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Juan L. Núñez & Alicia Bolaños-Medina

To cite this article: Juan L. Núñez & Alicia Bolaños-Medina (2018) Predictors of problem-solving in translation: implications for translator training, The Interpreter and Translator Trainer, 12:3, 282-298, DOI: 10.1080/1750399X.2017.1359762

To link to this article: https://doi.org/10.1080/1750399X.2017.1359762

Published online: 21 Aug 2017.
Predictors of problem-solving in translation: implications for translator training

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ABSTRACT

Translation as a decision-making process, associated with problem-solving activity, has been approached by a relatively long tradition of scholars and is still at the core of process-oriented research in translation studies. After reviewing the main contributions on this subject, the concepts of ‘competence’ and ‘intrinsic motivation’ are analysed from the perspective of both translation studies and psychology, particularly from the point of view of the Self-Determination Theory (SDT), as a theoretical background which could contribute to an extension of the conceptual framework of our discipline. After conducting a descriptive, correlational study of the three variables under analysis, the potential effect of competence and intrinsic motivation towards accomplishment on student translators’ self-perceived problem-solving efficacy was gauged. Results showed that intrinsic motivation towards accomplishment and competence have the capability to predict problem-solving in a positive and significant way. Finally, in view of these findings, several strategies addressed to strengthen competence and intrinsic motivation towards accomplishment among translation trainees are suggested in order to help translator trainers to improve the learning and teaching process in University settings.

1. Introduction

The present work falls within the scope of translation psychology, an emerging area of translation studies. It has been acknowledged that ‘there is a psychological angle to most translation-related phenomena, which could offer interesting avenues for fruitful, multi-disciplinary research cooperation within translation studies’ (Jääskeläinen 2012, 192). The study of translation psychology is best placed within the framework of so-called ‘translator studies’, which, according to Chesterman (2009), cover ‘research which focuses primarily and explicitly on the agents involved in the translation, for instance on their activities or attitudes, their interaction with their social and technical environment, or their history and influence.’ Hence, it must be conceived, to some extent, as pertaining to what Chesterman (2009) coined as an ‘agent model’ of translation – in addition to the comparative, process and causal models – since it focuses on...
the translators themselves as well as the other agents involved in translation practice. As for the field of reference of translation psychology,\(^1\) it has been recognised as ranging ‘from cognition (perception, memory, learning, and problem-solving) to affect or emotion (motivation, attitudes) as well as personality’ (Jääskeläinen 2012, 191).

More precisely, translation psychology embraces the study of translators’ functioning as complex individuals, and of the underlying emotional, cognitive, behavioural and social factors at play, together with their interaction with the professional environment and with other agents participating in the translation process (Bolaños Medina 2016). In order to undertake this task, it incorporates some of the concepts and methods devised by psychology, by adapting them to the specificities of its object of study, by designing innovative research instruments and, when required, by combining them with others traditionally used within translation studies.

Translation as a decision-making process, associated with problem-solving activity has been approached by a relatively large number of scholars (Levý [1967] 1989; Reiss 1981; Wilss 1994; Alves and Gonçalvez 2003; Darwish 2008; Prassl 2010) and is still at the core of process-oriented research in translation studies (Alves and Hurtado Albir 2010). In fact, the whole act of translation has been described as a ‘problem-solving and decision-making activity’ (Alves and Gonçalvez 2003, 7) and the relevance of decision-making for translation didactics has been emphasised (Wilss 1994).

The aim of this interdisciplinary article is to contribute to a better understanding of which psychosocial factors influence translators’ self-perceived problem-solving efficacy and to what extent they seem to do so. We offer an outline of the results of a survey, which combines descriptive, correlational and multiple regression analysis of potential predictors of problem-solving in translation. It is our intention that our work should not only shed some light on the functioning of translators’ psychosocial and cognitive processes, but that it should also help translator trainers to design better programs which incorporate adaptations and modules particularly addressed to strengthen such variables among trainees.

