus.

Eke (1996) conducted a study designed to examine the construct validity of the *Self-Determination Student Scale* (SDSS), an instrument developed by Hoffman, Field, and Sawilowsky (1994) to measure self-determination. Eke's(1996) study sample came from the Detroit Salvation Army substance abuse treatment center – a three-month rotational substance abuse treatment center. The participants were male and female residents living at the center who were receiving treatment for alcohol addiction and/or drug abuse. Eke (1996) found the correlation between the scale and its subset to be acceptable, which shows that the scale and its subset are on the same continuum. The demographic variables (gender, race, education, and age) did not affect the scale, which indicates differential scores are not expected based on those variables.

Holt (2006) attempted to demonstrate the reliability and validity of the Self-Determination Student Scale (SDSS) with an adjudicated and incarcerated youth population in state-operated medium-, closed-, and high-security juvenile delinquent treatment facilities (Hoffman, Field, & Sawilowsky, 1995/2004). Holt (2006) found that the SDSS was a reliable measure with a population of adjudicated, incarcerated delinquent youth. Holt's (2006) analysis confirmed the instrument's internal consistency, with a Cronbach's alpha (S) of .91. However, the fact that a high level of construct validity was not achieved via confirmatory factor analysis in this study indicated that the *SDSS* required some revision prior to using it with incarcerated youth.

Farmer, Allsopp, and Ferron (2015) used the*SDSS*(a) prior to the beginning of study; (b) after the shorter baseline group completed three sessions and the longer baseline group was still in the baseline phase; and (c) after the completion of personal strengths program (PSP). The *SDSS* served as an established measure of self-determination.

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The *SDSS* (Hoffman et al., 1995/2004) is a 92-item self-report measure of the affective and cognitive aspects of self-determination. Respondents respond to items by indicating "That's me" or "That's not me," with higher scores indicating higher levels of self-determination (Hoffman et al., 2004). Cronbach's alphas for this study were .90, .87, and .28 for the pre-, mid-, and post-assessments, respectively. The post-assessment scores yielded a reliability level that was lower than typically acceptable. However, further examination of the scores indicated that the post-assessment had the lowest amount of variability (SD = 3.45) compared with the pre- (SD = 10.87) and mid-assessments (SD = 8.36). These low variability levels and the small sample size contributed to the low internal consistency level of the post-assessment.

Related Constructs

Several Studies applied interventions to encourage self-determination among students. Researchers developed and evaluated instructional interventions and supports to enhance self-determination for all students, with many of these programs intended for students with disabilities (American Psychological Association, 2004). Bruno (2000) compared the explanatory style, depressive features, and level of self-determination of treatment and control groups following a 16-week self-determination intervention. During a post hoc statistical analysis, Bruno (2000) found a significant decrease in the level of depressive features (normal, moderate, and severe) between the post-test treatment group distribution and the pre-test treatment group distribution. A significant decrease occurred in the number of youth at risk for depression (moderate and severe) in the treatment group following the post-test. However, the number of youth at risk for depression in the control group was greater following the post-test. This indicated implementing a self-determination curriculum can lead to a significant reduction in the number of at-risk youth with moderate and severe levels of depressive symptoms.

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Houchins (1998) studied the impact of a four-week self-determination intervention on 48 post-adjudicated male and female juvenile delinquent residents in the Florida Department of Juvenile Justice. A regression analysis was employed to explore the relationship between the self-determination knowledge and reading scores of both the pre- and post-test groups. Statistical insignificance at the .000 level was achieved for the linear regression between self-determination knowledge scores and reading scores for both the pre- and post-test groups. In addition, a regression coefficient of determination (R^2) of .42 was obtained for the relationship between pre-test self-determination knowledge and reading scores. An even higher R^2 of .53 was derived for the post-test groups. The practical implications were heightened self-determination knowledge scores may result in improved reading achievement scores.

Farmer (2011) studied the Personal Strengths Intervention and its effect on levels of self-determination and the social-emotional working of postsecondary students with learning disabilities and/or ADHD. The results, with respect to a change in the self-determination levels of the participants, were conflicting. The time series analysis data (i.e., visual examination, impact sizes, and multilevel demonstrating) showed there might have been no expansion in self-determination levels for a few of the participants, and no general increase in self-determination. In general, the participants' scores on the SDSS increased from the pre-evaluation to the post-appraisal. Participants trusted their self-determination level increases, as confirmed by their understanding of their time arrangement charts and last meetings.

Sarver (2000) conducted a study to assess how the association between personal and environmental factors affected the self-determination and academic achievement of university students with learning disabilities. Sarver's study sample was composed of 88 students with learning disabilities who went to the University of Florida during the spring semester of the 1998-1999 school year and were enrolled with the Workplace for Students

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with Inabilities at the time of the study. The majority of the students were placed in the control group, and the SDSS was used to yield a quantitative measure of the degree to which the students were self-determined. Next, four of the students from the first section were examined using the *Self-Determination Developmental Factors*. The results from the organization of the *SDSS* were contrasted, and the students' evaluation midpoints (their grade point averages) both before and after the study were compared. The students' grade point averages represented their scholastic achievement, and took into account the quantity and quality of the disability accommodations afforded to them by their university.

The Functional Theory of Self-Determination

Self-determination is a buildable, improvable concept that depicts the level of control individuals trust they have and apply over their lives. In special education literature, specialists have utilized or alluded to particular hypotheses of how self-determination exists and is produced (Abery & Stancliffe, 2003; Mithaug, 2003; Wehmeyer, 2003a, 2003b, 2003c). The functional theory of self-determination depends on personality and developmental psychology (Wehmeyer, 2003a). Self-determination is viewed as a dispositional trademark and characterizes it in light of useful attributes of individuals that permit them to be "causal specialists" in their lives (Wehmeyer, 2003a, p. 177). The theory contains four vital qualities and 12 component elements.

The four vital qualities are: (1) autonomy, (2) self-regulation, (3) self-acknowledgment, and (4) psychological empowerment (Wehmeyer, 2003b). Self-sufficient conduct is the point at which someone acts independently and realizes what he or she needs. Self-directed conduct is connected with self-administration aptitudes, such as monitoring and controlling one's activities. Self-realizing conduct is conduct that incorporates information regarding one's qualities and shortcomings.

At the point when individuals act in a psychologically empowered manner, they feel

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in control; they feel they can successfully complete important errands, and they expect results that are in line with their capacities. Each one of the four vital qualities must be present in a self-determined individual, despite the fact that the level at which the attributes are available might change after some time and depends on the present circumstances (e.g., current workload, environment). It is at the component level where self-determination mediations occur. Each of the 12 component elements represents a skill set or belief about oneself that is upgraded as one's self-determination increases.

The 12 Component Elements of Self-Determination

1. Choice-making skills determine a student's preference. These skills are often taught expressly to students; nevertheless, it might be important to show them unequivocally to more youthful students. Choice-making activities include deciding on an activity, deciding when to complete an activity, and deciding whether or not to share in an activity. Decision-making skills include elements of choice-making and problem-solving skills (Wehmeyer & Schalock, 2001), as well as determining the appropriate course of action for a specific situation.

2. Decision-making aptitudes are more fitting for secondary students. They incorporate specifying the issue and conceivable blueprints, results for every activity, probability of every outcome, relative significance of every outcome, and a suitable strategy that takes into account the already-specified steps.

3. Problem-solving consists of the identification, analysis, and resolution of a problem. Wehmeyer and Schalock (2001) stated that problem-solving abilities, unlike choice-making skills, are taught expressly. Such abilities incorporate both interpersonal and generic problem-solving skills. Interpersonal problem-solving abilities, such as the aptitudes that are required in social cooperation, are more common than generic problem-solving skills in students who have learning disabilities. For example, students with learning disabilities are

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more likely to do well with scholastic exercises, such as deciding the qualities of an interpretive composition pie, than reading a paragraph out loud in front of their peers (Bender, 2004; Wehmeyer & Schalock, 2001).

4. Goal-setting and attainment skills focus on the abilities needed to arrange, set, and accomplish objectives. These skills incorporate both long-haul and transient objectives. Objective-setting abilities are for scholarly accomplishments, as well as everyday life exercises. These abilities can be utilized by students to determine how their objectives and goals will affect their individual education plans (IEP).

5. Independence, risk-taking, and safety skills allow one to act according to one's desires and try new activities without unnecessary risks.

6. Self-observation, evaluation, and reinforcement skills are observing abilities that enable students to track and record their conduct. For example, students can track their on-time performance and assess their practices (e.g., they can evaluate their advancement on a set of objectives). Self-reinforcement abilities allow activity results to be organized and understood. The results can be positive or negative, and they can incorporate verbal commendation or updates and small rewards, such as stickers or treats.

7. Self-instruction skills enable students to verbally provoke themselves to take care of both scholarly and social issues. Such skills can include updates for how and when to utilize particular scholastic techniques, or how to suitably start a discussion with companions.

8. Self-awareness allows one to perceive one's interests, qualities, shortcomings, and disabilities (if disabilities are present) (Wehmeyer & Schalock, 2001).

9. Self-knowledge is the capacity to perceive and comprehend one's qualities, shortcomings, and incapacities. Self-knowledge can occur via disability mindfulness preparation and learning style inventories.

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10. Self-advocacy skills concentrate on recognizing what one requires, when one requires it, and how to get it. To be successful, students must learn various adjustments, such as requesting additional time to complete assignments or asking for separate due dates for smaller portions of a vast task.

11. The internal locus of control involves one's thoughts regarding control of his or her surroundings. This implies that one trusts he or she can control results throughout his or her life. For example, regardless of whether a decent score is earned on a test, one still feels in control of his or her life. The level of control one has influences his or her feelings towards specific situations in his or her life. Positive reactions, such as pride, are connected with an inward locus of control, whereas negative emotional reactions, such as uncertainty, are connected with an outside locus of control (Bruning et al., 2004).

12. Self-efficacy, which is the belief that one can perform an errand, is a particular space (Bandura, 1997). Expanded self-efficacy yields expanded execution and accomplishment in a given territory. It additionally prompts expanded assignment engagement and industriousness (Bruning et al., 2004). Bandura (1997) asserted that self-efficacy in one territory does not necessarily prompt self-adequacy in another zone; however, it encourages individuals to expand their perseverance and engagement with troublesome assignments in areas in which they have poor self-adequacy. This implies that an individual with high self-efficacy in math trusts he or she can perform effectively in math. Further, it means that he or she will likely take part in troublesome math problems and progress through difficulties; in this manner, the individual's possibility of progress is expanded.

An Ecological Model of Self-Determination

Abery and Stancliffe (1996) proposed an ecological model of self-determination that characterizes building self-determination as a "multipart process, a definitive objective of which is to accomplish the level of individual control over one's life inside of those regions

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the individual sees as critical" (Abery & Stancliffe, 1996, p. 27). The ecological model states that self-determination is driven by one's intrinsic inspiration to be the determiner of his or her contemplations, sentiments, and conduct. It might include, but it is not synonymous with, independence and autonomy. It may also involve the individual deciding in what connections and to what degree each of these practices/states of mind will be shown. Self-determination, appropriately, is the result of both the individual and nature. It includes the individual utilizing his or her student abilities, information, and convictions, in combination with his or her genetics, with the objective of acquiring esteemed and sought results.

The ecological model was derived from Bronfenbrenner's ecological systems theory (1979, 1989), which states that individuals create and lead their lives in four levels: the microsystem, mesosystem, exosystem, and macrosystem. The ecological systems theory was examined by Abery, Simunds, and Cady (2006); Abery et al. (2000); and Abery and Eggebeen (1993).

Self-Determination Models Established from Functional Theory

The Self-Determined Learning Model of Instruction (Wehmeyer, Palmer, Agran, Mitaug, & Martin, 2000) and the Field and Hoffman model (1994, 2006, 2014) are based on functional theory

The Self-Determined Learning Model of Instruction

The Self-Determined Learning Model of Instruction was produced from the Adaptability Instruction Model created by Wehmeyer et al. (2000). It highlights decision-making, autonomous execution, self-assessment, and objective choices and conduct. The Self-Determined Learning Model of Instruction concentrates on the same components, but it also incorporates the abilities one needs to act upon oneself and the environment to accomplish objectives and fulfill needs. The Self-Determined Learning Model of Instruction includes three stages: (1) set an objective, (2) take action, and (3) adjust goals or plans. It

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utilizes a problem-solving methodology as part of every stage to offer individuals assistance during the process of achieving their objectives. The inquiries are composed in a way to help students learn while keeping in mind their needs. For instance, in the first stage, once an individual answers the question "What is my objective?" the student is ready to answer the following inquiries:

- What would I like to learn?
- What do I think about it now? What must change for me to realize what I don't know?
- What would I be able to do to get this going? (Palmer & Wehmeyer, 2003, p. 116).

The Self-Determined Learning Model of Instruction is student-directed, and educators work with their students to help them select the skills that are important to each student. Subsequently, the heart of the model is that students figure out how to understand themselves and apply and adjust the model's techniques according to their needs. This model is actualized through "educational supports," which are the diverse components of self-determination, such as showing choice-making (Wehmeyer et al., 2000, p. 444). The Self-Determined Learning Model of Instruction encourages and motivates students to tackle learning challenges. It clarifies the how and when of self-engagement; students connect with themselves when they have the opportunity to understand what they want to do and how they will do it (i.e., the why variable). Furthermore, students stay connected with the degree to which they modify their desires, choices, and activities adequately enough to deliver the results they anticipate from their opportunities (i.e., the how factor) (Wehmeyer, M. L., & Field, S. L. 2007).

Phases of the Self-Determined Model of Instruction

Phase 1: Students identify their educational, social, or behavioral goals. *Example*: Samantha sets a goal to earn at least a B on all fourth quarter Earth Science tests.

Phase 2: Students develop a plan to achieve their self-identified goals. *Example*:

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Samantha plans to make flash cards from her daily class notes to use when studying for her tests.

Phase 3: Students evaluate their goal attainment OR students adjust their goals. *Example*: After her next test, Samantha will ask herself the following questions: "Am I on track to reaching my goal?" "Is my current plan helping me to earn B's on my Earth Science tests?" "Do I need to make any adjustments to my plan?" (Wehmeyer & Field, 2007).

The Self-Determined Learning Model of Instruction was field-tried with 40 students with inabilities (Wehmeyer et al., 2000). The students were recognized as having scholarly disabilities (n = 13), learning incapacities (n = 17), and emotional or behavioral scatters (n = 10). During the study, the students concentrated on social aptitudes and behavioral and scholastic objectives. The students accomplished or surpassed their desires for 55 percent of the objectives they set. They gained ground but did not yet accomplish 25 percent of the objectives they set. They did not gain ground on 20 percent of their objectives. The students' levels of self-determination increased and they demonstrated expanded inward locus of control levels.

The Field and Hoffman Model

The Field and Hoffman (1994) model of self- determination (action model) depends on inside variables that are thought to impact self-determination. They intentionally overlooked the role that nature plays on an individual's self-determination because they assumed self-determination can occur in any environment as long as individuals have the proper abilities. Field and Hoffman (1994) characterized self-determination as "the ability to define and achieve goals based on a foundation of knowing and valuing oneself" (Field & Hoffman, 1994, p. 164).

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The Action Model of Self-Determination's Five Steps

Know Yourself

Building a thorough understanding of one's qualities, shortcomings, needs, and inclinations, in addition to the open doors and boundaries in one's environment, is central to self-determination. Having an assortment of encounters from which to draw and learn plays a crucial part in creating expanded familiarity with oneself and the opportunities and hindrances in one's environment. It also helps individuals make educated decisions. At the point when people have an expanded understanding of their qualities, shortcomings, needs, and inclinations, making decisions and determining significant objectives becomes a more effective process. Great decision-making aptitudes are expected to measure the advantages and potential pitfalls of objectives and activities.

Value Yourself

People must believe in themselves and their entitlement to seek what they want in order to be self-determined. Self-acceptance is crucial and incorporates an acceptance of the aggregate self (even those qualities that might be considered shortcomings). One approach to moving toward a more prominent self-acceptance is to discover and celebrate hidden qualities that have been produced to make up for or adapt to shortcomings. For instance, if an individual believes that the student gets upset too easily, the effect of the shortcoming might be lessened if the student can understand how shortcoming might serve their needs.

