

**A PSYCHOMETRIC ANALYSIS OF THE SURVEY WORK-
HOME INTERACTION – NIJMEGEN (SWING) IN A
NURSING ENVIRONMENT**

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COMMENTS

The reader is reminded of the following:

- The references as well as the editorial style as prescribed by the *Publication Manual (5th edition)* of the American Psychological Association (APA) were followed in this dissertation. This practice is in line with the policy of the Programme in Industrial Psychology of the North-West University (Potchefstroom Campus) to use APA style in all scientific documents as from January 1999.
- The mini-dissertation is submitted in the form of a research article. The editorial style specified by the South African Journal of Industrial Psychology (which agrees largely with the APA style) is used, but the APA guidelines were followed in constructing tables.

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ABSTRACT

Title:

A psychometric analysis of the Survey Work-Home Interaction – Nijmegen (SWING) in a nursing environment.

Key terms:

Work-home interaction, Survey Work-Home Interaction-Nijmegen (SWING), reliability, construct validity, prevalence, nursing environment

Over the past few years, workers have been confronted with increasing pressures at work and at home. This is mainly the result of the growing number of dual-earner couples as well as changes and pressures in the nature of the workplace. Workers are challenged to manage multiple roles in both their work and home domains. Recently, a new measuring instrument was developed to measure work-home interaction, namely the Survey Work-Home Interaction – Nijmegen (SWING). This instrument measures both the direction of influence (work-to-home and home-to-work) and the quality of influence (negative vs. positive).

The objectives of this study were firstly to determine the construct validity and reliability of the Survey Work-Home Interaction – Nijmegen (SWING), and secondly to determine the prevalence of work-home interaction in various demographic groups in the nursing environment. A cross-sectional survey design was used. Random samples ($N = 363$) were taken from hospital nursing staff in Johannesburg, Klerksdorp, Krugersdorp, Potchefstroom and Pretoria. The SWING and a biographical questionnaire were administered. Structural equation modelling (SEM), Cronbach alpha coefficients, multivariate analysis of variance (MANOVA) and one-way analysis of variance (ANOVA) were used to reach the objectives.

SEM showed that a four-factor model, which measures negative work-home interference, positive work-home interference, negative home-work interference and positive home-work interference, fitted the data best. Cronbach alpha coefficients showed that all four factors were reliable. Regarding the prevalence of work-home interaction among different demographic groups, the results indicated that there were statistically significant differences

between demographic groups based on race, educational level, type of position, flexibility of arrangements at the workplace as well as between full-time and part-time work.

Recommendations for future research are made.

OPSOMMING

Titel:

'n Psigometriese analise van die *Survey Work-Home Interaction – Nijmegen (SWING)* in 'n verpleegomgewing.

Sleutelbegrippe:

Werk-huis-interaksie, *Survey Work-Home Interaction-Nijmegen (SWING)*, betroubaarheid, konstrugeldigheid, voorkoms, verpleegomgewing

Gedurende die afgelope paar jaar is werkers met toenemende druk by die huis en by die werk gekonfronteer. Dit kan hoofsaaklik daaraan toegeskryf word dat daar deesdae al hoe meer egpare is waar die man en die vrou werk, en dat daar deurentyd veranderinge in die aard van die werksplek plaasvind. Werkers kom voor die uitdaging te staan om veelvuldige rolle in hulle werks- en huisdomeine te vervul. Onlangs is 'n nuwe meetinstrument, naamlik die *Survey Work-Home Interaction – Nijmegen (SWING)* ontwikkel om werk-huis-interaksie te meet. Hierdie meetinstrument meet die rigting van die invloed (werk-na-huis of huis-na-werk) asook die aard van die invloed (negatief teenoor positief).

Die doelwitte van hierdie studie was eerstens om die konstrugeldigheid en betroubaarheid van die *Survey Work-Home Interaction – Nijmegen (SWING)* te meet en tweedens om die voorkoms van werk-huis-interaksie by verskillende demografiese groepe in die verpleegomgewing te bepaal. 'n Dwarssnee opname-ontwerp is gebruik. Ewekansige steekproewe ($N = 363$) is van verpleegpersoneel by hospitale in Johannesburg, Klerksdorp, Krugersdorp, Potchefstroom en Pretoria getrek. Die *SWING* en 'n biografiese vraelys is afgeneem. Strukturele vergelykingsmodellering, Cronbach alfakoëffisiënte, meervoudigerigtingvariensieanalise (*MANOVA*) en eenrigtingvariensieanalise (*ANOVA*) is gebruik om die doelwitte te bereik.

Strukturele vergelykingsmodellering het getoon dat 'n vierfaktormodel wat negatiewe werk-huis-interferensie, positiewe werk-huis-interferensie, negatiewe huis-werk-interferensie en positiewe huis-werk-interferensie meet, die mees geskikte vir die data was. Cronbach alfakoëffisiënte het getoon dat al vier faktore betroubaar was. Met betrekking tot die

voorkoms van werk-huis-interaksie by die verskillende demografiese groepe, het die resultate getoon dat daar statisties betekenisvolle verskille was tussen demografiese groepe wat gebaseer is op ras, opvoedkundige vlak, tipe pos, buigsaamheid by die werk om alternatiewe reëlins te tref asook tussen voltydse en deeltydse werk.

Aanbevelings vir toekomstige navorsing word aan die hand gedoen.

CHAPTER 1

INTRODUCTION

This mini-dissertation focuses on a psychometric analysis of the Survey Work-Home Interaction – Nijmegen (SWING), an instrument that measures work-home interaction, by using a sample of nurses in the Gauteng and North-West regions.