To start with, we will present the theoretical framework into which our research fits in three distinct sections. The first describes the importance of problem-solving (and hence decision-making) for translators and brings together the main contributions in this field. In the subsequent section, the concepts of ‘competence’ and ‘motivation’ are illustrated from the perspective of translation studies and psychology and from the point of view of the Self-Determination theory (SDT), as an interpretative frame of reference which has not only guided our groundwork but which could also help to extend the conceptual framework of our discipline. After a brief description of the empirical methods and the main findings, a reflection on the implications of this study is to be found in the final remarks section.

2. Theoretical framework

2.1. Problem-solving and decision-making in translation

It is a well-known fact that problem-solving activity in translation is exceptionally complex, partly due to the large number of heterogeneous interrelated factors which interact in this mediated communicative process. Wotjak’s (1997) attempt to enumerate
all those factors, in an effort to approach the study of problem-solving strategies, remains illustrative of this complexity:

(i) the sender of the original/source text,
(ii) the translator as a professional or spontaneous ‘natural’ mediator – qualified, firstly, as a competent receiver of the source text and, secondly, as a no less competent producer of a target text to be submitted to
(iii) receivers of this translated text, who
(iv) share a distinct sociocultural background (target background) distinct from that of the sender and the receivers of
(v) the original text, which also contains
(vi) non-linguistic semiotic factors and information deduced from the
(vii) attendant extratextual communicative conditions/situations, in which the bilingual communicative activity takes place or which are inferred from the
(viii) encyclopaedic knowledge interiorised and shared by the receivers’ community, or which is idiosyncratic for an individual receiver.

It should be noted that the preceding list, as exhaustive as it may seem, could still be completed with other factors, such as the spatio-temporal channel of communication and the nature of the translator’s relation to the ultimate receiver (Ivir 1997).

Levy’s ([1967] 1989) contribution on the nature of translation is possibly the earliest academic link between psychology and translation, and he was the first in a relatively long tradition of scholars who have studied translation as a decision-making process, associated with problem-solving activity (Gaddis Rose 1979; Reiss 1981; Wilss 1994; Alves and Gonçalvez 2003; Prassl 2010). He built on formal methods of game theory to suggest that professionals use a ‘minimax’ strategy to achieve maximum effect with minimal effort when ‘choosing among a certain (and very often exactly definable) number of alternatives’ (Levy [1967] 1989, 37) during the translation practice.

In fact, three decades after Levy’s seminal contribution, the problems encountered by translators during the process and the strategies they apply for problem-solving were still among the first issues studied in empirical process-oriented translation studies (Dimitrova 2010). Given that decision-making and problem-solving processes had already been given considerable attention by the cognitive-psychology research community (De Groot 1997), theoretical concepts and empirical methodology – like Think-Aloud Protocols (TAPs) or, more recently, keystroke logging (Jakobsen 2011) among others – were borrowed from psychology and applied to research into the translator’s black box. These proved to be very helpful and fostered the study of process-oriented phenomena. Although initially based on studies with language students instead of translators, authors such as Krings (1986) and Lörscher (1991) modelled the translation process in terms of the problem-solving behaviour they observed, stressing the shifts between automatised processes and controlled problem-solving.

The first studies on differences between experts and novice translators yielded interesting data, such as the fact that professional translators process larger translation units, are mainly ‘sense-oriented’ instead of ‘form-oriented’, take into account stylistic and text-type adequacy and ‘have a larger number of variants at their disposal’ when it comes to solving translation problems (Kussmaul and Tirkkonen-Condit 1995, 187). It was
documented that as the level of professionalism grows, the translator’s conscious decision-making alters since ‘while some decisions become non-conscious, or ‘automatic’, the translator becomes sensitised to new aspects of the task which require conscious decision-making’ (Jääskeläinen and Tirkkonen-Condit 1991, 106). In this way, more controversial aspects of a particular commission are identified and cost-effectiveness is improved since time and efforts are devoted to the resolution of key problems.

Interestingly enough, when studying the behaviour of successful translators, it was found that they seem to subordinate local decisions to global ones; they do not always aim at an optimal result but at a text product which is adequate and sufficient for a particular communicative situation; and they are ready to use their world knowledge and inferences about the text in general, and text type in particular, in order to make decisions (Kussmaul and Tirkkonen-Condit 1995, 189). Additionally, they apparently have ‘relative articulate subjective theories of translation [and] they focus their attention, their conscious decision-making and their use of translation aids so that their investment in effort results in sufficient communicational gains’ (Kussmaul and Tirkkonen-Condit 1995, 190).