For example, the student outrage might warn in advance about circumstances that are not quite right, thereby prompting the student to take action. Or, the student can choose to exercise more self-discipline to compensate for getting upset too easily. If people can acknowledge their shortcomings, the effects of their shortcomings will be minimized. Additionally, acceptance allows individuals to remedy their shortcomings on an as-needed basis.

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Another imperative component of valuing oneself is understanding one's rights and obligations. Taking care of oneself emotionally, mentally, and physically is part of valuing oneself. It is difficult to envision effectively fulfilling vital objectives if one is excessively tired or drained, or physically or mentally unable to perform in a way that achieves his or her objectives. Learning and taking part in sound self-care gives individuals vitality and it allows them to understand and seek their objectives.

Ryan and Deci (2000) concentrated on the exploration of self-determination, and their study prompted the advancement of the Action Model of Self-Determination and the advancement of evaluation and instructional materials, such as the SDAi (e.g., Field & Hoffman, 1994/2002; Hoffman, Field, & Sawilowsky, 1995/2004). Field, Hoffman, and Sawilowsky's research (1995/2004) confirmed that individual qualities are connected with self-determination, and self-determination allows individuals to experience the warmth, security, and confidence that come from making and sustaining positive connections in their lives. Additionally, understanding and valuing oneself helps ensure the ability to look after oneself emotionally, mentally, and physically. Understanding one's rights and obligations is central to confidence in oneself and creates positive, beneficial associations with others.

Plan

To improve one's ability to express self-determination, readiness is vital. Self-determined people must think about what they value in themselves and make action plans, including setting short-term objectives, breaking long-term objectives into a progression of steps that, when finished, will yield the wanted result .The capacity to see the completed vision and make small steps to achieve such a vision prompts expanded self-determination.

An individual's plans are likely to prompt a positive course if the individual tries to envision potential consequences of his or her decisions before taking action. However, individuals, particularly young people, might, in their endeavors to be self-determined, take

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part in activities that are excessively unsafe. This worry can be eased by encouraging them to seek assistance with important decisions during the early stages of their self-determination journeys. If young people begin their journeys towards self-determination by making smaller decisions with the utmost care, they can make decisions that convey a higher level of danger once they are fully prepared and understand the consequences. Another way that potential negative impacts can be minimized is by recognizing the possible negative outcomes of activities while one is still in the arranging period of the self-determination process .On the chance that there might be a negative outcome to a planned action, a decision can then be made to adjust or toss the first plan, or to proceed with the arrangement the way things are and expect the potential danger.

Inventiveness is required when taking part in anticipating self-determination. Self-determination is not always effortless: huge boundaries might be experienced during the process, and they should be tackled on an as-needed basis. Some hindrances can be eliminated through industriousness alone, but being creative (i.e., thinking outside the box) often allows people to conquer hindrances that determination alone cannot overcome.

The last component in the planning segment of the Action Model of Self-Determination is visual practice. Sports therapists have long understood the importance of competitors rationally practicing and envisioning themselves succeeding before they contend. Practice (real physical practice, if conceivable, or, if not, in one's creative abilities) can offer people some assistance with becoming more competent with and certain about their planned actions.

Act

Without action, there can be no self-determination. The accomplishment of what is sought must be achieved by making a move, or by settling on a decision to stay latent, which is also a type of action because it is the result of a decision-making process. Expanded

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information and trust in oneself as consequences of an action's results can bring about an increase in self-determination. Making a move quite often includes some component of danger, and self-determination is enhanced when dangers are understood, yet precise, effective action is taken. One's readiness for potential danger, combined with the intended results of the activity, minimizes the hazards involved in undertaking the action.

Having the capacity to take effective actions, including speaking, listening, and writing, contributes to one's ability to make a move towards objectives. Listening is particularly critical. It is the manner by which data is picked up and it allows one to know where benefits and potential pitfalls might lie. It also helps build the positive connections that are so critical to expanding one's self-determination.

Confident correspondence is a critical part of self-determination. It involves sincerely expressing needs, emotions, or convictions in a way that does not prevent others from expressing their thoughts and feelings. Confident correspondence is not aloof correspondence (not communicating needs, sentiments, or convictions), nor is it forceful correspondence (saying what one needs in a way that prevents others from sharing their emotions, convictions, or feelings). By using confident correspondence, an individual's point of view and wishes are expressed, and positive connections are made and supported.

Another vital part of the act segment is securing assets and support from others. People are social creatures, but once in a while, they can achieve objectives completely on their own, without anyone else's input. However, ordinarily, an individual must connect and receive assets or support from others to perform what is wanted or needed.

Strong correspondence and positive relationships also require the ability to arrange actions and determine conflict and criticism. To encourage self-determination over the long-haul, it is important to move in the direction of objectives in a way that takes into consideration the thoughts and feelings of others. Utilizing win-win transactions and positive

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clash determination systems improves the probability of getting what one needs from an arrangement while preserving positive connections and maintaining ideal correspondence. Finally, the capacity to drive forward, regardless of hindrances, is a key component of the progression of self-determination.

Experience Outcomes and Learn

Alongside the advantage of accomplishing wanted results, the self-determination process builds self-awareness, confidence in oneself, and aptitudes that add to self-determination, such as decision-making and resolving problems. An ideal approach in which one can absorb the information, beliefs, and abilities of self-determination is to fully immerse oneself in the process of self-determination and learn from the results. However, accomplishing what one intends to achieve is not the sole marker of expanded self-determination. Any endeavor intended to expand self-determination gives one a chance to learn from the process and the results, therefore enhancing his or her experience of self-determination.

The ability to live one's life while taking into account the process of self-determination is improved when one deliberately and methodically considers encounters. First, the result of exertion should be compared and contrasted with the result one set out to accomplish. Was the coveted result accomplished? Did the individual like what happened, regardless of whether the intended result was achieved? In some cases, when an objective is achieved, it might be discovered that it was not appreciated as much as it was foreseen.

However, at times, a result other than what one set out to accomplish is experienced and it is superior to what was sought after. Notwithstanding the result, the experience manufactures self-awareness and one can use it to understand how to make educated decisions in subsequent self-determination endeavors. It is also essential to look at genuine

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execution in the quest for self-determination – it is essential to realize which actions worked and which did not.

The saying practice makes perfect applies to self-determination. Self-determination endeavors will seldom be viewed as flawless, nor must they be perfect to provide useful situations from which one can learn. Many components influence self-determination (e.g., one's beliefs and actions, the actions of others, components of situations). However, it is the procedure of self-determination – the process of turning into an enhanced self – that is critical. The procedure serves to satisfy the psychological needs of self-sufficiency, ability, and relatedness that were noted by Deci and Ryan (2000). When these needs are met, expanded internal motivation ensues. Living in a self-determined way is enhanced via practice. Through practice in connected settings, the individual stepping stones or credits that add to self-determination are multiplied.

The model of self-determination was produced utilizing a multi-step process. Applicable literature was surveyed and meetings with individuals, who have disabilities, and their administration contributors, parents, and teachers, were conducted. The interviews concentrated on requesting meanings of self-determination, its segments, and elements that help or prevent its advancement. Students with and without disabilities were asked to determine and discuss the particular practices that demonstrate self-determination. Finally, specialists assessed a draft of the model and made recommendations for changes.

The self-determination model created by Field and Hoffman (1994) and revised in 2006 and 2014 led to the establishment of the *Self-Determination Assessment – Internet* (*SDAi*) approach. Researchers who conducted studies that prompted the advancement of this model found that self-determination is influenced by the qualities of situations in which one cooperates (e.g., situations that allow for wide-open decision-making choices, or consolation

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for suitable risk-taking) and the learning, aptitudes, and beliefs that people bring to each setting.

The Self-Determination Assessment – Internet Approach

The *Self-Determination Assessment – Internet*(*SDAi*) incorporates three instruments that measure the subjective, behavioral, and full-of-full feeling characteristics that are connected with self-determination. These attributes are surveyed from the viewpoints of students, parents, and educators. The instruments can be administered together or separately. The *SDAi* approach concentrates on and specifies those variables identified with self-determination that are within an individual's control and are potential focuses for instructional intervention.

The *SDAi* has numerous applications in education. The instruments can be utilized as a major aspect of classroom exercises, or on an individual basis via consultant or guiding connections. The outcomes can be used to give students input regarding the positive attributes on which they can depend to be more self-determined and the attributes they need to strengthen. Appraisal findings can help assess students' present level of self-determination, and such findings can be particularly useful in collecting data for Individualized Education Plans and Summaries of Performance for students with inabilities. The appraisals can also be utilized to recognize particular ranges for instructional intervention.

The three instruments of the *SDAi* have varied uses in the field of education; they can be used as a discourse apparatus in planning educational gatherings that can enhance students' self-awareness, and they can also be utilized to recognize suitable instructive mediations. Furthermore, the instruments can be used to assess student development and perform program assessment and behavior research. When the instruments are used as pre- and post-tests before and after an instructional intervention, data regarding the effectiveness of the intervention can be gathered by utilizing the online Administrative Web Site.

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Given the *SDAi* instruments consider the points of view of the student, teacher or guide, and parents, it is necessary to recognize regions of similarity and dissimilarity among the three viewpoints if all three of the *SDAi*'s scales are used. Such assessment might provide students with knowledge regarding how they are seen in various circumstances in their lives. The *SDAi* consists of three scales:

1. The *Self-Determination Student Scale* (*SDSS* or *SDSS-SF*)

The 92-item *SDSS* is designed for younger students and for those whom it might be more fitting to give a straightforward "that is me" or "that is not me" reaction. The *SDSS* short form (*SDSS-SF*) was normed on students in university settings. It requests that students react to 43 things on a five-point Likert scale that encourages more refined judgments in reactions. Both variants of the *SDSS* provide students with scores to each of the five parts of the Action Model of Self-Determination and a score for the entire instrument. Giving scores to each of the parts offers students some assistance with learning more about their qualities and zones for development in each of the five key segments identified with self-determination.

2. The *Self-Determination Parent Perception Scale* (*SDPPS*) and the *Self-Determination Advisor Perception Scale* (*SDAPS*)

The *SDAi* has two variant parts: one is for consultants and the other is for parents. These two instruments are 30-point questionnaires that ask a parent or teacher to rate the student on a five-point Likert scale (1=low, 5=high) on an assortment of questions related to the scale. The *Self-Determination Student Scale* and the *Self-Determination Student Scale-SF* can each be utilized freely; parents and counselors are not required to complete an appraisal. However, if additional data regarding a student's self-determination is warranted, taking into account perceptions of parents and consultants (i.e., educators, guides, tutors) by using the *SDPPS* and the *SDAPS* can provide significant data during the evaluation process.

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3. The *Self-Determination Knowledge Scale* (*SDKS*)

The *SDKS* can be used to enhance the *SDAi*. It was modeled after the Field and Hoffman model of self-determination. There are both pre- and post-test versions of the instrument available. The *SDKS* pre-test and *SDKS* post-test are 37-item organized reaction instruments intended to analyze the student's subjective knowledge of self-determination aptitudes, as taught in the Steps to Self-Determination (Hoffman & Field, 2005) educational programs. Roughly one-third of the items is true-false questions, and the rest are multiple choice questions with three answer choices. The minimum reading level for students taking the assessment is fifth grade, and this is intended to minimize any confusion that may result due to comprehension difficulties. *The Self-Determination Knowledge Scale* is a component of Hoffman and Field (2005). A digital copy of the book is available via ProEd Distributers (www.proedinc.com). Copies of Hoffman and Field's (2005) book may be requested to examine students, counselors, and parents. The assessment can utilize each of the three scales, two scales, or just one.

Teachers' Views of Self-Determination

Teachers usually believe that self-determination is a crucial educational priority, and most teachers state that they teach self-determination skills in their classrooms. It is significant to note that special education teachers rate the importance of self-determination higher than general education teachers rate its importance (Stang, Carter, Lane, & Peirson, 2008).

Several studies were conducted to examine teachers' views regarding the importance of self-determination and how they encourage and enhance the self-determination of their students (Agran et al., 1999; Grigal et al., 2003; Thoma et al., 2002; Wehmeyer et al., 2000). In a nationwide research study, Wehmeyer et al. (2000) discovered that among 1,219 teachers, 60 percent of the teachers understood the term self-determination, and a majority of

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them stated that teaching their students the components of self-determination is imperative. Wehmeyer et al. (2000) reported teachers believe that teaching their students self-determination will help them succeed both in school and during their adult lives. However, when the teachers were questioned regarding the strategies they use to enhance their students' self-determination, 31 percent of the teachers stated that none of their students had individualized education program (IEP) goals intended to improve their self-determination. One-third of the respondents confessed that they do not engage their students in the educational planning process. The most common reason (42%) for not giving students self-determination instruction was "students would not benefit from instruction in these areas" (Wehmeyer et al., 2000, p. 63). Comparable results were reported by researchers who completed other studies, which suggest that a gap exists between teachers' knowledge of self-determination and their employment of self-determination strategies in their classrooms (Agran et al., 1999; Grigal et al., 2003; Thoma et al., 2002).

Thoma et al. (2002) indicated that teachers' education and time constraints, students' levels and types of disability, and types of educational settings, such as restrictive versus more independent settings, might affect teachers' views of self-determination. Wehmeyer et al. (2000) found that teachers of students who have severe cognitive disabilities are more likely to believe that their students would not benefit from self-determination enhancement strategies than teachers of students who have mild cognitive disabilities. Wehmeyer et al. (2000) also found that teachers who work in relaxed settings are more likely to believe self-determination instruction is useful for students with disabilities than teachers who work in more restrictive settings. Eisenman and Chamberlin (2001) stated that high school teachers believe they do not have enough time in the school day to add self-determination instruction to their curricula. These teachers also stressed the need for self-determination instruction that begins well before high school, so their students enter high school with a strong foundation in

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self-determination. They also mentioned the need for self-determination assessment tools that can be used across time (Eisenmann & Chamberlin, 2001).

In regard to post-secondary teachers' views, Thoma et al. (2002) conducted a survey of university special education faculty members and found that only 54 percent of the participants reported including self-determination instruction in their teacher education classes.

Parents' Views of Self-Determination

Contrary to the findings reported by Wehmeyer and Schalock (2001), Grigal et al. (2003) reported that parents of school-age children who have intellectual disabilities believe the promotion and inclusion of self-determination are vital for their children's education. The promotion and inclusion of self-determination can be achieved via activities such as participating in IEP meetings, or detailed instruction that discusses the elements of self-determined behavior. However, a majority of the parents stated they do not believe their children's schools do enough to promote self-determination in their children. The parents mentioned a lack of relevant self-determination activities for their children to complete; thus, many parents believe their children's self-determination is ignored by schools.

Zhang, Landmark, Grenwelge, and Montoya (2010) examined parents' views on self-determination. Parents were selected from various major cultures, and each had a child with a disability. They were asked about their knowledge of self-determination and their daily practice of self-determination related activities with their children. Zhang et al. (2010) discovered culturally related patterns that indicated differences between parents from cultures outside of the United States and parents raised in the United States. Differences were found in the following areas: knowledge of the concept of self-determination; speaking with their children about their strengths and weaknesses; encouraging self-efficacy; and teaching autonomous living, objective setting, problem-solving, and decision-making skills.

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CHAPTER 3 METHODS

The purpose of this study is to assess the psychometric characteristics (i.e., the reliability and validity evidence) of an Arabic version of the *SDAi* (Field, Hoffman, & Sawilowsky, 2004), to be available as a tool to assess self-determination among Arabic-speaking students' parents and teachers. Five research questions will be investigated in this study:

Research question 1: Does the Arabic Translation of the *SDSS-SF*yield acceptable internal consistency coefficients when administered to a selected sample of Saudi students?

Research question 2: Does the internal factor structure of the Arabic version of the *SDSS-SF* have evidence of internal factor structure validation evidence based on the administration to a sample of Saudi students who study in the US?