In this chapter the problem statement and the research objectives (including the general and specific objectives) are discussed. Following this, the research method is explained and an overview of the chapters is given.

1.1 PROBLEM STATEMENT

During the last couple of years, growing evidence has indicated that workers are facing growing pressures at work and at home. This is mainly due to the increasing number of dual-earner couples, as well as changes and pressures in the nature of the workplace. This trend has also affected the South African workforce, which now comprises more women and is more representative of all races, while the traditional South African household, where the man was the sole earner and the woman took care of the children, is being replaced by working couple families (Gerber, 2000; Schreuder & Theron, 2001). These demographic and structural changes in the workforce and family structure have not only affected work and family roles and their interrelation (Bond, Galinsky, & Swanberg, 1998; Ferber, O'Farrell, & Allen, 1991); it also had a significant impact on individual behaviour in an organisational setting, and ultimately on organisational functioning itself (Greenhaus, 1988; Parasuraman & Greenhaus, 1999). Furthermore, Barnett (1998) stressed the fact that work-home interaction is not only of paramount importance for the economic viability of organisations, but also for the welfare of families.

Awareness of the interaction between work and home and the effect it has on employees, families, organisations and the society has developed during the period of industrialisation (Westman & Piotrkowski, 1999). Socio-demographic changes led to the phenomenon that a large percentage of employed workers, and particularly employed parents, have serious

difficulty in combining obligations in the work domain and home domain (Geurts & Demerouti, 2003). In order to gain a better understanding of the interaction between work and home, these terms must be defined. Work can generally be defined as a set of tasks that an individual performs while occupying a position in an organisation (Geurts & Demerouti, 2003). Non-work (the home domain) on the other hand, is referred to as activities and responsibilities within the family domain, as well as activities and obligations beyond an individual's family situation (Geurts & Demerouti, 2003). It is evident from this that the work and home domains include different roles. Frone (2002) distinguished between work roles (e.g. employee, manager, union representative) and non-work (home) roles (family roles, religious roles, community roles, leisure roles). The expectation exists that imbalances between the different social roles may be an important stressor that can affect outcomes in the different domains, which could in turn affect the overall health and well-being of individuals exposed to the imbalance (Frone, 2002).

Work and family should not be seen as separate domains, but rather as highly interrelated. According to Greenhaus and Beutell (1985), work-home conflict is a form of interrole conflict in which the role pressures from the work and home domains are mutually incompatible in some respect, which implies that participation in the work role is made more difficult by virtue of participation in the home role. This definition is bidirectional, which implies that work can interfere with the home domain (work-to-home interference), but that home can also interfere with the work domain (home-to-work interference).

Although we have developed a better understanding of the work-home interface, research within this field is characterised by various limitations. First of all, most research refers to the spillover from work to home and ignores the fact that the home domain can also have an influence on the work domain. Secondly, an exclusive focus is being placed on *negative* work-home interaction with a rare reference to *positive* work-home interaction (Barnett, 1998; Carlson, Dacxmar, & Williams, 2000; Stephens & Sommer, 1996). The most dominant hypothesis here was the role strain hypothesis, postulating that the work and home domains are in conflict with each other (Geurts & Demerouti, 2003). However, researchers argued that employees may also benefit from combining work and home, which may have benefits that outweigh the costs (Bakker & Geurts, 2004; Marks & MacDermid, 1996). Finally, measuring instruments that measure both the direction (work-to-home and home-to-work) and the quality (negative or positive) of interaction between the two domains are largely absent.

To overcome these limitations, the SWING (Survey Work-home Interaction - Nijmegen) was developed by Wagena and Geurts (2000) and validated by Geurts et al. (in press) at the Radboud University in the Netherlands. This instrument was designed to extend and enhance existing knowledge on work-home interaction. The SWING gives a full theory-guided conceptualisation of the work-home interface and encompasses interaction between the work domain and the home domain as well as negative and positive interferences between these domains.

According to Geurts et al. (in press), four dimensions of work-home interaction are found, namely (1) *negative work-home interference (WHI)*, referring to a situation in which negative load reactions built up at work hamper functioning at home; (2) *negative home-work interference (HWI)*, referring to negative load reactions developed at home that impede functioning at work; (3) *positive WHI*, defined as positive load reactions built up at work that facilitate functioning at home; and (4) *positive HWI*, occurring when positive load reactions developed at home and facilitate functioning at work. These four dimensions of work-home interaction were captured by using 27 (including 13 self-developed) items. According to Geurts et al. (in press), confirmatory factor analysis strongly supported the proposed four-dimensional structure of the SWING across the various theoretically relevant subgroups (e.g. gender, parental status, full-time vs. part-time status), providing evidence regarding its robustness and generalisability. Other relationships with three categories of correlates, including job and home characteristics, and presumed outcomes (e.g. fatigue and organisational commitment), yielded evidence regarding the discriminant validity of the SWING and enhanced the understanding of how the various dimensions of the work-home interface relate to these correlates.

The Effort-Recovery model by Meijman and Mulder (1998) was used as theoretical grounds for the development of the SWING. This model postulates that effort expenditure (work) is associated with specific load reactions (physiological, behavioural, and subjective responses), which develop within the individual while confronted with these efforts. These load reactions can be reversible, which means that after a respite from work and the accompanying effort investments, psychobiological systems will restabilise to a baseline level and recovery will occur (Geurts et al., in press).