Wilss (1994; 1996) was the first author to formally claim that translation research should be approached within the framework of cognitive psychology and from the perspective of problem-solving and decision-making processes, since he regarded translation as a knowledge-based activity; indeed, in order to solve problems, translators must rely on both declarative and procedural knowledge. Wilss also acknowledged that boundaries between problem-solving and decision-making activities ‘cannot always be clearly drawn, with the result that they are occasionally equated with each other’ (Wilss 1996, 175).

During this period, the relevance of decision-making for translation didactics was also emphasised by Wilss (1994), who observed that this kind of cognitive activity can be obstructed in many ways while translating; for instance, alternatives can be too abundant and become overwhelming; different stages can overlap; excessive documentation can be gathered in order to counteract novice uncertainty; or problems can be oversimplified (and even distorted in the process) so that they can easily be handled. In a didactic context, teachers act as experts who must monitor students’ behaviour ‘from the point at which they recognize that a decision must be made, through the gradual elimination of the pertinent problem, up to post-decisional evaluation and correction’ (Wilss 1994, 148).

After recognizing the importance of establishing a decision-making procedure for didactic purposes, Wilss (1994) adapted a scheme from Corbin (1980) in order to describe six ‘possibly recursive stages’: problem identification, problem clarification (description), information collection, deliberation of how to proceed, moment of choice and post-choice behaviour (or assessment of translation results).

Later on, during the so-called second phase of empirical-experimental study and consolidation of research on cognitive aspects of translation from the mid-90s, problem-solving and decision making issues were still the focus of attention (Alves and Hurtado Albir 2010, 32). If translation amounts to a decision-making process which affects ‘the quality of performance and the quality of the translation product and always circumvents the realization of an optimal translation’ (Darwish 1999, 19), its constraints have deserved some attention by researchers. Thus, issues pertaining to problems of space, time, quality of information or problem-solving aptitude, among others, have been described.

The work by Alves and Gonçalvez (2004) clearly illustrates research efforts on the subject during the first decade of our century. They used retrospective protocols only to
find that contextually embedded information and meta-cognition seemed to ‘gear’ problem-solving and decision-making processes. In their own words (Alves and Gonçalves 2004, 51):

A striking feature observed among the retrospective verbalizations of expert translators is their self-sufficiency stance to pass judgement on their own decision-making processes. Whereas novice translators tend to be rather insecure when it comes to decision-making, expert translators are more daring and ready to take responsibility for the changes they implement in the target texts.

Alves and Gonçalvez (2006) later built on Relevance Theory (Sperber and Wilson 1986), on connectionist notions and on competence-oriented research of translation (Gutt 2010) in their effort to shed some light on the interface between inferential processing, problem-solving and decision-making in translation. They specifically studied the relationship between cognitive effort and contextual effect (which is the result of inferential processing supported by an individual’s cognitive environment) in cognitive patterns related to the inferential behaviour of translators:

[…] problem-solving and decision-making are related to the processing of conceptually and procedurally encoded information and dependent on a relation between effort and effect. Translators with different levels of expertise tend to regulate the relation between processing effort and contextual effect on the basis of a multilevel process mediated by the meta-representation that the translator has of both source and target texts. Ultimately, by regulating the effort/effect relation expert translators show an ability to monitor and evaluate their own performance and generate metarepresentations which strengthen existing contextual information (Alves and Gonçalvez 2006, 21).

Angelone (2010) documented metacognitive activity associated with uncertainty management behaviour in translation, focusing on variations in the textual, behavioural and locus of translation activity levels, among one professional and three student translators. He specifically described three uncertainty management problem-solving strategies: problem recognition, solution proposal and solution evaluation – which he refers to as a ‘cognitive translation unit’ –. He found that one or more problem recognition-solution proposal-solution evaluation bundles are embedded within each of the sequences of comprehension-transfer-production translation; and, more importantly, that ‘metacognition in problem-solving is highly associated with expert performance’ (Angelone 2010, 37), supporting Shreve’s (2006) claim that the evaluation of successful metacognition ability needs to be performed in terms of the manner in which it is used, rather than in terms of whether it is used at all, since both professionals and novices seems to use it.