Research question 3: Does the Arabic translation of the *SDPPS* yield acceptable internal consistency coefficients when administered to a selected sample of Arabic parents?

Research question 4: Does the Arabic translation of the *SDPTS* yield acceptable internal consistency coefficients when administered to a selected sample of Arabic teachers in Wayne County schools?

Research question 5: Does the internal factor structure of the Arabic version of the *SDPPS* and *SDTPS* have evidence of internal factor structure validation evidence based on the administration to a sample of Arabic parents and teachers selected from Wayne County schools?

Reliability and Validity

According to Sawilowsky (2000), reliability is "the consistency that a test measures whatever it measures" (p. 197). Phelan and Wren (2006) added it is "the degree to which an assessment tool produces stable and consistent results." There are generally three types of reliability: internal consistency, test-retest, and parallel or alternate-form reliability. In this

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study, the internal consistency will be obtained for each instrument's total scale and subscales. Cronbach alpha, a measure of internal consistency reliability, internal consistency reliability indicates to the level of interrelatedness among a set of items (Netemeyer, Bearden, & Sharma, 2003).

Validity is defined as the extent to which a measure actually assesses what it intends to measure (Maruyama, 1992). There are generally four types of validity: content, predictive, concurrent, and construct validity. Construct validity is the degree to which an instrument measures the characteristic being investigated – the extent to which the conceptual definitions match the operational definitions. Exploratory factor analysis will be the method of establishing a test's internal factor structure, which is a form of construct validity. It is "a complex statistical procedure which is conducted for a variety of purposes, one of which is to assess the construct validity of a test or a number of tests, p. 121" (Packer, 2004).

Participants

Teachers /Parents

A convenience sample of 112 teachers and parents (60 parents and 55 teachers) were selected to participate. They were recruited from public schools and Arabic schools (charter and private schools) in the cities of Wayne County, Michigan.

Students

An independent group of participants consisting of Saudi students temporarily residing in the United States between 4 to 10 years comprised this group. Three hundred and thirty-six students were recruited from throughout the United States based on an exhaustive list of students on scholarship from Saudi Arabia. In 2005, the King Abdullah Scholarship Program (KASP) began, is considered the largest scholarship program in Saudi Arabia's history. Saudi students studying in the United States numbered more than 145,000 in 2015 (King Abdullah Scholarship Program, 2012), with the top ten states noted in Table 1.

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Table 1. *Top 10 States That Contained the Most Students from Saudi Arabia in 2012*

TOP U.S.	SAUDI
California	9000
Texas	5000
Ohio	4800
Florida	4600
Pennsylvania	4400
Michigan	4300
Colorado	4300
Virginia	4300
Massachusett	4200
Indiana	4000

Saudi students studying in the United States were accessed via local Saudi clubs found at universities and colleges. Currently, more than 260 Saudi student clubs can be found on campuses throughout the United States. The goal of these clubs is to help students socialize each others, learn from each other's educational and life experience under the supervision of the Saudi Arabia Cultural Mission (SACM). Saudi student clubs also arrange on-campus and off-campus activities intended to improve the students' academic, social and emotional life.

Instruments

The self-determination model provided the basis for the *Self-Determination Assessment – Internet* approach (Field-Hoffman & Sawilowsky, 1994; 2006; 2014). Research supporting this model is based on the characteristics of the environments in which one interacts, as well as the opportunities to make decisions, extent of support provided for the individual, and if appropriate, taking growth-oriented risks. Self-determination is based on the knowledge, skills, and beliefs that individuals bring to each environment in which they interact. The self-determination model focuses on the aspects of self-determination that are

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within the individual's control and are possible instructional intervention targets. The model contains five components: (I) Know Yourself, (II) Value Yourself, (III) Plan, (IV) Act, and (V) Experience Outcomes and Learn (Field, Hoffman, & Sawilowsky, 2006).

Measuring Self-Determination

The Self-Determination Student Scale (SDSS or SDSS-SF), the Self-Determination Parent Perception Scale (SDPPS), and the Self-Determination Teacher Perception Scale (SDAPS) are components of a battery of self-determination assessments. These instruments can be utilized alone, or in concert, to give students and the individuals who bolster them (e.g., instructors, guides, advisors, parents) data regarding the students' information, abilities, and convictions that are identified with self-determination.

The Self-Determination Student Scale (SDSS-SF)

The *SDSS-Short Form (SDSS-SF)* was created via assessing university students. The *SDSS-SF* requests that students react to 43 elements on a five-point Likert scale that examines more refined judgments in students' reactions. Both the *SDSS* and the *SDSS-SF* provide students with scores for each of the five segments of the Action Model of Self-Determination, in addition to a score for the whole instrument. Providing students with a score for each of the five segments allows them to better understand their qualities and regions for development in each of the five key parts identified with self-determination.

The Self-Determination Parent Perception Scale (SDPPS) and Self-Determination Advisor Perception Scale (SDAPS)

The parent and teacher versions of the instrument are 30-item questionnaires that ask respondents to evaluate the student on a five-point Likert scale, from the lowest (1) to the highest (5), on an assortment of elements correlated with the Action Model of Self-Determination. Psychometric properties of the *SDAi* and its forerunner were reviewed in Chapter 2.

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SDAi Arabic Translation

To confirm the equivalent meaning of the elements and constructs between the Arabic and English versions of the *SDAi*, a rigorous translation process was used that included forward and backward translation and subjective and objective evaluations of the translated elements. The aim of the translation process was to yield an Arabic version of the *SDAi* with elements that are equivalent in meaning to the original English version. Equivalent translations underline functional equivalence or the equivalent meaning of elements across the original and translated instruments, rather than word-for-word duplication. Functional equivalence is increasing the likelihood that the instrument will operate in a new target culture much as it did in the original culture in which it was established.

Forward and Backward Translation

Two bilingual interpreters in English and Arabic (including the researcher), an Associate Professor in The Department of Educational Psychology at Taiba University in Saudi Arabia, and a doctoral candidate at Wayne State University with a major in Educational and Research and Evaluation separately translated the English version of the *SDAi* into an Arabic version using forward translation. They were instructed to maintain both the form (language) and the meaning of the items as close to the original as possible but to give importance to meaning equivalence, and they used common language in the translation. The two translations were then compared to evaluate the item-by-item consistency. In the case of discrepancies or disagreements, the items were discussed and revised until a consensus was obtained. When the Arabic translation was completed, the instrument was then backward-translated (from Arabic to English) by two other individuals, bilingual in English and Arabic, following the equal comparison and revision process.

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Evaluation

The backward-translated elements were assessed by two doctoral students in the College of Education (Curriculum and Instruction/Bicultural Education) at Wayne State University who were fluent in both the Arabic and English languages to confirm that the element meanings are equivalent in both the original English version and the backward-translated version. If variances in meaning were located among elements, another iteration of the translation process was undertaken. This method continued until both doctoral students were satisfied that substantial meaning equivalence was achieved. This process is depicted in Figure 1.

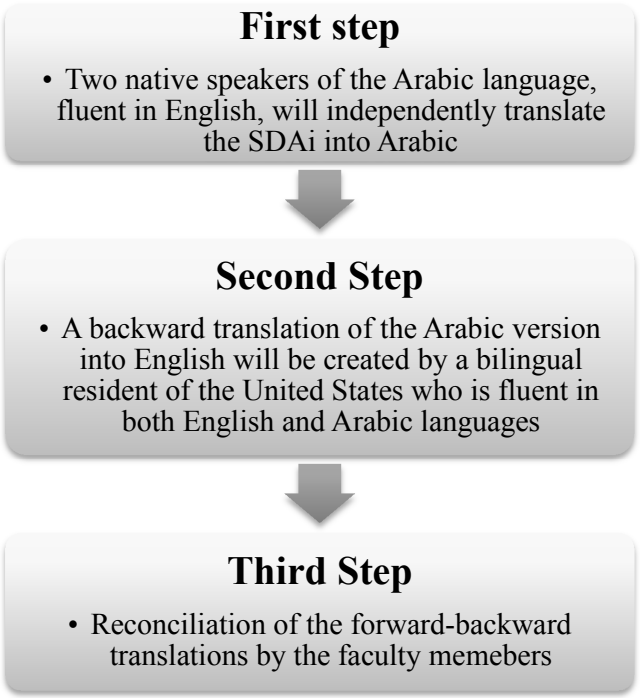

Figure 1. *Phases of Translation*

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Research Protocol

The policies and procedures of the Human and Animal Investigation Committee (HIC) at Wayne State University and APA/AERA/NCME standards for ethical conduct or research were followed. Participation was voluntary. All the participant Arab parents, teachers, and Saudi students were advised that the assessment was to be administered solely for psychometric property purposes. For the Saudi students, the questionnaire was administered online, in coordination with the Saudi student presidents' clubs that were found in cities in the United States that had large Saudi students' populations. Parents and teachers were given the questionnaire by school administrators.

Data Collation Procedure

An electronic version of the questionnaire from the current study was developed via Qualtrics, and a link to the questionnaire was distributed to the participants. Two independent groups (students and teachers/parents) were obtained for the current study. To obtain the first group, the SACM was contacted to post the link to the study on their official Facebook page. Additionally, the presidents of the Saudi clubs were contacted to distribute the study link to their students. Students who decided to participate had the opportunity to read the consent form from the link prior to their participation. The online link was open for participation for two months (October 15, 2016 - December 15, 2016). During this period, 350 students participated and 336 submitted complete data.

For the second independent group, several schools were targeted to obtain the teacher and parent participants. First, in fall 2016, the principle investigator of the study contacted the principals of 12 Arabic and private schools (Islamic and Saturday-only schools) in Wayne County, Michigan. Four schools (the Al Ikhlas Training Academy, the International Islamic Academy, the Michigan Islamic Academy, and the Islamic House of Wisdom) expressed interest in participating. Next, the link to the Qualtrics online questionnaire

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(SDPPS & SDAPS) was sent to the interested schools via email. Fifty-three teachers and 60 parents completed the questionnaire.

Data Analysis

Both item and total scale reliabilities will be obtained for the Arabic translation of the three self-determination instruments using SPSS version 23, and an analysis will be conducted on the scale reliability to determine the impact if each item is deleted. Cronbach's alpha will be computed to each scale. Finally, a correlation matrix will be compiled for the three instruments based on subscale and total scales.

Dimension reduction, via Exploratory Factor Analysis, will be conducted using principal component extraction and Varimax rotation. This approach is most appropriate when it is desired to obtain orthogonal factors. The first approach will be forcing a five-factor solution, which was the original self-determination model Field, Hoffman, and Sawilowsky (2004) underlying the *SDAi*. The second approach is based on an iterative process which is conducted to obtain the final factor solution. Coefficients are sorted by size, and factor loadings less than |.4| are suppressed. Items that load on more than one factor, or fail to load, are removed. The process is repeated until the factor structure is resolved.

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CHAPTER 4 RESULTS

SDSS-Short Form (SDSS-SF)

The sample included 336 students, of whom 144 were male (42.9%) and 192 were female (57.1%). The education level of the students was 147 (43.8%) for bachelor's, 92 (27.4%) for master's, and 94 (28%) for doctoral students, as depicted in the tables below.

Table 2. *Gender*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	144	42.9	42.9	42.9
	Female	192	57.1	57.1	100.0
	Total	336	100.0	100.0	

Table 3. *Education Level*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BA	147	43.8	44.1	44.1
	MA	92	27.4	27.6	71.8
	PhD	94	28.0	28.2	100.0
	Total	333	99.1	100.0	
Missing	System	3	.9		
Total		336	100.0		

Correlations

The correlations among 43 items using five-factor analysis resulted in many statistically significant positive relationships ($p<.05$). For example, the correlations were significant between Q1 and Q22 (r=0.30); Q2 and Q3 (r=0.46); and Q5 with Q4 (r=40), Q12 (r=0.33), and Q21 (r=0.35). Similarly, there were items with statistically significant negative correlations, such as Q1 with Q20 (r= - 0.26), Q4 with Q6 (r= - 0.24), and Q11 with Q18 (r=

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- 0.46). Due to the size of the matrix, the correlational structure of the items, based on the current sample, is compiled in the Appendix. Additional analysis was performed for all items on the SDSS-SF, and descriptive statistics are presented in Table 4.

Table 4. *Item Statistics, Sample n=336*

	Mean	Std. Deviation	N
Q1	4.25	.762	336
Q2	4.07	1.043	336
Q3	4.58	.737	336
Q4	3.92	.834	336
Q5	3.97	.923	336
Q6	2.57	1.093	336
Q7	1.89	.899	336
Q8	4.30	.889	336
Q9	4.49	.741	336
Q10	3.88	1.036	336
Q11	3.70	1.172	336
Q12	3.97	.791	336
Q13	3.89	.891	336
Q14	4.00	.816	336
Q15	3.66	.980	336
Q16	4.77	.447	336
Q17	3.41	1.089	336
Q18	4.04	.820	336
Q19	2.90	1.092	336
Q20	4.49	.792	336
Q21	4.14	.804	336
Q22	4.02	.884	336
Q23	4.48	.632	336
Q24	4.55	.672	336
Q25	4.09	.872	336
Q26	3.82	.927	336
Q27	3.95	.866	336
Q28	3.22	1.050	336
Q29	4.18	.692	336
Q30	3.84	.955	336
Q31	3.84	.870	336
Q32	3.65	.937	336
Q33	3.34	1.118	336
Q34	3.79	.866	336

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Q35	4.32	.752	336
Q36	4.07	.672	336
Q37	4.24	.671	336
Q38	4.18	.718	336
Q39	4.11	.951	336
Q40	3.80	1.042	336
Q41	4.38	.707	336
Q42	4.28	.737	336
Q43	4.76	.496	336

Internal Consistency Reliability for the SDSS-SF

Internal consistency was analyzed for the SDSS-SF scale using Cronbach's Alpha, which was $\alpha = 0.846$. The value based on standardized values was $\alpha = 0.867$. The breakdown of the reliability analysis is compiled in Table 6. In this approach, an item would be a candidate for deletion if it would substantially increase Cronbach's alpha from the established baseline of .846, as indicated above. The potential candidates for deletion are Q6 (.859), Q7 (.858), and Q19 (.862). Because the improvement would be marginal (i.e., maximum improvement of .862 - .846 = .016), there is no clear evidence that deleting any items would be psychometrically beneficial.

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Table 5. *Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q1	165.54	177.885	.432	.362	.841
Q2	165.73	179.155	.251	.301	.845
Q3	165.21	180.573	.310	.449	.843
Q4	165.87	177.628	.402	.370	.841
Q5	165.82	176.965	.384	.359	.841
Q6	167.23	194.474	-.276	.291	.859
Q7	167.90	194.960	-.339	.313	.858
Q8	165.49	177.737	.368	.345	.842
Q9	165.30	177.878	.446	.428	.840
Q10	165.91	178.225	.287	.293	.844
Q11	166.09	173.896	.387	.421	.841
Q12	165.82	177.264	.444	.360	.840
Q13	165.90	180.461	.250	.224	.844
Q14	165.79	179.045	.345	.256	.842
Q15	166.13	174.881	.440	.423	.840
Q16	165.02	183.558	.288	.211	.844
Q17	166.38	177.807	.284	.284	.844
Q18	165.75	177.507	.415	.367	.841
Q19	166.90	197.162	-.362	.341	.862
Q20	165.30	179.017	.359	.411	.842
Q21	165.65	177.326	.433	.344	.840
Q22	165.77	175.119	.485	.433	.839
Q23	165.32	177.870	.532	.468	.839
Q24	165.24	177.869	.498	.435	.840
Q25	165.71	175.008	.498	.441	.839
Q26	165.97	177.101	.376	.343	.841
Q27	165.85	181.212	.227	.253	.845
Q28	166.57	183.380	.097	.200	.849
Q29	165.61	178.317	.457	.396	.840
Q30	165.95	176.487	.388	.300	.841
Q31	165.95	176.565	.429	.450	.840
Q32	166.14	178.501	.314	.371	.843
Q33	166.46	179.007	.234	.287	.846
Q34	166.00	176.890	.417	.448	.840
Q35	165.47	176.035	.534	.447	.839
Q36	165.72	177.657	.510	.449	.840
Q37	165.55	177.717	.507	.389	.840

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Q38	165.61	178.562	.426	.365	.841
Q39	165.68	177.209	.361	.265	.842
Q40	165.99	177.884	.298	.295	.843
Q41	165.41	179.944	.359	.441	.842
Q42	165.51	176.245	.534	.457	.839
Q43	165.03	181.614	.403	.396	.842

First Exploratory Factor Analysis (EFA) Approach

The initial EFA was to conduct a principal component analysis as the extraction method and a Varimax rotation with Kaiser Normalization by forcing a five-factor solution to match the five factors previously obtained by Field, Hoffman, and Sawilowsky (2004). The two-, three-, four-, five-, and six-factor solutions were obtained to see if forcing a differing number of factors might yield a more favorable internal factor structure.

Five-Factor Solution

Several items have positive loading on factor one: Q22, Q25, Q26, Q29, Q35, Q36, Q40, and Q42. The items that have positive loading on factor two are Q11, Q16, Q17, Q31, Q34, and Q30, while Q6 and Q19 have negative loading. On factor three, the items Q1, Q4, Q5 Q12, Q21, and Q38 have positive loading. The items Q2, Q3, Q9, Q23, Q24, and Q41 have positive loading, while Q7 has negative loading on factor four, and the items Q32, Q33, and Q28 have positive loading on factor five (see Table 6). The five-factor solution explained 37.26% of the variance.

Table 6. *Rotated Component Matrix*

	Component				
Item #	1	2	3	4	5
Q1	.122	.172	.531	.201	.108
Q2	-.029	.130	.022	.551	.111
Q3	.026	.126	.028	.674	.084
Q4	.088	.276	.598	.043	.013
Q5	.088	.064	.709	.090	.017
Q6	.044	-.511	-.077	-.120	.010
Q7	-.146	-.040	-.160	-.474	-.037

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Q8	.188	.206	.269	.341	-.234
Q9	.182	.284	.184	.468	-.204
Q10	.085	.354	.112	.232	-.289
Q11	.111	.493	.208	.180	-.255
Q12	.337	.091	.448	.131	-.116
Q13	.273	.318	-.019	-.069	-.014
Q14	.229	.271	.123	.129	.058
Q15	.205	.366	.393	.110	-.258
Q16	.101	.016	.251	.334	.164
Q17	.066	.505	-.061	.158	.160
Q18	.269	.446	-.047	.256	.158
Q19	-.019	-.604	-.022	-.137	-.071
Q20	-.091	.452	.295	.393	-.029
Q21	.317	-.038	.517	.123	.021
Q22	.513	.148	.270	.188	-.104
Q23	.336	.386	.098	.418	-.019
Q24	.369	.366	.036	.400	-.065
Q25	.631	.145	.116	.146	.091
Q26	.594	-.049	.173	-.024	.067
Q27	.122	.015	-.029	.315	.378
Q28	.158	-.025	-.115	.073	.430
Q29	.459	.352	.129	.005	.049
Q30	.135	.455	.107	.135	.091
Q31	.294	.597	.192	-.181	.015
Q32	.072	.261	.119	.109	.661
Q33	-.072	.242	.309	-.084	.569
Q34	.204	.557	.233	-.174	.180
Q35	.522	.304	.173	.136	-.044
Q36	.564	.188	.241	.006	.081
Q37	.473	.232	.335	-.018	.104
Q38	.300	-.023	.405	.146	.287
Q39	.333	-.030	.241	.145	.370
Q40	.508	.101	-.093	.069	.094
Q41	.458	-.237	.168	.416	.060
Q42	.610	.094	.109	.279	.074
Q43	.333	.088	.128	.349	.083

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Two-Factor Solution

This model explained 25.25% of the variance (see Table 8). The items that have positive loading on factor one are Q4, Q9, Q10, Q11, Q15, Q17, Q18, Q23, Q24, Q30, Q31, and Q34. Most of the items have loading on factor two, such as Q21 and Q22, and the rest of the items are compiled in Table 7.

Table 7. *Rotated Component Matrix*

	Component	
Item	1	2
Q1	.329	.367
Q2	.267	.146
Q3	.307	.221
Q4	.405	.276
Q5	.249	.377
Q6	-.522	.071
Q7	-.212	-.318
Q8	.387	.252
Q9	.473	.242
Q10	.459	.032
Q11	.591	.059
Q12	.254	.440
Q13	.284	.127
Q14	.318	.234
Q15	.501	.214
Q16	.152	.319
Q17	.479	.020
Q18	.466	.227
Q19	-.592	.034
Q20	.595	.063
Q21	.131	.512
Q22	.290	.517
Q23	.516	.348
Q24	.486	.334
Q25	.221	.591
Q26	.008	.568
Q27	.055	.276
Q28	-.076	.223

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Q29	.371	.368
Q30	.476	.127
Q31	.554	.152
Q32	.218	.269
Q33	.192	.155
Q34	.502	.152
Q35	.389	.456
Q36	.247	.538
Q37	.294	.495
Q38	.091	.530
Q39	.038	.514
Q40	.104	.395
Q41	-.046	.614
Q42	.211	.614
Q43	.216	.423

Table 8. *Total Variances Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.560	19.906	19.906	5.503	12.798	12.798
2	2.298	5.345	25.251	5.355	12.453	25.251

Three-Factor Solution

In this model, there were several items that have positive loading on factor one, such as Q12, Q22, and Q26. However, for factor two, the items Q1, Q34, and Q31 have positive loading, while Q19 has negative loading (see Table 9). Factor three explained 29.61% of the variance (see Table 10).

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Table 9. *Rotated Component Matrix*

	Component		
	1	2	3
Q1	.340	.278	.223
Q2	.024	.052	.510
Q3	.068	.038	.638
Q4	.283	.413	.112
Q5	.369	.232	.138
Q6	.089	-.488	-.180
Q7	-.211	-.024	-.466
Q8	.163	.228	.440
Q9	.125	.265	.556
Q10	-.036	.338	.352
Q11	.013	.505	.317
Q12	.413	.203	.215
Q13	.154	.329	-.008
Q14	.219	.289	.161
Q15	.184	.445	.254
Q16	.256	.041	.298
Q17	.006	.452	.168
Q18	.191	.400	.268
Q19	.047	-.566	-.186
Q20	-.021	.444	.448
Q21	.495	.098	.159
Q22	.479	.219	.273
Q23	.261	.360	.476
Q24	.248	.330	.467
Q25	.578	.193	.179
Q26	.589	.043	.001
Q27	.231	-.025	.206
Q28	.240	-.048	-.045
Q29	.388	.401	.071
Q30	.116	.453	.173
Q31	.219	.665	-.075
Q32	.304	.275	-.031
Q33	.229	.318	-.189
Q34	.228	.630	-.121
Q35	.438	.353	.221
Q36	.560	.280	.057
Q37	.525	.342	.033
Q38	.527	.082	.103

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Q39	.515	.038	.072
Q40	.395	.101	.079
Q41	.522	-.209	.391
Q42	.566	.123	.302
Q43	.354	.093	.349

Table 10. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.560	19.906	19.906	4.816	11.200	11.200
2	2.298	5.345	25.251	4.478	10.414	21.613
3	1.875	4.361	29.612	3.440	7.999	29.612

Four-Factor Solution

In the four-factor model, there were many items that had positive loading on each factor. For example, Q21, Q12, and Q5 had positive loading on factor one. Also, for factor two, the items Q31, Q34, and Q31 had positive loading. The items Q3 and Q9 had positive loading on factor three. Moreover, the items Q32 and Q3 had positive loading on factor four (see Table 11). The total variance explained 33.68% (see Table 12).

Table 11. *Rotated Component Matrix*

	Component			
	1	2	3	4
Q1	.380	.248	.192	.032
Q2	-.022	.109	.553	.108
Q3	.027	.099	.677	.088
Q4	.382	.370	.037	-.075
Q5	.457	.179	.069	-.095
Q6	.029	-.512	-.143	.016
Q7	-.205	-.041	-.473	-.028
Q8	.287	.224	.351	-.248
Q9	.231	.281	.485	-.202
Q10	.106	.350	.254	-.283
Q11	.172	.506	.206	-.261
Q12	.519	.147	.132	-.152

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Q13	.197	.303	-.041	.026
Q14	.241	.274	.145	.067
Q15	.360	.412	.126	-.289
Q16	.220	.043	.325	.130
Q17	-.011	.478	.186	.187
Q18	.170	.410	.288	.204
Q19	.012	-.592	-.168	-.083
Q20	.054	.481	.403	-.077
Q21	.549	.035	.111	-.035
Q22	.565	.164	.204	-.089
Q23	.308	.365	.445	.012
Q24	.302	.334	.430	-.019
Q25	.581	.134	.169	.141
Q26	.594	-.038	-.015	.098
Q27	.086	-.005	.313	.390
Q28	.073	-.048	.074	.458
Q29	.431	.352	.034	.083
Q30	.141	.456	.158	.097
Q31	.312	.618	-.146	.026
Q32	.112	.278	.109	.641
Q33	.097	.304	-.095	.501
Q34	.263	.590	-.149	.169
Q35	.510	.303	.164	-.009
Q36	.591	.207	.025	.102
Q37	.564	.271	-.004	.099
Q38	.474	.033	.134	.243
Q39	.414	-.002	.139	.357
Q40	.367	.063	.093	.166
Q41	.489	-.239	.410	.076
Q42	.563	.077	.299	.124
Q43	.341	.082	.357	.099

Table 12. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.560	19.906	19.906	5.328	12.391	12.391
2	2.298	5.345	25.251	4.172	9.702	22.094
3	1.875	4.361	29.612	3.105	7.220	29.314
4	1.749	4.068	33.680	1.878	4.366	33.680

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Six-Factor Solution

For factor one, most of the items had fairly positive loading, such as items Q22, Q25, Q265, Q29, Q35, Q36, Q37, Q40, Q41, and Q42. For factor two, the items Q18, Q31, and Q34 have positive loading. Most of the items in factor three have highly positive loading, such as items Q7, Q9, Q12, Q13, Q14, Q15, and Q24. In factor four, five items have positive values (Q1, Q4, Q5, Q21, and Q28), while Q3 and Q4 in factor five have high positive values and Q7 and Q41have positive loading. The items Q28, Q32, and Q33 have high positive values (see Table 13).

Table 13. *Rotated Component Matrix*

	Component					
Item	1	2	3	4	5	6
Q1	.181	.200	.043	.539	.185	.060
Q2	-.026	-.200	.032	-.053	.560	-.038
Q3	-.038	-.150	-.124	-.038	660	-.056
Q4	.086	.228	.227	.575	-.010	.044
Q5	.113	.044	.142	.697	.057	.015
Q6	.018	-.530	-.075	-.088	-.089	.026
Q7	.034	-.090	.467	.101	.409	.156
Q8	.124	.128	.399	.223	.263	-.167
Q9	.115	.209	.427	.141	.386	-.137
Q10	-.095	-.368	-.157	-.107	-.182	.306
Q11	-.070	-.436	-.348	-.175	-.097	.201
Q12	.263	-.022	.417	.384	.054	-.027
Q13	.124	.137	.513	-.103	-.156	.161
Q14	.100	.108	.503	.050	.047	.212
Q15	.078	.199	.603	.312	-.008	-.102
Q16	.132	.036	.038	.257	.333	.130
Q17	-.135	-.575	.071	.032	-.156	-.090
Q18	.281	.450	.129	-.054	.227	.144
Q19	-.051	-.628	-.071	-.034	-.107	-.049
Q20	.027	-.510	-.053	-.322	-.366	.089
Q21	.376	-.005	.014	.514	.113	-.041
Q22	.466	.076	.349	.214	.120	-.059
Q23	.297	.334	.349	.061	.351	.018

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Q24	.290	.275	.445	-.019	.318	.012
Q25	.563	.049	.361	.049	.087	.157
Q26	.581	-.086	.143	.131	-.048	.072
Q27	.140	.028	-.011	-.021	.334	.354
Q28	.082	-.122	.180	-.151	.069	.520
Q29	.454	.322	.188	.096	-.040	.057
Q30	.089	.384	.291	.075	.078	.156
Q31	.270	.535	.256	.155	-.248	.066
Q32	.065	.214	.080	.113	.115	.698
Q33	-.041	.226	-.037	.321	-.068	.577
Q34	.187	.496	.206	.205	-.224	.230
Q35	.502	.262	.272	.130	.076	-.026
Q36	.599	.197	.079	.219	-.019	.041
Q37	.509	.234	.089	.316	-.046	.072
Q38	.353	-.001	-.013	.406	.153	.237
Q39	.362	-.028	.013	.233	.155	.343
Q40	.597	.198	-.170	-.077	.089	-.026
Q41	.490	-.204	.037	.158	.418	-.003
Q42	.616	.087	.167	.078	.249	.050
Q43	.354	.105	.096	.119	.332	.047

The six-factor solution explained 40.67% of the common variance, which was a greater variance explained than the five-factor (37.26%), four-factor (33.68%), three-factor (29.61%) and two-factor solutions (25.25%) (see Table 14).

Table 14. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.560	19.906	19.906	4.084	9.498	9.498
2	2.298	5.345	25.251	3.452	8.028	17.526
3	1.875	4.361	29.612	2.904	6.753	24.278
4	1.749	4.068	33.680	2.661	6.189	30.467
5	1.537	3.574	37.255	2.511	5.839	36.306
6	1.469	3.417	40.672	1.878	4.366	40.672

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Second Exploratory Factor Analysis (EFA) Approach

The second approach was to adopt an iterative procedure, using the same EFA parameters set above, and retain only those items with a factor loading of |.4| or higher. Moreover, items that loaded on multiple factors, or failed to load on any factor, were then deleted, and the EFA was repeated on the remaining items. This process was repeated until a final solution was obtained.

The EFA forced onto three factors, and 18 items (Q2, Q3, Q6, Q10, Q7, Q11, Q13, Q14, Q16, Q17, Q19, Q26, Q27, Q31, Q33, Q34, Q40, and Q41) were removed in the second interim. Thus, the remaining items were loading onto three components and explained 30.92% of the variance (please refer to Tables 15 and 16). Similar results were found in the third interim when the factors were loading onto four factors, and 22 items (Q2, Q3, Q5, Q6, Q9, Q10, Q11, Q13, Q14, Q16, Q17, Q19, Q20, Q21, Q26, Q28, Q31, Q32, Q33, Q34, Q40, and Q41) were removed. Thus, the remaining items were loading onto the four components and explained 35.48% of the variance (please refer to Tables 17 and 18). When the EFA was conducted onto five factors, 22 items (Q1, Q3, Q5, Q9, Q10, Q11, Q16, Q17, Q19, Q20, Q21, Q26, Q28, Q31, Q32, Q33, Q34, Q40, Q41, Q42, and Q43) were deleted in the fourth interim. Thus, the remaining items were loading onto four components and explained 43.63% of the variance (see Tables 19 and 20).