Prassl (2010) also found interesting results when studying a specific aspect of translators’ problem-solving activity, by analysing decision-making processes involved in research and knowledge integration in translation processes. His research suggests that professionals make more routinised decisions than students – as might be expected – and that they achieve a higher success rate when they make reflected decisions. Furthermore, the success rate of professionals improves with increasing cognitive involvement; on the contrary, their failure rate seems to remain relatively high when making routinised decisions.

All in all, as recently as in 2010, Alves and Hurtado Albir still recognize the main ‘role of retrieval, problem-solving, decision-making and the use of translation specific strategies in the unfolding and management of the process’ (Alves and Hurtado Albir 2010,
34), which they cite among several other key achievements of cognitive approaches to translation. However, as we have seen, research on problem-solving in translation as a whole does not constitute a homogeneous body of knowledge, partly due to the lack of studies synthesising and contrasting different contributions (Gil-Bardaji 2010). Additionally, new research approaches to this key issue of translation studies continue to appear and more will surely be on their way in the future for such a cornerstone subject of study in process-oriented translation studies. A case in point is Durieux’s (2009) claim that decision-making in translation is ‘governed by selective attention and controlled by emotions, hence situating the translating process between reason and emotion’ (Durieux 2009, 349). Durieux goes even further to suggest that a new theoretical framework in translation, integrating emotion in all cognitive activity, should revolve around affection-driven decision making; as a matter of fact, studies on the role of emotion within translation studies are currently thriving (Hubscher-Davidson 2013).

2.2. Competence

The concept of ‘competence’ has been widely used in translation studies, but mostly in a specialised sense when referring to communicative and translation competences, and never in a more general way as derived from psychological studies. On the one hand, communicative competence is a term coined by Hymes (1966) as a reaction to Noam Chomsky’s (1965) notion of ‘linguistic competence’, to designate an individual’s linguistic knowledge and his/her ability to use it, acquired through social experiences, needs, motivation and action. Communicative competence has been an underlying notion at the origin of some theoretical models in translation studies. For instance, Gutt’s (2010, 205) priority was to explain ‘translation through understanding the communicative competence that makes it possible, both for the translator and his/her audience’. Thus, he suggested a competence-oriented research of translation (CORT) aimed at understanding and explicating the mental faculties allowing individuals to express in one language what had been expressed in another; in this way, the communicative effects translation inputs and outputs have on the audience could be better recognised. On the other hand, translation competence has been defined as the underlying knowledge system ‘which enables translators to carry out the operations necessary to successfully complete the translation process’ (Hurtado Albi 2010, 55, 1999), and has been at the core of translation didactics research and course design in recent decades.

However, as we mentioned before, competence as a general construct has not been yet applied to translation. Self-determination Theory constitutes a broad framework for the analysis of human motivation, personality, and optimal functioning, which has attempted to explain this concept. SDT has been successfully applied in recent years to different areas of knowledge, such as sport, psychotherapy, behavioural change, work motivation and education (Deci and Ryan 2011); we claim that it could also be applied to translation studies and contribute to a better understanding of professional translators’ and translation undergraduates’ behaviour.

SDT comprises six mini-theories; the most relevant for our purposes is Basic Psychological Needs Theory (BPNT), which establishes that the fulfillment of three basic psychological needs – autonomy, competence, and relatedness – leads to effective functioning and experiencing wellness. These needs are innate, universal, and essential for
growth, and personal and social development (Ryan and Deci 2000). The need for autonomy refers to the experience of will and psychological freedom and is determined by the level of external pressure when performing an action (DeCharms 1968; Deci and Ryan 1985). The need for competence implies that individuals want to interact effectively with their environment in order to feel capable of producing desired outcomes and preventing undesired ones (Connell and Wellborn 1991). Finally, the need for relatedness refers to the desire to feel connected with and mutually supportive of significant others.