Table 15. *Total Variance Explained Via Iterative Approach to Resolve Factor Loadings*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.439	20.665	20.665	4.590	12.749	12.749
2	1.842	5.116	25.780	4.277	11.879	24.629
3	1.651	4.585	30.923	2.065	5.737	30.365

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Table 16. *Component Matrix Final Solution*

	Component		
	1	2	3
Q23	.623		
Q35	.592		
Q24	.587		
Q42	.580		
Q25	.580		
Q22	.579		
Q37	.564		
Q36	.561		
Q9	.531		
Q29	.522		
Q1	.505		
Q15	.499		
Q4	.499		
Q18	.499		
Q12	.496		
Q20	.466		
Q21	.457		
Q8	.456		
Q43	.449		
Q5	.446		
Q38	.436		
Q30	.429		
Q39		.454	
Q32			.529
Q28			.405

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Table 17. *Component Matrix Final Solution*

Item	Component			
	1	2	3	4
Q23	.618			
Q35	.604			
Q25	.601			
Q24	.599			
Q42	.592			
Q22	.584			
Q36	.577			
Q37	.576			
Q29	.557			
Q18	.515			
Q15	.497			
Q1	.493			
Q4	.484			
Q12	.481			
Q43	.458			
Q38	.440			
Q8	.433			
Q30	.425			
Q39		.483		
Q27			.456	
Q7				.517

Table 18. *Total Variance Explained for Final Solution of Iterative Approach*

	Initial Eigenvalues		
Factors	Total	% of Variance	Cumulative %
1	6.544	21.110	21.110
2	1.609	5.189	26.299
3	1.440	4.646	30.945
4	1.406	4.536	35.480

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Table 19. *Total Variance Explained for Final Solution of Iterative Approach*

	Initial Eigenvalues		
Factors	Total	% of Variance	Cumulative %
1	5.795	23.180	23.1804
2	1.501	6.004	29.184
3	1.361	5.445	34.629
4	1.156	4.626	39.255
5	1.094	4.374	43.629

Table 20. *Component Matrix Final Solution*

	Component			
	1	2	3	4
Q23	.627			
Q35	.623			
Q24	.601			
Q25	.595			
Q22	.591			
Q36	.591			
Q37	.583			
Q29	.564			
Q18	.513			
Q15	.513			
Q12	.496			
Q4	.493			
Q30	.447			
Q8	.440			
Q14	.424			
Q38	.421			
Q39		.475		
Q6		.456		
Q27			.616	
Q2			.416	
Q13				.564

Self-Determination Parent Perception Scale (SDPPS)

The sample included 60 parents; 24 were fathers (40%) and 35 were mothers (58.3%) (see Table 21).

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Table 21. *Gender*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	24	40.0	40.7	40.7
	Female	35	58.3	59.3	100.0
	Total	59	98.3	100.0	
Missing	System	1	1.7		
Total		60	100.0		

Correlations

The correlations amongst 30 items using five-factor analysis resulted in many statistically significant positive relationships ($p<.05$). As an example, the correlations were highly significant between Q6 and Q13 ($r= 0.70$), Q14 ($r= 0.66$), Q7 ($r= 0.65$) and Q25 ($r = 0.58$). Moreover, the correlation was highly significant among Q11 and Q14 ($r= 0.72$), and Q13, Q14 ($r= 0.79$) and Q11 ($r= 0.63$). Due to the size of the matrix, the correlational structure of the items, based on the current sample, is compiled in the Appendix. Additional analysis was performed for all items on the SDPPS, and descriptive statistics are presented in Table 22.

Table 22. *Item Statistics Sample, n=60*

Item	Mean	Std. Deviation	Analysis N
Q1	3.55	.999	60
Q2	3.25	.932	60
Q3	3.08	.766	60
Q4	3.95	.746	60
Q5	3.72	.804	60
Q6	3.25	.914	60
Q7	3.33	.968	60
Q8	3.28	.940	60
Q9	2.95	1.032	60
Q10	3.47	.965	60
Q11	3.12	1.059	60
Q12	3.53	1.096	60
Q13	3.17	.942	60

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Q14	2.98	1.097	60
Q15	2.68	1.081	60
Q16	3.47	.982	60
Q17	2.82	1.186	60
Q18	3.28	.885	60
Q19	3.12	.976	60
Q20	3.32	1.242	60
Q21	3.30	1.183	60
Q22	2.68	.892	60
Q23	2.55	1.016	60
Q24	2.97	.991	60
Q25	3.33	1.052	60
Q26	3.00	.991	60
Q27	3.15	1.055	60
Q28	3.68	1.000	60
Q29	3.22	1.010	60
Q30	3.32	1.097	60

Internal Consistency Reliability for the SDPPS

Internal consistency was analyzed for the SDPPS scale using Cronbach's Alpha, which was α= 0.950. The value based on standardized values was =.951, and Cronbach's alpha by item is listed in Table 23.

Table 23. *Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Q1	92.97	346.677	.620	.949
Q2	93.27	350.741	.548	.949
Q3	93.43	361.402	.300	.951
Q4	92.57	354.589	.555	.949
Q5	92.80	350.264	.658	.948
Q6	93.27	347.860	.647	.948
Q7	93.18	346.898	.635	.948
Q8	93.23	346.080	.679	.948
Q9	93.57	346.080	.614	.949
Q10	93.05	348.828	.582	.949
Q11	93.40	342.888	.681	.948
Q12	92.98	345.237	.596	.949

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Q13	93.35	345.282	.702	.948
Q14	93.53	339.338	.747	.947
Q15	93.83	349.768	.489	.950
Q16	93.05	345.777	.657	.948
Q17	93.70	346.553	.516	.950
Q18	93.23	351.775	.548	.949
Q19	93.40	351.905	.488	.950
Q20	93.20	341.383	.606	.949
Q21	93.22	347.020	.506	.950
Q22	93.83	346.718	.699	.948
Q23	93.97	350.880	.495	.950
Q24	93.55	344.591	.684	.948
Q25	93.18	343.644	.666	.948
Q26	93.52	342.932	.730	.948
Q27	93.37	344.270	.647	.948
Q28	92.83	345.429	.654	.948
Q29	93.30	345.942	.633	.948
Q30	93.20	339.824	.734	.947

The Exploratory Factor Analysis (EFA) Approach

The exploratory factor analysis (EFA) iterative method was not successful for both groups (teachers/parents). Therefore, only the principal component analysis extraction method was conducted. The initial EFA was to apply principal component analysis as the extraction method and use a Varimax rotation with Kaiser Normalization by forcing a five-factor solution to match the five factors previously obtained by Field, Hoffman, and Sawilowsky (2004). The two-, three-, four-, five-, and six-factor solutions were used to determine if forcing a differing number of factors might yield a more favorable internal factor structure.

Five-Factor Solution

Most of the items in factor one have highly positive loading, such as Q8, Q9, Q17, Q18, Q20, Q21, Q22, Q23, and Q24. In factor two, the items Q4, Q12, Q25, Q26, Q28, Q29, and Q30 have highly positive loading. Likewise, items Q2, Q7, Q10, Q11, Q17, and Q19

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have positive values in factor three. In factor four, items Q11, Q13, Q14, Q15, Q16, and Q27 have highly positive loading. Items Q3, Q4, Q5, and Q9 have positive loading onto factor five (see Table 24). The total variance explained is 67.30% (see Table 25).

Table 24. *Rotated Component Matrix*

	Component				
Item	1	2	3	4	5
Q1	.279	.430	.376	.216	.100
Q2	.116	.206	.663	-.016	.430
Q3	-.020	.056	.100	.099	.786
Q4	.217	.509	.087	.153	.408
Q5	.143	.487	.273	.262	.466
Q6	.023	.176	.631	.442	.361
Q7	.356	.109	.778	.154	.027
Q8	.651	.100	.379	.081	.398
Q9	.609	.126	.163	.135	.469
Q10	.258	.240	.560	-.003	.372
Q11	.188	.222	.255	.740	.217
Q12	-.004	.527	.559	.249	.010
Q13	.075	.240	.436	.551	.457
Q14	.243	.167	.438	.655	.275
Q15	.070	.166	.076	.852	.004
Q16	.316	.487	.050	.535	.076
Q17	.648	-.183	.501	.134	.060
Q18	.592	.168	.306	.266	-.251
Q19	.080	.195	.530	.340	-.034
Q20	.622	.405	.244	.011	-.004
Q21	.697	.425	-.083	.033	-.031
Q22	.763	.244	.124	.307	.025
Q23	.799	.076	-.006	-.005	.277
Q24	.689	.251	.152	.406	-.059
Q25	.131	.612	.371	.396	-.062
Q26	.400	.507	.186	.190	.448
Q27	.279	.491	.058	.559	.076
Q28	.096	.732	.426	.165	.022
Q29	.197	.669	-.005	.316	.322
Q30	.420	.685	.185	.157	.161

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Table 25. *Total Variance Explained*

	Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %
1	5.175	17.249	17.249
2	4.428	14.760	32.009
3	4.048	13.495	45.503
4	3.869	12.897	58.400
5	2.672	8.905	67.306

Two-Factor Solution

In factor one, items Q5, Q6, Q11, Q12, Q13, Q14, Q15, and Q28 have high positive values. In factor two, items Q8, Q9, Q17, Q18, Q20, Q21, Q22, Q23, and Q24 have highly positive loading (see Table 26). The total variance is explained in Table 27.

Table 26. *Rotated Component Matrix*

	Component	
Item	1	2
Q1	.529	.388
Q2	.584	.205
Q3	.424	.013
Q4	.496	.330
Q5	.679	.267
Q6	.803	.107
Q7	.515	.421
Q8	.347	.688
Q9	.305	.640
Q10	.512	.344
Q11	.717	.252
Q12	.702	.142
Q13	.819	.161
Q14	.754	.307
Q15	.599	.110
Q16	.549	.415
Q17	.183	.629
Q18	.221	.628

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Q19	.549	.153
Q20	.241	.707
Q21	.067	.762
Q22	.257	.804
Q23	.014	.800
Q24	.312	.735
Q25	.680	.278
Q26	.557	.516
Q27	.574	.380
Q28	.671	.273
Q29	.589	.337
Q30	.517	.567

Table 27. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.616	42.052	42.052	8.575	28.584	28.584
2	2.629	8.762	50.814	6.669	22.230	50.814

Three-Factor Solution

Items Q5, Q11, Q12, Q13, Q14, Q15, Q16, Q15, Q25, Q27, Q28, and Q30 have highly positive loading onto factor one. Items Q8, Q9, Q18, Q19, Q20, Q21, Q22, Q23, and Q24 have highly positive loading onto factor two (see Table 28). The total variance explained is 57.47% (see Table 29).

Table 28. *Rotated Component Matrix*

	Component		
Item	1	2	3
Q1	.467	.332	.319
Q2	.173	.154	.768
Q3	.081	-.022	.593
Q4	.430	.278	.305
Q5	.516	.198	.481
Q6	.491	.030	.692
Q7	.251	.372	.588
Q8	.110	.655	.540
Q9	.141	.610	.424
Q10	.188	.298	.651
Q11	.693	.175	.308

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Q12	.599	.070	.389
Q13	.583	.079	.606
Q14	.610	.230	.489
Q15	.736	.042	.035
Q16	.700	.351	.051
Q17	-.011	.613	.421
Q18	.320	.600	.047
Q19	.436	.097	.355
Q20	.272	.678	.156
Q21	.261	.747	-.107
Q22	.355	.772	.090
Q23	-.014	.797	.175
Q24	.444	.696	.052
Q25	.737	.203	.194
Q26	.453	.458	.405
Q27	.723	.314	.056
Q28	.654	.201	.289
Q29	.651	.272	.169
Q30	.563	.509	.204

Table 29. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.616	42.052	42.052	6.856	22.854	22.854
2	2.629	8.762	50.814	5.702	19.006	41.859
3	1.999	6.662	57.476	4.685	15.617	57.476

Four-Factor Solution

Items Q11, Q12, Q13, Q14, Q15, Q16, Q25, Q27, Q28, Q29, and Q30 have positive values loading onto factor one. Items Q8, Q9, Q17, Q18, Q20, Q21, Q22, Q23, and Q24 have positive loading onto factor two. Items Q2, Q6, Q7, and Q17 have positive loading onto factor three. Items Q3, Q4, Q5, and Q26 have positive values loading onto factor four (see Table 30). The total variance explained is 62.72% (see Table 31).

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Table 30. *Rotated Component Matrix*

	Component			
Item	1	2	3	4
Q1	.447	.315	.281	.229
Q2	.143	.090	.593	.512
Q3	.023	-.050	.164	.725
Q4	.375	.283	.003	.530
Q5	.467	.185	.191	.573
Q6	.482	-.024	.621	.362
Q7	.259	.304	.750	.079
Q8	.071	.608	.460	.383
Q9	.091	.583	.263	.434
Q10	.156	.245	.505	.457
Q11	.687	.163	.315	.162
Q12	.594	.048	.368	.204
Q13	.560	.044	.455	.438
Q14	.603	.195	.503	.221
Q15	.750	.052	.148	-.079
Q16	.678	.371	.013	.149
Q17	-.005	.551	.640	-.029
Q18	.332	.584	.323	-.215
Q19	.449	.063	.475	.018
Q20	.245	.669	.178	.136
Q21	.225	.769	-.115	.088
Q22	.334	.767	.190	.037
Q23	-.059	.785	.114	.245
Q24	.434	.693	.208	-.049
Q25	.729	.204	.202	.126
Q26	.395	.451	.130	.559
Q27	.703	.333	.017	.148
Q28	.630	.198	.182	.292
Q29	.597	.297	-.123	.479
Q30	.517	.518	.038	.369

Table 31. *Total Variance Explained*

	Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %
1	6.369	21.231	21.231

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2	5.419	18.062	39.293
3	3.681	12.269	51.562
4	3.408	11.360	62.922

Six-Factor Solution

Items Q8, Q9, Q17, Q18, Q20, Q21, Q22, Q23, and Q24 have positive values loading onto factor one. Items Q1, Q25, Q26, Q27, Q28, Q29, and Q30 have positive values loading onto factor two. Items Q2, Q6, Q7, Q17, and Q19 have positive values loading onto factor three. Items Q11, Q13, Q14, Q14, Q15, and Q16 have positive values loading onto factor four, while Q3 loads positively onto factor five. Items Q4, Q5, and Q20 have positive loading onto factor six (see Table 32). The total variance explained is 71.31% (see Table 33).

Table 32. *Rotated Component Matrix*

	Component					
	1	2	3	4	5	6
Q1	.274	.532	.372	.199	.052	.016
Q2	.119	.319	.675	-.012	.393	-.031
Q3	-.006	.054	.110	.106	.780	.120
Q4	.196	.220	.063	.172	.376	.668
Q5	.129	.285	.251	.280	.430	.541
Q6	.034	.314	.627	.445	.329	-.079
Q7	.348	.102	.771	.175	-.007	.108
Q8	.654	.121	.386	.083	.366	.104
Q9	.613	.117	.167	.132	.442	.155
Q10	.249	.148	.558	.018	.339	.299
Q11	.191	.180	.226	.747	.193	.201
Q12	-.025	.407	.533	.265	-.034	.373
Q13	.081	.247	.421	.561	.429	.154
Q14	.249	.168	.417	.665	.249	.135
Q15	.079	.212	.046	.845	-.012	.012
Q16	.300	.308	.014	.538	.041	.467
Q17	.657	-.082	.509	.138	.042	-.137
Q18	.581	.137	.290	.266	-.282	.128
Q19	.065	.021	.501	.372	-.056	.363

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Q20	.594	.155	.223	.026	-.044	.557
Q21	.680	.343	-.093	.015	-.071	.288
Q22	.757	.215	.111	.296	-.011	.182
Q23	.806	.172	.008	-.028	.249	-.045
Q24	.684	.253	.135	.393	-.096	.125
Q25	.113	.572	.344	.390	-.114	.268
Q26	.404	.663	.192	.157	.394	-.004
Q27	.278	.564	.038	.533	.032	.074
Q28	.072	.669	.405	.160	-.038	.341
Q29	.195	.762	-.013	.281	.269	.108
Q30	.402	.645	.171	.140	.101	.318

Table 33. *Total Variance Explained*

	Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %
1	5.069	16.896	16.896
2	3.938	13.128	30.024
3	3.871	12.903	42.927
4	3.858	12.860	55.787
5	2.348	7.826	63.613
6	2.254	7.514	71.127

The Self-Determination Advisor Perception Scale (SDAPS)

The sample included 52 teachers; 3 were males (5.7%) and 49 were females (92.5%) (see Table 34).

Table 34. *Gender*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	3	5.7	5.8	5.8
	Female	49	92.5	94.2	100.0
	Total	52	98.1	100.0	
Missing	System	1	1.9		
Total		53	100.0		

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Correlations

The correlations among 30 items using five-factor analysis resulted in numerous statistically significant positive relationships ($p<.05$). For example, the correlations were highly significant between Q16, Q9 (r= 0.61), Q10 (r= 0.52), and Q16 (r= 0.60). Additionally, there was a highly significant correlation between Q2 and Q12 (r = 0.61). Moreover, the correlation was highly significant among Q14, Q6 (r= 0.73), Q7 (r= 0.69), and Q23 (r= 0.76). Due to the size of the matrix, the correlational structure of the items, based on the current sample, is compiled in the Appendix. Further analysis was performed for all the items on the SDAPS, and descriptive statistics are presented in Table 35.