In this sense, competence is an inherent human psychological need that can energise human activity and must be satisfied for long-term psychological health (Deci and Ryan 2000). Competence ‘constitutes a fundamental motivation which serves the evolutionary role of helping people develop and adapt to their environment’ (Elliot and Dweck 2005, 6). This perception of competence is assumed to be linked to processes of control (Bandura 1997), and hence, to greater use of problem-focused coping strategies (Folkman 1984). Furthermore, SDT claims that competence perception is linked to intrinsic motivation, which leads to positive cognitive consequences (e.g. problem solving).

### 2.3. Intrinsic motivation

In a wide array of problem-solving skills, such as translation, high levels of motivation are indispensable to sustain the intensive daily practice required to attain high levels of skill, as has been shown by retrospective studies on the development of expertise (Anders and Charnes 1994). In its own right, motivation has been claimed to be ‘an essential element of the student personality and psyche in the translating process’ (Hubscher-Davidson 2007, 55). However, few studies have analysed the role of translators’ motivation. For instance, it has been claimed that research on translators’ ‘teloi’, i.e. their personal motivation, might help us to better understand ‘their attitudes and personal goals and ethics, and how these are realised in what and how they translate’ (Chesterman 2009, 17). More particularly, the role of intrinsic motivation has also been scarcely addressed in translation studies. De Jong (1999) analysed the impact of motivation on the career commitment of literary translators (n = 139), only to find that career commitment was predicted mainly by intrinsic motivation for women and for literary translators with less experience, whereas both intrinsic and extrinsic motivation seemed to be good predictors for men and for more-experienced literary translators (De Jong 1999). As for the interpreting arena, the importance of systematically assessing – and researching – soft skills such as motivation in admission testing for conference interpreter training programmes has already been acknowledged (Timarova and Salaets 2011). All of these findings lead us to think that this is an interesting field that deserves more research attention.

Specifically, intrinsic motivation seems to be of particular interest for translation studies. Self-Determination Theory (SDT) proposes three dimensions of motivation depending on the level of self-determination: intrinsic motivation, extrinsic motivation, and amotivation. Self-determination implies a sense of freedom, of feeling free to do what one has decided to do. Thus, intrinsic motivation is the most self-determined motivational dimension and refers to performing a behaviour just for the pleasure and satisfaction derived from doing it (Deci and Ryan 1985). Intrinsic motivation concerns active engagement with tasks that people find interesting and that, in turn, promote growth (Deci and
Ryan 2000). Behaviour is performed for its own sake and not extrinsic or instrumental motives, such as for social or material rewards (Vancouver 2004).

Vallerand et al. (1989) suggested that intrinsic motivation is a multidimensional construct, and distinguished three types of motivation: motivation to know implies the satisfaction involved in learning new things; motivation to accomplish refers to the desire to reach new established goals; and motivation to experience stimulation refers to the desire to participate in activities in order to have fun and to feel new sensations.

Research has established a link between intrinsic motivation and problem-solving in different contexts. Thus, Sproule et al. (2013) state that intrinsic motivation is an important element for predicting skills like problem-solving in an educational setting. Likewise, in teaching-learning contexts, it has been reported that ill-structured problem-solving success relies greatly on intrinsic motivation, that is, students’ willingness to persist in solving the problem (Song and Grabowski 2006).

3. Aims and hypotheses

The aim of the current research is to examine the associations between psychosocial factors (i.e. intrinsic motivation, and competence) and translators’ self-perceived problem-solving. According to SDT, intrinsic motivation and competence are both important in fostering problem-solving. These psychosocial factors may have specific or additive effects on problem-solving. From the findings of previous studies, we expected:

Hypothesis 1: a positive association between intrinsic motivation, competence, and problem-solving.

Hypothesis 2: a positive prediction of intrinsic motivation and competence on problem-solving.

4. Methods

4.1. Participants

A total of 74 (23 men and 51 women) fourth-year students enrolled in the undergraduate programme in Translation and Interpreting at the University of Las Palmas took part in this study. Students in their final university year were selected because they had already undergone extensive formal training in translation. All of them had English as their first foreign language and their age ranged between 20 and 38 years, with a mean age 22.51 years (SD = 3.14).