Table 35. *Item Statistics Sample, n = 53*

Item	Mean	Std. Deviation	Analysis N
Q1	3.00	1.000	53
Q2	2.77	.933	53
Q3	2.68	1.105	53
Q4	3.62	.814	53
Q5	3.25	.918	53
Q6	2.77	.954	53
Q7	2.72	1.150	53
Q8	2.68	1.105	53
Q9	2.28	1.150	53
Q10	3.08	1.207	53
Q11	2.79	1.081	53
Q12	3.70	.952	53
Q13	2.60	1.132	53
Q14	2.42	1.167	53
Q15	2.53	1.120	53
Q16	2.81	.962	53
Q17	2.68	1.123	53
Q18	3.02	.909	53
Q19	2.45	.722	53
Q20	3.23	1.154	53
Q21	3.45	1.202	53
Q22	2.43	.888	53

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Q23	2.15	.969	53
Q24	2.68	1.088	53
Q25	2.92	1.284	53
Q26	2.49	1.103	53
Q27	2.75	.979	53
Q28	3.57	1.010	53
Q29	3.13	1.001	53
Q30	2.98	1.185	53

Internal Consistency Reliability for the SDAPS

Internal consistency was analyzed for the SDAPS scale using Cronbach's alpha, which was α =0.950. The value based on standardized values was =.950, and Cronbach's alpha by item is listed in Table 36.

Table 36. *Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Q1	82.64	385.619	.584	.876	.949
Q2	82.87	386.886	.593	.800	.949
Q3	82.96	392.999	.350	.482	.951
Q4	82.02	396.403	.385	.800	.951
Q5	82.40	391.282	.480	.854	.950
Q6	82.87	391.694	.449	.820	.950
Q7	82.92	374.340	.761	.840	.947
Q8	82.96	375.729	.760	.871	.947
Q9	83.36	378.696	.660	.803	.948
Q10	82.57	374.597	.717	.869	.948
Q11	82.85	378.323	.715	.769	.948
Q12	81.94	390.131	.492	.706	.950
Q13	83.04	374.229	.777	.852	.947
Q14	83.23	369.909	.852	.939	.946
Q15	83.11	381.602	.610	.736	.949
Q16	82.83	385.298	.618	.782	.949
Q17	82.96	379.345	.662	.836	.948
Q18	82.62	392.432	.452	.710	.950
Q19	83.19	390.002	.667	.857	.949
Q20	82.42	390.594	.386	.578	.951

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Q21	82.19	400.733	.153	.678	.953
Q22	83.21	389.668	.544	.815	.949
Q23	83.49	387.216	.561	.796	.949
Q24	82.96	374.229	.811	.885	.947
Q25	82.72	369.707	.774	.831	.947
Q26	83.15	375.054	.779	.894	.947
Q27	82.89	379.795	.755	.871	.948
Q28	82.08	387.110	.539	.780	.949
Q29	82.51	382.293	.671	.824	.948
Q30	82.66	374.536	.733	.806	.948

The Exploratory Factor Analysis (EFA) Approach

The initial EFA was to utilize principal component analysis as the extraction method and a Varimax rotation with Kaiser Normalization by forcing a five-factor solution to match the five factors previously obtained by Field, Hoffman, and Sawilowsky (2004). The two-, three-, four-, and five-factor solutions were performed to examine if forcing a differing number of factors might yield a more favorable internal factor structure.

Five-Factor Solution

Most of the items have positive loading on the five factors. For example, items Q8, Q11, Q13, Q14, Q15, Q17, Q26, and Q27 have highly positive values on factor one. Items Q2, Q7, Q10, Q17, Q18, and Q19 have positive loading onto factor two. Items Q4, Q5, Q12, and Q28 have positive loading onto factor three. Items Q3 and Q6 have positive loading onto factor four, while only Q20 and Q21 have positive loading onto factor five (see Table 37).

Table 37. *Rotated Component Matrix*

	Component				
Item	1	2	3	4	5
Q1	.224	.767	.153	-.003	.061
Q2	.432	.562	-.037	.177	-.005
Q3	.154	.010	.127	.790	.057
Q4	-.044	.276	.689	.109	-.025
Q5	-.021	.462	.664	.132	-.140

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Q6	.127	.434	.237	.462	-.484
Q7	.489	.546	.249	.249	.014
Q8	.570	.392	.290	.262	.031
Q9	.442	.185	.489	.420	-.233
Q10	.180	.596	.536	.355	.025
Q11	.646	.405	.265	-.034	-.114
Q12	.394	-.042	.646	.050	-.044
Q13	.523	.450	.174	.455	.124
Q14	.711	.374	.216	.365	-.021
Q15	.648	.185	-.004	.385	-.040
Q16	.566	.477	.017	-.055	.069
Q17	.317	.609	.214	.141	.369
Q18	.161	.517	.251	.122	-.289
Q19	.465	.628	.116	-.143	.330
Q20	.114	.154	.518	.010	.511
Q21	.124	.077	-.090	.063	.808
Q22	.685	.009	.039	.154	.244
Q23	.789	.079	.046	.037	-.278
Q24	.813	.206	.266	.116	.169
Q25	.685	.389	.276	-.035	.201
Q26	.775	.205	.075	.404	.100
Q27	.706	.316	.148	.214	.020
Q28	.354	.014	.738	.042	.061
Q29	.711	.235	.257	-.131	.161
Q30	.562	.365	.336	.087	.268

The total variance explained is 66.72% (see Table 38).

Table 38. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.025	43.417	43.417	7.799	25.998	25.998
2	2.457	8.189	51.606	4.588	15.293	41.291
3	1.907	6.356	57.962	3.552	11.839	53.130
4	1.455	4.851	62.813	2.161	7.203	60.333
5	1.171	3.903	66.716	1.915	6.383	66.716

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Two-Factor Solution

Items Q2, Q7, Q8, Q11, Q13, Q14, Q15, Q16, Q19, Q22, Q23, Q24, Q25, Q26, Q27, Q29, and Q30 have highly positive loading onto factor one. Moreover, items Q4, Q5, Q6, Q7, Q9, Q10, Q18, and Q28 have highly positive loading onto factor two (see Table 39). The total variance explained is 51.61% (see Table 40).

Table 39. *Rotated Component Matrix*

	Component	
Item	1	2
Q1	.439	.452
Q2	.564	.293
Q3	.215	.345
Q4	.014	.684
Q5	.054	.801
Q6	.108	.701
Q7	.610	.511
Q8	.643	.464
Q9	.384	.657
Q10	.349	.786
Q11	.645	.397
Q12	.303	.474
Q13	.668	.443
Q14	.757	.450
Q15	.649	.213
Q16	.663	.183
Q17	.585	.363
Q18	.200	.567
Q19	.693	.212
Q20	.294	.279
Q21	.408	-.286
Q22	.705	-.016
Q23	.637	.157
Q24	.841	.253
Q25	.778	.289
Q26	.813	.236
Q27	.741	.306
Q28	.314	.531
Q29	.737	.182
Q30	.690	.344

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Table 40. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.025	43.417	43.417	9.672	32.239	32.239
2	2.457	8.189	51.606	5.810	19.367	51.606

Three-Factor Solution

Items Q7, Q8, Q9, Q13, Q14, Q15, Q16, Q23, Q24, Q25, Q26, Q27, Q29, and Q30 have highly positive loading onto factor one. Items Q4, Q5, and Q6 have highly positive loading onto factor two, while items Q19, Q20, and Q21 have positive loading onto factor three (see Table 41).

Table 41. *Rotated Component Matrix*

	Component		
	1	2	3
Q1	.314	.463	.383
Q2	.554	.259	.183
Q3	.363	.294	-.198
Q4	-.043	.711	.169
Q5	.029	.818	.129
Q6	.340	.640	-.352
Q7	.590	.481	.233
Q8	.636	.427	.210
Q9	.526	.601	-.117
Q10	.308	.786	.231
Q11	.634	.360	.214
Q12	.298	.462	.124
Q13	.668	.401	.203
Q14	.808	.388	.129
Q15	.751	.140	-.014
Q16	.582	.160	.333
Q17	.385	.382	.553
Q18	.266	.544	-.027

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Q19	.456	.231	.637
Q20	.032	.336	.593
Q21	.096	-.233	.666
Q22	.659	-.055	.259
Q23	.772	.075	-.083
Q24	.779	.213	.347
Q25	.641	.275	.475
Q26	.858	.168	.135
Q27	.753	.254	.185
Q28	.249	.535	.246
Q29	.616	.165	.425
Q30	.547	.340	.469

The total variance explained is 57.97% (see Table 42).

Table 42. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.025	43.417	43.417	8.804	29.347	29.347
2	2.457	8.189	51.606	5.359	17.863	47.210
3	1.907	6.356	57.962	3.225	10.751	57.962

Four-Factor Solution

Items Q7, Q8, Q9, Q11, Q13, Q14, Q15, Q16, Q22, Q23, Q24, Q25, Q26, Q27, and Q30 have highly positive loading onto factor one. Items Q1, Q2, Q7, Q10, and Q17 have highly positive loading onto factor two. Items Q4, Q5, Q10, Q12, Q20, and Q28 have positive loading onto factor three. However, Q6 has highly positive loading onto factor four only and Q21 has highly negative loading (see Table 43). The total variance explained is 62.81% (see Table 44).

Table 43. *Rotated Component Matrix*

	Component			
Item	1	2	3	4
Q1	.175	.778	.152	.032

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Q2	.436	.576	-.028	.110
Q3	.357	.014	.205	.325
Q4	-.041	.260	.685	.166
Q5	-.023	.428	.645	.295
Q6	.215	.361	.206	.696
Q7	.505	.562	.263	.141
Q8	.593	.416	.308	.106
Q9	.516	.163	.485	.411
Q10	.228	.592	.559	.247
Q11	.586	.417	.236	.078
Q12	.381	-.033	.634	.058
Q13	.601	.482	.224	.124
Q14	.759	.397	.237	.176
Q15	.717	.206	.021	.168
Q16	.507	.512	.014	-.088
Q17	.312	.665	.268	-.189
Q18	.154	.477	.214	.373
Q19	.380	.692	.138	-.314
Q20	.099	.223	.580	-.387
Q21	.143	.192	.025	-.671
Q22	.701	.075	.082	-.210
Q23	.761	.080	.006	.177
Q24	.800	.265	.290	-.137
Q25	.627	.445	.290	-.197
Q26	.843	.250	.118	.052
Q27	.718	.348	.162	.056
Q28	.337	.034	.738	-.017
Q29	.634	.292	.258	-.234
Q30؟	.541	.423	.370	-.180

Table 44. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.025	43.417	43.417	7.951	26.503	26.503
2	2.457	8.189	51.606	5.018	16.726	43.229
3	1.907	6.356	57.962	3.704	12.348	55.577
4	1.455	4.851	62.813	2.171	7.236	62.813

Six-Factor Solution

Items Q8, Q11, Q14, Q15, Q16, Q22, Q23, Q24, Q25, Q26, Q27, and Q29 have highly positive loading onto factor one. Items Q1, Q7, Q10, Q17, and Q19 have positive

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loading onto factor two. Items Q4, Q5, Q12, and Q20 have positive loading onto factor three. Items Q5, Q6, and Q18 have positive loading onto factor four. For factor five, Q3 has highly positive loading, while Q21 has the highest loading value onto factor six (see Table 45). The total variance explained is 70.25% (see Table 46).

Table 45. *Rotated Component Matrix*

	Component					
	1	2	3	4	5	6
Q1	.150	.785	.089	.247	-.009	-.033
Q2	.405	.532	-.085	.245	.150	.008
Q3	.126	.047	.105	.097	.796	.051
Q4	-.066	.167	.604	.425	.064	.051
Q5	-.020	.249	.530	.631	.046	.018
Q6	.182	.132	.071	.723	.350	-.239
Q7	.441	.537	.199	.295	.230	.013
Q8	.508	.458	.277	.162	.274	-.023
Q9	.424	.131	.431	.358	.400	-.170
Q10	.102	.591	.449	.377	.344	-.026
Q11	.583	.488	.264	.112	-.006	-.205
Q12	.347	.031	.662	.086	.080	-.082
Q13	.467	.497	.148	.191	.452	.095
Q14	.669	.405	.199	.210	.362	-.020
Q15	.597	.310	.021	-.030	.425	-.130
Q16	.582	.363	-.018	.315	-.124	.215
Q17	.204	.767	.214	.016	.178	.189
Q18	.235	.162	.095	.760	-.024	.034
Q19	.416	.645	.106	.162	-.167	.322
Q20	.040	.264	.549	-.017	.028	.443
Q21	.126	.092	-.034	-.089	.020	.909
Q22	.697	.016	.088	.033	.129	.357
Q23	.810	.043	.054	.155	.022	-.186
Q24	.755	.335	.317	-.008	.146	.116
Q25	.624	.478	.301	.072	-.023	.154
Q26	.773	.193	.081	.179	.375	.202
Q27	.692	.302	.139	.212	.190	.086
Q28	.282	.126	.759	.058	.084	-.022
Q29	.655	.356	.309	-.030	-.101	.095
Q30	.454	.566	.377	-.068	.146	.088

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Table 46. *Total Variance Explained*

	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.025	43.417	43.417	6.885	22.951	22.951
2	2.457	8.189	51.606	4.797	15.992	38.942
3	1.907	6.356	57.962	3.162	10.540	49.482
4	1.455	4.851	62.813	2.545	8.485	57.967
5	1.171	3.903	66.716	2.043	6.811	64.778
6	1.061	3.537	70.254	1.643	5.476	70.254

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CHAPTER 5 DISCUSSION

The aim of the current study was to develop and then test the reliability and validity ~~of~~ an Arabic version of the *SDAi*. In addition, the ability of the Arabic translation of the *SDAi* as an effective tool was to assess self-determination among Arabic-speaking Saudi students, and students' parents and teachers was examined.

SDSS-SF

A total of 336 Saudi students studying in the United States participated in the study. The study has four key aims: 1) translation and back translation of the *SDSS-SF* in Arabic; 2) administration of the translated measure to a sample of Arabic speaking subjects; 3) analysis of the obtained data from the administration of the *SDSS-SF* in Arabic translations; and 4) analysis of demographic of Arabic speaking university students studying in the United States. The data were analyzed via correlational procedures (i.e., Exploratory Factor Analysis (EFA); Principal Component Analysis (CFA)

The first research question was as follows: does the Arabic translation of the *SDSS-SF* yield acceptable internal consistency coefficients when administered to a selected sample of Saudi students? The *SDSS-SF* showed adequate internal consistency ranging from .85 to .87. The Cronbach's alpha was 0.85, which is comparable to the .91 Cronbach's alpha found by Holt (2006) and consistent with the Cronbach's alpha of .88 found by Eke (1996). The findings suggest that the Arabic version of the *SDSS-SF* can provide reliable and internally consistent measurements for Saudi students studying in the United States.

The second research question aimed to address the following: does the internal factor structure of the Arabic version of the *SDSS-SF* provide evidence of internal factor structure validation based on the administration of the scale to a sample of Saudi students who study in the United States? Further analysis of the internal structure of the *SDSS-SF* scale was conducted using principal component analysis (PCA). In the first approach of the EFA, the

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two-, three-, four-, five-, and six-factor solutions were obtained to examine if forcing a differing number of factors might yield a more favorable internal factor structure. The results showed that the five- and six-factor solutions explained more variance than the other solutions; the five-factor solution explained 37.26% of the variance, and the six-factor solution explained 40.67% of the variance. However, the five-factor solution is considered more appropriate than the six-factor solution because most of the items loaded positively on the original module (i.e., know yourself and context, value yourself, plan, act, and experience outcomes and learn). Additionally, the five-factor solution closely matches the factors found in the original *SDSS-SF* (Field, Hoffman, & Sawilowsy, 2004).