4.2. Measures

4.2.1. Problem-solving

To assess translators’ self-perceived problem-solving efficacy, we used the problem-solving subscale of the Scale for Translating Self-Efficacy Assessment (Bolaños-Medina and Núñez Alonso, Forthcoming). It consists of four items involving the identification
of translation problems, the generation of different alternative solutions for translation problems, the evaluation of such solutions and proper decision-making behaviour (see Appendix 1). All items were rated according to a 5-point Likert-type scale ranging from 1 (without confidence) to 5 (high confidence). The reliability in the present study was Cronbach’s alpha = .83.

4.2.2. Competence
To assess the participants’ self-perceived competence, we used the competence subscale of the Spanish version (León et al., 2011) of the Basic Psychological Needs Scale (Gillet, Rosnet, and Vallerand, 2008). It consists of five items (see Appendix 2) that were rated according to a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The reliability in the present study was Cronbach’s alpha = .91.

4.2.3. Intrinsic motivation towards accomplishment
To measure intrinsic motivation towards accomplishment, we used the subscale from the Spanish version (Núñez et al. 2013) of the Global Motivation Scale (Guay, Mageau, and Vallerand 2003), which assesses intrinsic motivation towards accomplishment, comprising 4 items (see Appendix 3). Participants rated their degree of agreement on a 7-point Likert-type scale ranging from 1 (does not correspond at all) to 7 (corresponds exactly). The Cronbach’s alpha for the variable intrinsic motivation towards accomplishment was .88.

4.3. Procedure
After conducting a descriptive, correlational study of the three variables under analysis, we aimed to gauge the potential effect of competence and intrinsic motivation towards accomplishment on student translators’ self-perceived problem-solving efficacy. In order to minimise response biases, several steps were taken: the self-report survey was completed without personal identification ‘to reduce social evaluative concerns’ (Bandura 2006, 314) and was not labeled; participants were told that all responses were to be treated in a confidential manner and that their answers would be recorded with a code number. Also, their cooperation was requested and the importance of their contribution was stressed. Students were also asked to complete the questionnaires as honestly as possible. One researcher was present during the administration of the instruments, and provided students with the necessary support to successfully complete them. Once they had finished completing the questionnaires, we explained the research goals to the students.

4.4. Data analysis
First, we performed a descriptive analysis for each variable used in the study, calculating the mean, standard deviation, skewness, and kurtosis values. Second, we analysed bivariate correlations between problem-solving, competence, and intrinsic motivation towards accomplishment to establish relationships between the variables. Third, we also assessed the internal consistency of the instruments using
Cronbach's alpha, to verify their reliability. Finally, we conducted a stepwise multiple regression analysis to predict the effect of independent variables (i.e. competence, and intrinsic motivation toward accomplishment) on the dependent variable (i.e. problem-solving) and thus establish an explanatory model. All data were analysed using the software package SPSS 22.

5. Results

5.1. Descriptive analyses

Descriptive statistics (i.e. mean, standard deviation, skewness, and kurtosis) of each of the variables of the study (i.e. problem-solving, intrinsic motivation towards accomplishment, and competence) can be found in Table 1. As can be seen, all the skewness values were below 2, and the kurtosis values were below 7, which indicates similarity to the normal curve, as recommended by Curran, West, and Finch (1996). This result allows us to generalise those obtained from the sample to the population.

5.2. Correlations analysis and internal consistency of the scales

The analysis of the correlation between the variables was performed using Pearson coefficient. As seen in Table 2, all correlations were positive and significant \( p < .01 \). The three variables (i.e. problem-solving, intrinsic motivation towards accomplishment, and competence) were moderately correlated, with the bivariate correlations ranging from .44 to .59. This result indicates that there is a linear relationship between the variables studied.

The internal consistency of the scales was assessed using Cronbach’s alpha. The values were between .83 and .91. As a general criterion, George and Mallery (2003, 231) suggests that values higher than .80 are good, and excellent above .90.

5.3. Regression analysis

Problem-solving was taken as the dependent variable in the stepwise multiple regression analysis. Intrinsic motivation towards accomplishment and competence were introduced as independent variables. The values of skewness and kurtosis of the dependent variable and the homoscedasticity confirmed the normal distribution.

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem-solving</td>
<td>3.50</td>
<td>.68</td>
<td>−.48</td>
<td>−.61</td>
</tr>
<tr>
<td>IM to accomplishment</td>
<td>5.56</td>
<td>1.11</td>
<td>−.96</td>
<td>1.72</td>
</tr>
<tr>
<td>Competence</td>
<td>3.55</td>
<td>.76</td>
<td>−.32</td>
<td>−.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Problem-solving</td>
<td>.83</td>
<td>.44*</td>
<td>.59*</td>
</tr>
<tr>
<td>2. IM to accomplishment</td>
<td>.88</td>
<td>.45*</td>
<td></td>
</tr>
<tr>
<td>3. Competence</td>
<td>.91</td>
<td></td>
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</tr>
</tbody>
</table>

* \( p < .01 \).
Results showed that intrinsic motivation towards accomplishment and competence have the capability to predict problem-solving in a positive and significant way ($p < .05$). The beta coefficient values were .49 for competence and .22 for intrinsic motivation to accomplishment. The results obtained in the analysis of variance showed significant value of $F$ ($F = 22.26; p < .01$). The $R^2$ coefficient was .39, which means that the set of the two independent variables explained 39% of variance of the problem-solving. To confirm the validity of the regression model, we analysed the independence of the residuals. The Durbin-Watson $D$ statistic obtained a value of 1.35, confirming the absence of positive (values approaching 0) and negative autocorrelation (values approaching 4). We also assumed the absence of collinearity and the stability of the estimates, as the results showed high tolerance values and low variance inflation factor (VIF) values.

**6. Final remarks**

This article intends to contribute to a better understanding of the psychosocial factors which influence translators’ self-perceived problem-solving efficacy. More precisely, we have analysed the interrelationship between competence, intrinsic motivation towards accomplishment and self-perceived problem-solving efficacy of student translators. No specific research had studied the relationship between these constructs before within the field of translation studies.

As expected (Hypothesis 1), a linear relationship between all the variables studied was found. Also, Hypothesis 2 was confirmed because intrinsic motivation towards accomplishment and competence are significant predictors of self-perceived problem-solving efficacy, capable of explaining 39% of variance of the latter on their own. These results are in line with previous research: on the one hand, they support the important role of intrinsic motivation in ill-structured problem-solving, particularly in teaching-learning contexts: intrinsically motivated students not only will persist in solving problems, but they will also feel satisfied and will experience the process in a positive and pleasant way. And, on the other hand, the results agree with the claim that a higher degree of competence as perceived by individuals leads to a better adaptation to their environment and greater use of problem-focused coping strategies. This result fits SDT’s postulates as well, in that a translator student who feels efficacious and competent, and who responds to academic demands in an adequate manner, will engage in more appropriate problem-coping tasks.

It is worth bearing in mind that both competence and intrinsic motivation are concepts of a psychosocial nature, i. e. they are both psychologically and socially constructed through a process of interaction with various individuals and situations. This is to be understood within the framework of study of mutual determination between mind and society, in that human mental processes shape both social functioning and interaction and, at the same time, social processes help to determine human psychology (Morales Domínguez et al. 1999). In fact, the main strength of this paper lies in the ascertainment of psychosocial factors as significant study variables which deserve more research attention from translation scholars. Undoubtedly, more multidisciplinary efforts must be encouraged to account for the complexity of this object of research.
Despite the limitations of this study, mainly related to the restricted geographic representativeness of the sample and also to the relatively narrow range of data retrieving methods used – partly due to its preliminary character – several possible research lines can be drawn from it. First, it would be interesting to find out whether promoting the development of translators’ intrinsic motivation and sense of general competence is also associated with an improvement in translation problem-solving performance, which would necessarily entail the triangulation of data by including evaluation techniques for the translation product. Additionally, stemming from the theoretical framework of the Basic Psychological Needs Theory, the other two factors which, together with competence, contribute to effective functioning and personal and social development, are worth studying. Thus, autonomy – the level of external pressure when performing and action –, relatedness – the need to feel connected and mutually supportive with significant others –, and their potential interrelationship, might also play a significant role in translation problem-solving activity and should therefore be addressed within translation studies. This line of research could be particularly fruitful in the teaching-learning context at the university level, since it has been acknowledged that generating an educational environment in which students are able to satisfy these three basic psychological needs improves their intrinsic motivation (Moreno Murcia et al. 2015).