The second approach involved an iterative procedure, using the same EFA parameters, which resulted in a three-factor, 18-item model that explained 30.92% of the variance and a four-factor, 22-item model that explained 35.48% of the variance. A 22-item, five-factor model was computed that explained 43.63% of the variance.

The items that loaded on the first factor of the five-factor structure included one item of the first factor (*know yourself and context*), two items of the second factor (*value yourself*), three items of the third factor (*plan*), five items of the fourth factor (*act*) and five items of the fifth factor (*experience outcomes and learn*). One item loaded on the second factor of the five-factor structure that belonged to the fifth factor and one item was included in the first factor. Similarly, one item that loaded on the third factor of the five-factor structure was included in the third factor and one in the second factor. One item from the fourth factor loaded on the fourth factor of the five-factor solution.

These findings point to the value of SDSSS-SF as a translated version valid measure for assessing the degree of self-determination in Saudi students in the US Universities. The results of the EFA showed that the five factors were valid and were closely similar to the original factors found in the SDSS-SF (field, Hoffman & Sawilowsky, 2004)

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SDPPS and SDAPS

A convenience sample of Arabic parents (n = 60) and teachers (n = 53) from a Midwestern state was recruited for this portion of the study. First, a translation and back translation of the *SDPPS* and *SDAPS* Arabic was conducted, followed by administration of the translated measures, analysis of the obtained data from the administration of the *SDPPS* and *SDAPS* and finally, examining demographic data of the sample of parents and teachers. The data were analyzed using correlation statistical procedures (list the procedures here) .

Overall, the Arabic translation of the *SDPPS* yielded acceptable internal consistency coefficients when administered to a selected sample of Arabic parents. The *SDPPS* exhibited high internal consistency (α= 0.95), which is identical to the consistency found in the original English version (0.95) of the measure. Further, the Arabic translation of the *SDPTS* yielded acceptable internal consistency coefficients when administered to a selected sample of Arabic teachers in a predominately populated area of Arabic speaking school and area in Midwestern state. Furthermore, internal consistency was analyzed for the *SDAPS* scale using Cronbach's alpha, which was α =0.95, indicating it is similar to the Cronbach's alpha found in the English version (.97;Field, Hoffman, & Sawilowsy, 2004). Thus, the results from this analysis suggest the translated *SDPPS* and *SDAPS* are reliable measures of of the perceptions of concepts of the self-determination scales among Arabic speaking parents and teachers in this sample.

Lastly, did the internal factor structure of the Arabic versions of the *SDPPS* and *SDTPS* provide evidence of internal factor structure validation based on the administration of the scales to a sample of Arabic speaking parents and teachers selected for this study? The results of the factor analysis for the *SDPPS* revealed a five- and six-factor solutions had the highest explained variance; the five-factor solution explained 67.30% of the variance, and the

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30-item, six-factor solution explained 71.23% of the variance. Most of the items loaded positively on the five-factor solutions. The first factor of the five-factor structure included five of seven items in the fourth factor (*act*) and two items of the second factor (*value yourself*). The second factor of the five-factor structure included four of seven items in the fifth factor (e*xperience outcomes and learn*), one for the first factor (*know yourself and context*), one for the second factor (*value yourself*), and one for the fourth factor (*act*). In the third factor of the five-factor structure, the items *value yourself, know yourself and context*, and *act* were loaded. The fourth factor of the five-factor structure included five of six items in the third factor (*plan*) and one in the second factor (*value yourself*). The fifth factor of the five-factor structure included three of four items for the first factor (*know yourself and context*) and the second factor (*value yourself*). Likewise, the results of the factor analysis for the *SDAPS* revealed that the five- and six-factor solutions had the highest explained variance. PCA resulted in a five-factor, 30-item model that explained 66.72% of the variance, and a six-factor model that explained 70.25% of the variance.

The items that loaded on the first factor of the five-factor structure involved three of the eight items in the third factor (*plan*), two items in the second factor (*value yourself*), two items in the fifth factor (*experience outcomes and learn*), and one in the fourth factor (*act*). The items that loaded on the second factor of the five-factor structure involved three of the six items in the fourth factor (*act*), two items in the first factor (*know yourself and context*), and one item in the second factor (*value yourself*). The items that loaded on the third factor of the five-factor structure involved two of four items in the first factor (*know yourself*), one in the second factor (*value yourself*), and one in the fifth factor (*experience outcomes and learn*). The items that loaded on the fourth factor of the five-factor structure involved two items in the fourth factor (*act*), and two items that loaded on the fifth factor belonged to the first factor (*know yourself and context*).

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The EFA results for five -factor solution loading of the SDAPS and SDPPS are consistent with the original version. However, the variance explained in the original version is slightly higher than the translated version 66.72% (Field, Hoffman & Sawilowsky, 2004). These results suggest the translated SDAPS and SDPPS may be a valid measure of the self-determination endorsed by a sample of Arabic speaking parents and teachers.

Study Summary

Across all three measures, all the right items, what does the study say

With the iterative approach that was successful with the translated version of SDSS-SF only. The study revealed only 4 factors solution got the higher variance which explained 66.26%. Both the reliability and the structure factor, is neither positive or negative, but that it essentially confirms the findings of the original literature. The aim of the study was not to determine whether translation would serve as better or worse, but to essentially, the five-factor solution is indeed the best.

Limitation, the explained variance was only 37% which may simply be due to the sample size.

Limitations of the Study

Convenience sample consisting of two independent groups that when combined consisted of 336 university Saudi students, 53 Arabic speaking teachers, and 60 Arabic speaking parents. The participants voluntarily participated in the study through recruitment via Facebook and other methods. The sample was not representative of Arabic students studying at American universities, overall Arabic parents, or teachers. The explanation of the results are limited to this study, given the uniqueness of the sample. Given that self-determination measures generally students with special needs (add a reference here), generalizing this study to other populations is limited. Future studies to examine the procedural adequacy of the *SDAi* should examine a larger sample of people who have a

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variety of residential styles and include students with special needs for the student assessment part. For the *SDAPS* scale, the sample size was limited, specifically for men, and it is also difficult to draw general conclusions about the teachers' self-determination and their perception of the students.

Implication for Future Studies

Self-determination assessments are beneficial for developing, applying, and assessing the influence of self-determination interventions to encourage self-determination among students (Shogren et al., 2008). There is no self-determination intervention program for Saudi students, and future research will involve the development of intervention programs for promoting the self-determination of students. Future studies will develop an Arabic version of the*SDSS* student scale (for middle and secondary school students), which differs in the number of items and length of administration of the *SDSS-SF*. The *SDSS* includes 92 items.

Although the preliminary findings of this study do not necessarily apply to people from other other Arab countries, future studies could compare responses from the Arab-American culture with those from Arabic cultures in the Middle East, or other cultures, such as African-American or Hispanic-American.

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APPENDIX A

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NOTICE OF EXPEDITED APPROVAL

To: Mona Alamri
College of Education

From: Dr. Deborah Ellis or designee K. MacDonell, Ph.D / 2.2
Chairperson, Behavioral Institutional Review Board (B3)

Date: October 18, 2016

RE: **IRB #:** 084316B3E
Protocol Title: Reliability and Validity of an Arabic Version of the Self-Determination Assessment - Internet (SDA-I)
Funding Source:
Protocol #: 1608015183

Expiration Date: October 17, 2019

Risk Level / Category: Research not involving greater than minimal risk

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The above-referenced protocol and items listed below (if applicable) were **APPROVED** following *Expedited Review* Category (#7)* by the Chairperson/designee *for* the Wayne State University Institutional Review Board (B3) for the period of 10/18/2016 through 10/17/2019. This approval does not replace any departmental or other approvals that may be required.

- Revised Protocol Summary Form (revision received in the IRB office 10/11/16)
  Research Protocol Dissertation (received in the IRB offic 08/17/16)
  Medical records are not being accessed therefore HIPAA does not apply
  A waiver of written documentation of consent has been granted according to 45CFR 46 117(c) and justification provided by the Principal Investigator in the Protocol Summary Form. This waiver satisfies: 1) risk is no more than minimal, data are survey responses with minimal risk content, 2) That the research involved procedures for which written consent is normally required outside the research context, consent would not be required for these procedures outside the research context. 3) The consent process is appropriate, 4) An information sheet disclosing the required and appropriate additional elements of consent disclosure will be provided participants.
- Research Information Sheet for parents and teachers English & Arabic Versions (revision dated 10/11/2016)
- Research Information Sheet for students English & Arabic Versions (revision dated 10/11/2016)
  Study Flyer / Notice - English & Arabic Versions
- Research Study Advertisement on Facebook / Email English & Arabic Versions
  Data Collection Tools (3): i) Self Determination Student Scale short Form, ii) Self Determination Parent Scale short Form and iii) Self Determination Teacher Scale short Form - English & Arabic Versions for all 3
- Please note: This submission was reviewed under the IRB Administration Office Flexible Review and Oversight Policy, therefore the expiration date is October 17, 2019.

Fed ra regulations require that all research b rev wed at least annua y Y u *may* re ve a *"Continuation Renewal Reminder"* approximately two months p r to the expirati n date how ver it is the Prin ipal Investigat r's respons b ty to obtain review and continued approval *before* the expiration date. Data le ted during a p d of lapsed approval is unapproved re a h and can never be reported or published as research data

All han es or amendments to the above-referen d p t col require rev ew and approva by the IRB **BEFORE** implementation.

Adv re Rea tions/Unexp ted vents (AR/UE must be subm tted on the app priate f rm within the timeframe specified in the IRB Administrati n Office P (http www irb wayne edu po icies human-r s arch p p).

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APENDIX B

Second Exploratory Factor Analysis (EFA) An Iterative Approach

Component Matrix[a]

Item	Component 1	2
Q23	.612	
Q35	.597	
Q24	.582	
Q42	.580	
Q25	.571	
Q22	.569	
Q37	.556	
Q36	.553	
Q29	.522	
Q15	.508	
Q9	.507	
Q31	.503	
Q1	.492	
Q18	.492	
Q12	.489	
Q4	.483	
Q20	.470	
Q34	.465	
Q11	.464	
Q8	.453	
Q21	.451	
Q43	.450	
Q5	.441	
Q38	.435	
Q30	.430	
Q26	.402	.401
Q41		.472
Q19	-.400	.438
Q6		.415

Component Matrix[a]

Item	Component 1	2
Q23	.615	
Q35	.594	
Q42	.584	
Q24	.584	
Q22	.569	
Q25	.562	
Q37	.556	
Q36	.552	
Q29	.522	
Q9	.517	
Q15	.511	
Q31	.500	
Q1	.497	
Q12	.491	
Q4	.487	
Q18	.486	
Q20	.472	
Q34	.465	
Q11	.462	-.414
Q43	.457	
Q8	.451	
Q21	.450	
Q38	.442	
Q5	.441	
Q30	.432	
Q41	.402	.520

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Component Matrix[a]

Item	Component 1	2	3
Q23	.612		
Q35	.597		
Q24	.582		
Q42	.580		
Q25	.571		
Q22	.569		
Q37	.556		
Q36	.553		
Q29	.522		
Q15	.508		
Q9	.507		
Q31	.503		.408
Q1	.492		
Q18	.492		
Q12	.489		
Q4	.483		
Q20	.470		
Q34	.465		.434
Q11	.464		
Q8	.453		
Q21	.451		
Q43	.450		
Q5	.441		
Q38	.435		
Q30	.430		
Q26	.402	.401	
Q41		.472	
Q19	-.400	.438	
Q6		.415	
Q3			-.519
Q2			-.413

Component Matrix[a]

Item	Component 1	2	3
Q23	.619		
Q24	.590		
Q35	.586		
Q42	.580		
Q22	.571		
Q25	.566		
Q37	.550		
Q36	.546		
Q9	.527		
Q29	.513		
Q15	.505		
Q18	.497		
Q1	.496		
Q12	.489		
Q4	.485		
Q20	.482		
Q8	.460		
Q11	.457		
Q43	.457		
Q21	.450		
Q5	.444		
Q38	.437		
Q30	.425		
Q41	.415	.445	
Q19		.420	
Q6		.411	
Q32			.591
Q33			.422
Q28			.404

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Component Matrix[a]

Item	Component 1	2	3	4
Q23	.612			
Q35	.597			
Q24	.582			
Q42	.580			
Q25	.571			
Q22	.569			
Q37	.556			
Q36	.553			
Q29	.522			
Q15	.508			
Q9	.507			
Q31	.503		.408	
Q1	.492			
Q18	.492			
Q12	.489			
Q4	.483			
Q20	.470			
Q34	.465		.434	
Q11	.464			
Q8	.453			
Q21	.451			
Q43	.450			
Q5	.441			
Q38	.435			
Q30	.430			
Q26	.402	.401		
Q41		.472		
Q19	-.400	.438		
Q6		.415		
Q3			-.519	
Q2			-.413	
Q32				.586
Q33				.415
Q27				.401
Q28				.401

Component Matrix[a]

Item	Component 1	2	3	4
Q23	.605			
Q35	.601			
Q24	.583			
Q25	.579			
Q42	.575			
Q22	.569			
Q37	.564			
Q36	.557			
Q29	.528			
Q15	.514			
Q31	.514		.443	
Q9	.509			
Q12	.495			
Q18	.492			
Q1	.489			
Q4	.482			
Q34	.477		.473	
Q11	.463			
Q21	.454			
Q8	.447			
Q43	.439			
Q5	.439			
Q30	.435			
Q38	.425			
Q26	.409	.432		
Q19	-.400	.425		
Q3			-.516	
Q32				.572

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Component Matrix[a]

Item	Component 1	2	3	4
Q23	.615			
Q35	.593			
Q24	.592			
Q42	.581			
Q25	.579			
Q22	.576			
Q37	.562			
Q36	.556			
Q9	.532			
Q29	.521			
Q15	.513			
Q12	.503			
Q1	.499			
Q18	.492			
Q4	.486			
Q21	.461			
Q8	.451			
Q43	.451			
Q11	.450	-.400		
Q5	.441			
Q38	.435			
Q30	.428			
Q14	.401			
Q39		.426		
Q10		-.409		
Q32			.420	
Q3			.427	-.499
Q2				-.419

Component Matrix[a]

Item	Component 1	2	3	4
Q23	.609			
Q35	.594			
Q25	.589			
Q24	.587			
Q42	.586			
Q22	.583			
Q37	.572			
Q36	.568			
Q29	.535			
Q9	.526			
Q1	.505			
Q12	.501			
Q15	.498			
Q4	.496			
Q18	.493			
Q21	.462		-.407	
Q43	.454			
Q8	.451			
Q5	.444		-.435	
Q38	.442			
Q30	.427			
Q39		.460		
Q32		.451		
Q40				-.503
Q33				.424

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Component Matrix[a]

Item	Component 1	2	3	4
Q23	.619			
Q24	.604			
Q35	.600			
Q25	.591			
Q42	.585			
Q22	.579			
Q37	.567			
Q36	.567			
Q29	.548			
Q9	.532			
Q18	.510			
Q15	.496			
Q1	.491			
Q4	.483			
Q12	.481			
Q43	.457			
Q8	.450			
Q38	.436			
Q30	.434			
Q14	.409			
Q32		.527		
Q39		.445		
Q28		.413		
Q33		.412	.413	
Q7				.450

Component Matrix[a]

Item	Component 1	2	3	4
Q23	.622			
Q24	.607			
Q35	.603			
Q25	.593			
Q42	.588			
Q22	.583			
Q36	.569			
Q37	.567			
Q29	.549			
Q9	.533	-.406		
Q18	.513			
Q15	.499			
Q1	.489			
Q12	.482			
Q4	.481			
Q43	.457			
Q8	.452			
Q38	.431			
Q30	.430			
Q14	.406			
Q39		.450		
Q10		-.416		
Q27			.475	
Q7				.517

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Component Matrix[a]