Indeed, it is our intention that our work should not only shed some light on the functioning of translators’ cognitive processes but that it should also help translator trainers to design better programs which incorporate adaptations and modules particularly addressed to strengthen competence and intrinsic motivation towards accomplishment among trainees. Thus, in view of these results, we agree with De Jong when she states that it seems to be important to study the conditions which enhance intrinsic motivation (De Jong 1999); and also with Hubscher-Davidson (2007) when she overtly stresses the need for process-oriented translation studies to draw on findings on motivation from the fields of education and psychology in order to move forward, notably as far as translator training is concerned; foreign language study constitutes a good example in this regard.

On the one hand, according to Núñez and León (2015, 277) several steps can be taken in order to promote intrinsic motivation in the translation classroom: promoting an autonomy support climate in the classroom, an atmosphere where students are not pressured to behave in a specific way, and where they are, instead, encouraged to be themselves, providing meaningful rationale (i.e., verbal explanations that help others to understand why self-regulation of the activity would have personal utility); acknowledging negative feelings (i.e., tension-alleviating acknowledgment that one’s request to others clashes with their personal inclinations and that their feelings of conflict are legitimate); using noncontrolling language (i.e., communications that minimise pressure, absence of the terms ‘should,’ ‘must,’ and ‘have to,’ conveying a sense of choice and flexibility in the phrasing); offering meaningful choices (i.e., providing information about options, encouraging choice-making, and initiation of one’s own action); and nurturing inner motivational resources (i.e., reinforcing the other’s interest, enjoyment, psychological need satisfaction, or sense of challenge or curiosity while engaging in a requested activity). Moreover, promoting students’ interest in academic tasks so that they become more meaningful for them, adopting strategies to reduce their fear of failure and increasing their probability of success could also help to boost intrinsic motivation.
towards accomplishment in the translation classroom. On the other hand, promoting a task-oriented motivational climate by emphasizing self-referenced perceptions of ability, as well as providing a significant and informative feedback of the task performed by the student, could also lead translation students to an increased sense of competence.

To end with, beyond its potential contribution to the specific subject it delves into, the present work is to be understood as aiming at fostering thought-provoking dialogue and insightful research collaboration among scholars from different backgrounds in order to promote knowledge on this rapidly evolving field of our discipline.

Note

1. A contextualisation of translation psychology as a branch of translation studies, together with a thorough description of its main research areas and perspectives can be found in Bolaños Medina (2016).

Disclosure statement

No potential conflict of interest was reported by the authors.

ORCID

Juan L. Núñez http://orcid.org/0000-0002-2400-7843
Alicia Bolaños-Medina http://orcid.org/0000-0001-5956-0166

References


Appendices

Appendix 1. Problem-solving subscale

Please rate how certain you are that you can do the things discussed below by writing the appropriate number (1–5).

(1) Identify translation problems.  
(2) Generate different alternative solutions for a particular translation problem.  
(3) Evaluate alternative solutions for a particular translation problem.  
(4) Make the most suitable decision in order to solve a particular translation problem.

Appendix 2. Competence subscale

Please read carefully the following statements and decide to what extent you agree with them by writing the appropriate number (1–5).

(1) I often feel very competent.  
(2) I feel I do everything right.  
(3) I feel I can meet any demand that is asked of me.  
(4) I have many possibilities of demonstrating my capacity.  
(5) I often feel that I can do things well.

Appendix 3. Intrinsic motivation towards accomplishment subscale

Indicate to what extent each of the following statements corresponds generally to the reasons why you do different things.

(1) Because of the pleasure I feel as I become more and more skilled.  
(2) For the pleasure I feel mastering what I am doing.  
(3) Because of the satisfaction I feel in trying to excel in what I do.  
(4) Because of the pleasure I feel outdoing myself.