	Component				
Item	1	2	3	4	5
Q23	.612				
Q35	.597				
Q24	.582				
Q42	.580				
Q25	.571				
Q22	.569				
Q37	.556				
Q36	.553				
Q29	.522				
Q15	.508				
Q9	.507				
Q31	.503		.408		
Q1	.492				
Q18	.492				
Q12	.489				
Q4	.483				
Q20	.470				
Q34	.465		.434		
Q11	.464				
Q8	.453				
Q21	.451				
Q43	.450				
Q38	.435				
Q30	.430				
Q26	.402	.401			
Q41		.472			
Q19	-.400	.438			
Q6		.415			
Q3			-.519		
Q2			-.413		
Q32				.586	
Q33				.415	
Q27				.401	
Q28				.401	
Q5	.441				.518

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Component Matrix[a]

	Component				
Item	1	2	3	4	5
Q23	.613				
Q35	.596				
Q24	.581				
Q42	.569				
Q25	.569				
Q22	.565				
Q37	.560				
Q36	.553				
Q29	.526				
Q15	.514				
Q31	.512		-.478		
Q9	.510				
Q18	.495				
Q1	.492				
Q12	.488				
Q4	.486				
Q20	.476	-.402			
Q11	.473				
Q21	.449				
Q8	.449				
Q43	.439				
Q30	.437				
Q38	.422				
Q26		.458			
Q19	-.409	.410			
Q3			.526		
Q34	.475		-.490		
Q2			.407		
Q7			-.404		
Q32				.592	
Q33				.434	
Q5	.440				.516

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Component Matrix[a]

	Component				
Item	1	2	3	4	5
Q23	.619				
Q35	.603				
Q24	.592				
Q25	.592				
Q42	.585				
Q22	.577				
Q36	.566				
Q37	.564				
Q29	.526				
Q9	.524				
Q15	.505				
Q12	.498				
Q18	.497				
Q1	.491				
Q4	.466				
Q21	.459				
Q43	.451				
Q8	.450				
Q11	.446				
Q38	.433				
Q26	.428				
Q30	.422				
Q14	.400				
Q10		-.400			
Q32			.538		
Q27			.407		
Q3				-.518	
Q33				.420	
Q2				-.417	
Q7					.409

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Component Matrix[a]

	Component			
Item	1	2	4	5
Q23	.622			
Q35	.611			
Q25	.603			
Q42	.594			
Q22	.593			
Q24	.586			
Q37	.578			
Q36	.569			
Q29	.551			
Q9	.520			
Q18	.509			
Q1	.501			.437
Q4	.486			
Q12	.482			
Q43	.462			
Q8	.450			
Q21	.445			
Q38	.430			
Q30	.426			
Q14	.404			
Q32		.613		
Q33		.553		
Q6			.498	
Q7			-.491	
Q17			-.408	
Q28		.431		-.448

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Component Matrix[a]

	Component			
Item	1	3	4	5
Q23	.624			
Q35	.618			
Q25	.607			
Q42	.607			
Q24	.598			
Q22	.595			
Q37	.575			
Q36	.573			
Q29	.552			
Q9	.526			
Q18	.507			
Q12	.483			.425
Q4	.475			
Q43	.457			-.421
Q8	.452	-.426		
Q21	.436			
Q30	.434			
Q38	.424			
Q14	.416			.413
Q33		.555		
Q32		.494		
Q6			.549	

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APPENDIX C: CORRELATION MATRIX
SDSS-SF

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	21	22
1		*0.46																	*0.46		
2	*0.36																				
3	0.29			*0.40																	*0.40
4																					
5			-0.25																	-0.25	
6																					
7			- *0.28					0.42												-0.28	
8			0.48						-0.36											*0.38	
9			*0.24							0.32										0.24	
10				*0.26	*0.33		*0.25		0.25												*0.26
11																					
12									*0.28												
13				0.30	*0.28		*0.25	0.29	0.25		-0.46	*0.33	*0.28								*0.30
14								*0.46													
15	*0.26																				
16																	-0.31				
17	*0.26					0.29					*0.27						0.34	- 0.30			
18	*0.30		0.25	-0.27		0.33					*0.35						*0.28	- 0.26		*0.25	-0.27
19	*0.26				*0.35							*0.35									
20	*0.27			0.25	*0.28			*0.29	*0.28			*0.33			0.26						*0.25
21			-0.32			- 0.29		0.25	*0.35		-0.26				0.26			0.31		-0.32	
22							0.28	*0.31	*0.38		-0.28				0.35			0.33			

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18	19	22	21	22
23							*0.27					*0.26									
24												*0.25									
25																					
26	*0.26																				
27				*0.25														*.28			*.25
28									*.26									*.33			
29				*0.24							-0.31				*.28						0.24
30																		0.25			
31																					
32																					
33				*0.30					*.30						*.27			*.26			*.30
34	*0.32			*0.30								*0.30			*.27						*.30
35	*0.26			*0.25								*0.32						0.25			*.25
36																					
37																					
38																					
39								0.25													
40	*0.27								*0.26			0.26						0.25			
41	*0.36																				
42	*0.29	*.46																	*.46		

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SDPPS & SDAPS

Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1															
2	.43														
3		.40													
4	.42	.34	.27												
5	.37	.37	.37	.74											
6	.52	.58	.31	.32	.58										
7	.47	.51		.26	.45	*.65									
8	.48	.48	.32	.46	.44	*.51	.56								
9	.34	.37	.28	.44	.41	*.34	.34	.66							
10	.35	.51	.34	.37	.52	.42	.52	.52	.50						
11	.37	.46	.26	.28	.54	.58	.42	.34	.44	.39					
12	.35	.37		.45	.56	.46	.45			.53	.53				
13	.51	.51	*.43	.39	.49	*.70	.51	.41	.38	.55	*.63	.47			
14	.49	.26	*.35		.36	*.66	.58	.58	.42	.44	*.72	.50	.79		
15	.32	.43		*.56	.41	.43		.41			*.63	.36	.52	.55	
16	.37	.55				.32			.43	.36	*.60	.39	.48	.57	.46
17	.37	.39		*.28	.26	.39	.54	.52	*.51	.31	.31	.27	.27	.43	
18	.32			*.29	.41	.27	.44	.39	.29	.26	.34	.35		.39	.38
19	.26			*.42	.41	.39	.42	.57		.32	.41	.46	.42	.38	.41
20	.35	*.44		*.34	.29		.47	.54	.42	.41	.32	.37	.35	.46	
21	.25			.28	.42		.28	.56	.36	.25			.26		
22	*.41	*.42			.28	.27	.42	.42	.52	.31	.43	.30	.35	.43	.46
23	*.45			.34	.29		.28	.39	.61	.34	.25				
24	.48			.28	.35	.35	.51		.50	.35	.47		.42	.51	.40
25	.52				.51	.46	.39	.49	.33	.45	*.50	.61	.51	.56	.47
26	.52	.26	*.38	.34	.43	.51	.35	.31	.51	.44	*.42	.42	.51	.55	.29
27	.49	.25		.32	.48	.45	.28	.56	.32		.56	.43	.47	.57	.46
28	.49	.35		.37	*.54	.53	.46	.42	.31	.37	.44	*.56	.40	*.43	.33
29	*.52	*.53	.26	.35	.*53	.46		.49	.39	.33	.48	.43	.*53	.37	.44
30	.42	.39	.27	.41	.45	.39	.43	.37	.45	.35	.42	.*52	.36	.47	.34

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Item	16	17	18	19	20	21	22	23	24	25	26	27	28	29
16														
17	0.25													
18	0.37	*.52												
19	0.37	0.31	0.30											
20	0.45	0.42	0.41	0.29										
21	0.45	0.34	0.44	0.12	*.59									
22	0.40	*.51	0.59	0.41	*.63	*.62								
23	0.21	0.48	0.39	0.12	0.42	*.51	*.66							
24	*.57	0.41	*.59	0.25	*.56	*.54	*.70	*.52						
25	*.59	0.17	0.39	0.41	0.41	0.23	*.42	0.19	*.52					
26	*.44	0.35	0.35	0.23	0.40	0.41	*.54	0.56	0.43	*.55				
27	*.65	0.29	0.30	0.30	0.35	0.34	0.43	0.29	0.52	*.55	*.62			
28	0.46	0.15	0.33	0.40	0.44	0.28	0.42	0.12	0.42	*.73	*.51	0.46		
29	0.43	0.12	0.25	0.20	0.27	0.47	0.44	0.35	0.47	0.47	*.68	*.56	0.56	
30	*.55	0.31	0.47	0.31	0.56	*0.51	*.55	0.43	0.48	*.54	*.69	*.57	*.63	*.63

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Item	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1															
2	0.54														
3		0.25													
4		0.27													
5	0.40	0.22		*.69											
6	0.28	0.35	0.26	0.33	0.50										
7	*0.54	0.50	0.23	0.30	0.40	0.50									
8	0.45	0.38	0.26	0.21	0.46	0.35	*.71								
9	0.32	0.31	0.42	0.28	0.44	0.52	0.51	*.56							
10	*0.61	*0.43	0.34	*0.48	*.57	0.53	*0.56	0.58	*.62						
11	*0.52	0.45		0.22	0.32	0.40	*0.57	0.62	0.40	0.51					
12		0.20		0.40	0.31	0.28	0.31	0.42	0.40	0.46	0.46				
13	0.43	*0.61	0.36	0.25	0.34	0.43	*0.71	*0.67	0.52	*0.61	0.54	0.37			
14	*0.38	*0.58	0.37	0.27	0.32	*0.50	*0.73	*0.69	0.67	*0.58	*0.62	0.43	*.81		
15	*0.29	*0.45	0.37	0.34	0.06	0.31	0.48	*0.53	0.42	0.40	0.57	0.30	*.61	*.61	
16	*0.40	*.57	0.16	*0.55	0.21	0.29	*0.49	0.43	0.31	0.31	0.54	0.27	0.42	*.52	0.43
17	*0.60	0.37	0.21	0.29	0.32	0.24	0.51	0.54	0.28	*.70	0.55	0.34	*0.55	*.56	0.44
18	0.38	0.21	*0.48	0.24	0.46	0.45	0.39	0.35	0.49	0.49	0.28	0.21	0.34	0.37	
19	0.53	0.44			0.24		0.57	0.50	0.26	0.45	0.54	0.26	*.55	0.57	0.41
20	0.27			0.26	0.27		0.27	0.27	0.30	0.42	0.21	0.22	0.25	0.27	
21													0.21		
22		0.31					0.39	0.40	0.27	0.22	0.46	0.27	0.42	0.45	0.46
23	0.30	0*.40				0.29	0.38	0.44	0.46	0.24	0.51	0.30	0.39	0.62	0.49
24	0.46	*0.44	0.23	0.23	0.25	0.24	0.59	0.65	0.54	0.47	0.58	0.46	*0.63	*0.76	0.58
25	0.49	*0.52		0.23	0.34		0.56	0.62	0.50	0.53	0.60	0.34	0.54	*0.70	0.38
26	0.33	0.47	0.42		0.24	0.36	0.57	0.70	0.54	0.45	0.54	0.31	0.65	0.75	0.61
27	0.45	0.51	0.30	0.29	0.28	0.35	0.62	*.60	*.54	0.42	0.59	0.33	0.59	*.71	0.56
28	0.31		0.22	0.38	0.37	0.22	0.47	0.37	*.51	0.45	0.48	0.58	0.40	0.38	0.29
29	0.35	0.44		0.28	0.28		0.47	0.47	0.42	0.34	0.56	0.39	0.51	0.61	0.45
30	*1.00	*.54		0.21	0.40	0.28	0.54	0.45	0.32	0.61	0.52		0.43	0.38	0.29

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Item	16	17	18	19	20	21	22	23	24	25	26	27	28	29
16														
17	0.39													
18	0.38	0.23												
19	*0.57	*.66	0.46											
20	0.20	0.32		0.41										
21	0.29	0.27		0.34	0.29									
22	0.30	0.35		*0.44	0.28	0.35								
23	0.38	0.22	0.32	*0.34			*0.59							
24	0.49	0.54	0.26	0.56	0.32	0.23	*0.61	0.67						
25	*0.58	*0.58	0.30	*0.60	0.39	0.21	*0.47	0.54	*0.78					
26	*0.54	0.46	0.37	*0.44	0.20	0.26	*0.66	0.61	*0.78	*0.68				
27	*0.62	0.42	0.31	0.41		0.21	*0.46	0.49	*0.67	*0.64	*0.74			
28	0.31	0.25	0.24	0.28	0.47		0.24	0.23	*0.47	0.42	0.35	0.36		
29	*0.59	0.43	0.23	*0.55	0.24		0.41	0.44	*0.66	*.65	*0.55	*0.70	0.38	
30	0.40	0.60	0.38	*0.53	0.27			0.30	0.46	0.49	0.33	0.45	0.31	0.35

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ABSTRACT

RELIABILITY AND VALIDITY OF AN ARABIC VERSION OF THE SELF-DETERMINATION ASSESSMENT – INTERNET (SDA-i)

by

MONA ALAMRI

MAY 2017

Advisor: Dr. Shlomo Sawilowsky

Major: Evaluation and Research

Degree: Doctor of Philosophy

Self-determination is related to the desirable transition outcomes of an individual. It has gained an increasing amount of attention in numerous fields, including education, sociology, psychology, and other fields related to human behavior. However, there are no measures originally written in Arabic that accurately measure an individual's self-determination. Thus, during this study, an Arabic version of the *Self-Determination Assessment – Internet (SDAi)* was developed from the regular English version of the assessment. The *SDAi* measures the cognitive, emotional, and behavioral factors related to self-determination. The purpose of this study was to develop and then test the reliability and validity of an Arabic version of the *SDAi*. In addition, the use of the Arabic *SDAi* as an effective tool to assess self-determination among Arabic-speaking students' parents and teachers was examined. The participants were 336 Saudi students studying at universities in the United States and 53 parents and 60 teachers who resided in the state of Michigan, were Arab American, and could read Arabic. An Arabic version of the *SDAi* was translated and back-translated by the investigator and associated research team members for the study.

The investigation of the *SDAi's* internal consistency and reliability, and exploratory factor analysis (EFA) were the focus of this study. The *SDAi* had high levels of internal

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consistency and reliability; and the Cronbach's alpha was 0.85 for the entire scale of *SDSS-SF*, and 0.95 for both the*SDPPS* and *SDAPS* scales. Principal Component Analysis resulted in the*SDSS-SF*, a five-factor model explaining 43.632% of the variance, a five-factor model where 67.30% of the variance was explained for the *SDPPS* scale, and a five-factor model also explained 66.72% of the variance for the *SDAP* scale. These findings confirm that the *SDAi* assessment is a valid measure for estimating the degree of self-determination in Saudi students studying in American universities and the degree of self-determination and perceptions of Arab American parents and teachers who live in the state of Michigan.

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AUTOBIOGRAPHICAL STATEMENT

Mona S. Alamri

I completed my bachelor's degree in psychology and graduated with honors from King Abdul-Aziz University. Shortly thereafter, I began working as a teaching assistant and lecturer in the Education Department at the university. I worked as an assistant for nine years and enjoyed helping my students develop their psychological knowledge and watching them progress along their educational journeys. I thoroughly enjoyed lecturing but I wished to continue my education and I returned to school to pursue my master's degree in educational psychology from Taibah University in Saudi Arabia. Pursuing my master's degree in educational psychology allowed me learn about my great passions: teaching and psychology.

I completed my master's degree dissertation over a period of two years and I utilized a research sample of 350 students from the College of Education. My dissertation topic was "Cognitive Styles and the Relationship with Social Responsibility" and finishing my dissertation developed my skills as an educator and increased my knowledge of educational research. After earning my master's degree, I was given a scholarship from King Abdul-Aziz University to pursue my Ph.D. in the United States. The faculty at the university wants me to help develop the Education Department and improve the university's research services by applying my knowledge and unique educational experiences after I receive my Ph.D. I decided to pursue my Ph.D. in education evaluation and research development because I am interested in improving the quality of education in Saudi Arabia. As I develop and alter my teaching strategies to fit each class, I also improve my educational knowledge and teaching method by attending many conferences and workshops that related to statistical analysis in social and psychological research.

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